TBS

Transient and lightning protection systems Export GmbH & Co KG

2019/2020

Building Connections

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OBO Construct planning aids

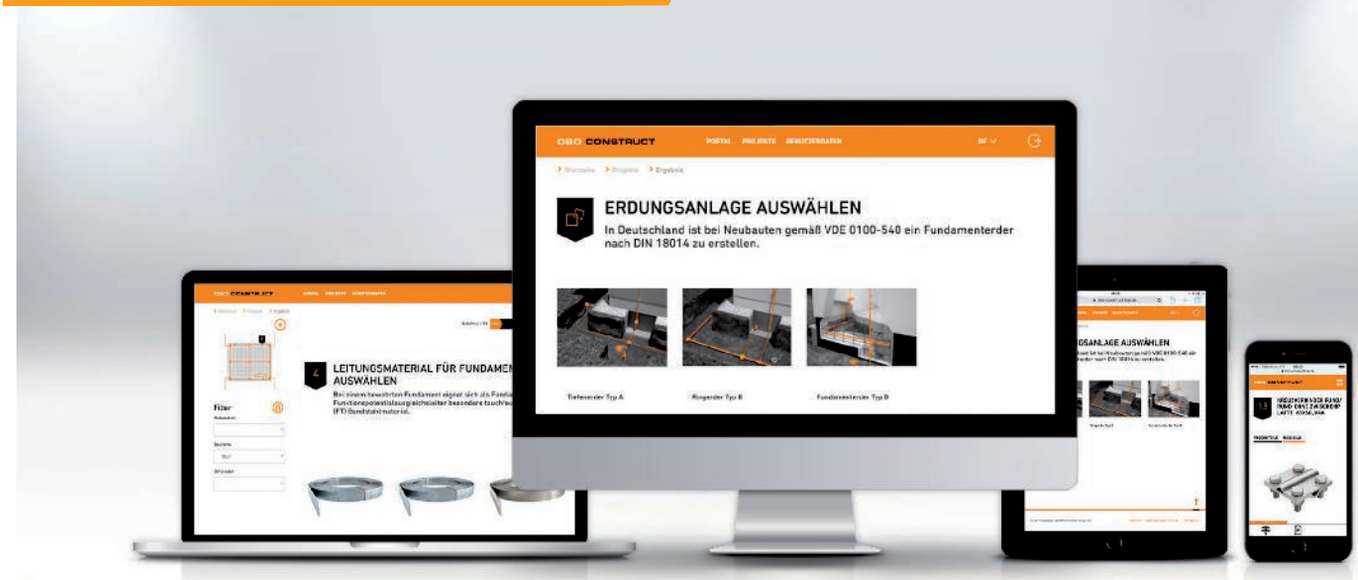
Digital selection aids for earthing systems and surge protection
The OBO Construct electronic planning aids are programs developed to support electrical installation engineers and planners in the design of electrical installation systems. In particular, in complex areas such as surge protection and earthing, there are countless technical and standard general conditions to be observed. The two OBO Construct programs for earthing and surge protection systems should provide active help here. Systematic polls simplify the search for suitable products and guaranteed surge protection systems and earthing systems which fulfil the standards.

OBO Construct for surge protection
This online tool aids you in the project-orientated selection and connection of suitable surge protection systems and provides you with information on the OBO surge protection systems. You can create your personal materials list, connection diagram and invitation to tender texts quickly, efficiently and in a targeted manner for complete surge protection in the fields of energy technology, photovoltaics, telecommunication, MSR, TV, HF and data technology. The result can be exported easily into Excel format for further processing.

OBO Construct for earthing systems
The digital selection aid can be used for the easy planning and configuration of earthing systems. The simple and intuitive user guidance leads you through the individual components of the earthing system step by step. The software then automatically calculates the amounts required and the matching accessories. The application can be opened on any end device irrespective of its operating system – be it smartphone, tablet or desktop PC.

Benefits

- Work aid independent of time and place
- Transmit planning requirements to complete product systems
- Find suitable products quickly and simply
- Calculate material and parts lists automatically
- Download configuration results as Excel or Word files



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Lightning protection guide. Safely routed.

Reference work and planning aid for electrical installation engineers and technical planners
At OBO Bettermann, we can look back on more than 90 years of experience in the field of lightning and surge protection. This experience and, of course, the latest standards and technical innovations have flowed into the company's new lightning protection guide. The brochure allows you to plan installations in the field of lightning and surge protection faster and more easily.

It contains a balanced mixture of both basic and expert knowledge, as well as planning and selection aids for the protection of buildings and systems.

The new lightning protection guide can be requested by calling +49 23 73 89 - 17 00 and is also available at the address below for download:
http://obo.eu/Leitfaden

Topics

- Basic principles
- The external lightning protection system
- Air-termination and down-conductor systems
- Examples and selection aids for wind load calculation conform with Eurocode 1+3
- Earthing systems with foundation earther to current DIN 18014
- The internal lightning protection system
- Equipotential bonding systems
- Overvoltage protection systems
- Current standards
- New selection and planning aids
- Examples

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OBO TBS seminars: First-hand knowledge
With a comprehensive programme of training courses and seminars on the subject of surge voltage and lightning protection systems, OBO is able to support its customers with specialist knowledge from a single source. Alongside the basic theoretical principles, the programme also deals with practical implementation in everyday applications. Special calculation and application examples round off the comprehensive programme of knowledge transfer.

Invitations to tender on the Internet at www.ausschreiben.de
More than 10,000 entries from the cable support systems, fire protection systems, connection and fastening systems, transient and lightning protection systems, cable routing systems, device systems and underfloor systems can be recalled for free. Regular updates and extensions mean that you always have a comprehensive overview of the OBO products. All the current file formats (PDF, DOC, GAEB, HTML, TEXT, XML, ÖNORM) are available.
www.ausschreiben.de

RAL GÜTEZEICHEN
Blitzschutz
RAL-GZ 642/5

Invitations to tender, product information and data sheets
We can make life easier for you, with our comprehensive selection of materials designed for practical applications, which provide you with effective support with the planning and calculation of a project. These include:
- Invitations to tender
- Product information
- Data sheets
- Data sheets

Invitations to tender for lightning protection/earthing at the highest level:
OBO manufacturers products to RAL GZ642-5 and is dedicated to compliance with the RAL directives. Lightning protection and earthing products can be used for invitations to tender according to RAL.

These documents are continually updated and can be downloaded for free at any time from the Internet download area at
www.obo-bettermann.com.

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Customer service and credibility
Friendliness, reliability and competence create acceptance, credibility and lasting working relationships. These shared values arise from OBO's consistent orientation around the wishes and needs of its customers. Close partnerships with customers is OBO's foremost priority.

Help and advice
Answers to questions about products and installation, planning advice for complex projects – OBO's staff will help you through every phase of your project, no matter what field it is in. We are constantly improving the support we provide in every phase of collaboration, laying the foundations for genuine partnerships.

Speed and reliability
Optimised procedures and highly developed logistics ensure that OBO products are in the right place at the right time, anywhere in the world. OBO offers comprehensive support for large-scale projects, from planning all the way to installation.

Lightning protection guide
Free order
and download from
www.obo.de

- Production location
- Subsidiary
- Representative

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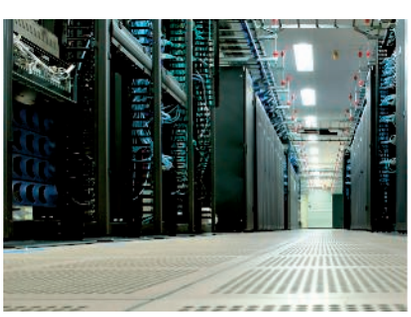
Minor cause, major effect: Damage caused by surge voltages

Our dependency on electrical and electronic equipment continues to increase, in both our professional or private lives. Data networks in companies or emergency facilities such as hospitals and fire stations are lifelines for an essential real time information exchange. Sensitive databases, e.g. in banks or media publishers, need reliable transmission paths.

It is not only lightning strikes that pose a latent threat to these systems. More and more frequently, today's electronic aids are damaged by surge voltages caused by remote lightning discharges or switching operations in large electrical systems. During thunderstorms too, high volumes of energy are instantaneously released. These voltage peaks can penetrate a building though all manner of conductive connections and cause enormous damage.



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Financial implications of lightning and surge voltage damage

Financial loss can only be considered in isolation in cases where no legal or insurance requirements relating to personal safety apply.

Substantial losses result from the destruction of electrical devices, notably:

- Computers and servers
- Telephone systems
- Fire alarm systems
- Monitoring systems
- Lift, garage door and roller shutter drives
- Consumer electronics
- Kitchen appliances

Further costs can also be incurred due to outages and consequential damage in relation to:

- Loss of data
- Production outage
- Loss of contactability (Internet, telephone, fax)
- Defective heating systems
- Costs due to faults and false alarms in fire and burglar alarm systems

Financial losses are on the rise

Current statistics and estimates of insurance companies show: Damage levels caused by surges – excluding consequential or outage costs – long since reached drastic levels due to the growing dependency on electronic "aids". It's no surprise, then, that property insurers are checking more and more claims and stipulating the use of devices to protect against surges. Information on protection measures can be found in e.g. the German Directive VDS 2010.

Year	Number of lightning and surge voltage damage cases	Paid damages for lightning and surge voltage damage
1999	490,000	€310 million
2006	550,000	€340 million
2007	520,000	€330 million
2008	480,000	€350 million
2009	490,000	€340 million
2010	330,000	€220 million
2011	440,000	€330 million
2012	410,000	€330 million
2013	340,000	€240 million
2014	410,000	€340 million
2015	350,000	€240 million
2016	300,000	€210 million

Number of instances of damage from lightning and surge voltages and amounts paid out by home and contents insurance companies; source: GDV · Extrapolation based on industry and risk statistics; numbers rounded to the nearest 10,000 or €10 million.

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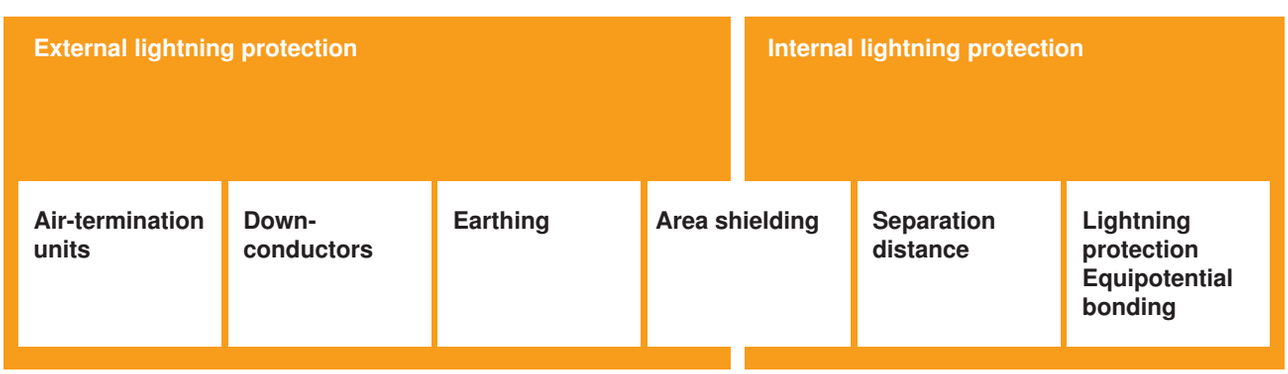
Lightning and surge protection standards

When planning and executing a lightning protection system, it is necessary to observe all relevant national annexes and take account of any special circumstances or applications and the safety stipulations in the relevant country-specific supplements.
A lightning and surge protection system consists of several systems, each tailored to each of the others. At its most basic, a lightning and surge protection system consists of one internal and one external lightning protection system.

These, in turn, can be categorised as follows:
- Air-termination devices
- Down-conductors
- Earthing systems
- Area shielding
- Separation distance
- Lightning protection equipotential bonding system

These systems must be carefully selected for the application at hand, and used in a coordinated way. Installation of the systems takes place according to various application and product standards. The supplements to the international IEC guidelines and harmonised European versions of the various country-specific translations often contain additional informative information specific to the country in question.

Product standards
To ensure that the components can withstand the loads to which they are likely to be exposed in application, they must be checked against the respective product standard for external and internal lightning protection.



External and internal lightning protection systems

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Standard	German supplement	Contents
VDE 0185-305-1 (IEC 62305-1)		Protection against lightning – Part 1: General principles
VDE 0185-305-2 (IEC 62305-2)		Protection against lightning – Part 2: Risk management
	1	Lightning risk in Germany
	2	Calculation aids for estimating the risk of damage for buildings
	3	Additional information on use of EN 62305-2
VDE 0185-305-3 (IEC 62305-3)		Protection against lightning – Part 3: Protection of structures and people
	1	Additional information on use of EN 62305-3
	2	Additional information for building structures
	3	Additional information for the testing and servicing of lightning protection systems
	4	Use of metal roofs in lightning protection systems
	5	Lightning and surge protection in PV power supply systems
VDE 0185-305-4 (IEC 62305-4)		Protection against lightning – Part 4: Electrical and electronic systems within structures
	1	Distribution of the lightning current
VDE 0675-6-11 (IEC 0675-6-11)		Low-voltage surge protection devices – Part 11: Surge protection devices connected to low-voltage power systems
VDE 0100-534 (IEC 60364-5-53)		Low-voltage electrical installations - Part 5-53: Selection and erection of electrical equipment – Isolation, switching and control – Clause 534: Devices for protection against surge voltages
VDE 0100-443 (IEC 60364-4-44)		Low-voltage electrical installations – Part 4-44: Protection for safety – Protection against voltage disturbances and electromagnetic disturbances – Clause 443: Protection against surge voltages of atmospheric origin or due to switching
VDE 0100-712 (IEC 60364-7-712)		Requirements for operational premises, special rooms and systems – Solar photovoltaic (PV) power supply systems

Key lightning protection standards and specifications

Product standards	Contents
VDE 0185-561-1 (IEC 62561-1)	Lightning protection system components – Requirements for connection components
VDE 0185-561-2 (IEC 62561-2)	Lightning protection system components – Requirements for conductors and earthers
VDE 0185-561-3 (IEC 62561-3)	Lightning protection system components – Requirements for spark gaps
VDE 0185-561-4 (IEC 62561-4)	Lightning protection system components – Requirements for holders
VDE 0185-561-5 (IEC 62561-5)	Lightning protection system components – Requirements for inspection boxes and earther penetrations
VDE 0185-561-6 (IEC 62561-6)	Lightning protection system components – Requirements for lightning strike counters
VDE 0185-561-7 (IEC 62561-7)	Lightning protection system components – Requirements for earthing enhancing compounds
IEC TS 62561-8	Lightning protection system components – Requirements for components for insulated lightning protection systems
VDE 0675-6-11 (IEC 61643-11)	Surge protection devices for use in low-voltage power systems – Requirements and test methods
VDE 0845-3-1 (IEC 61643-21)	Surge protection for use in telecommunications and signalling networks

Lightning protection and surge protection components

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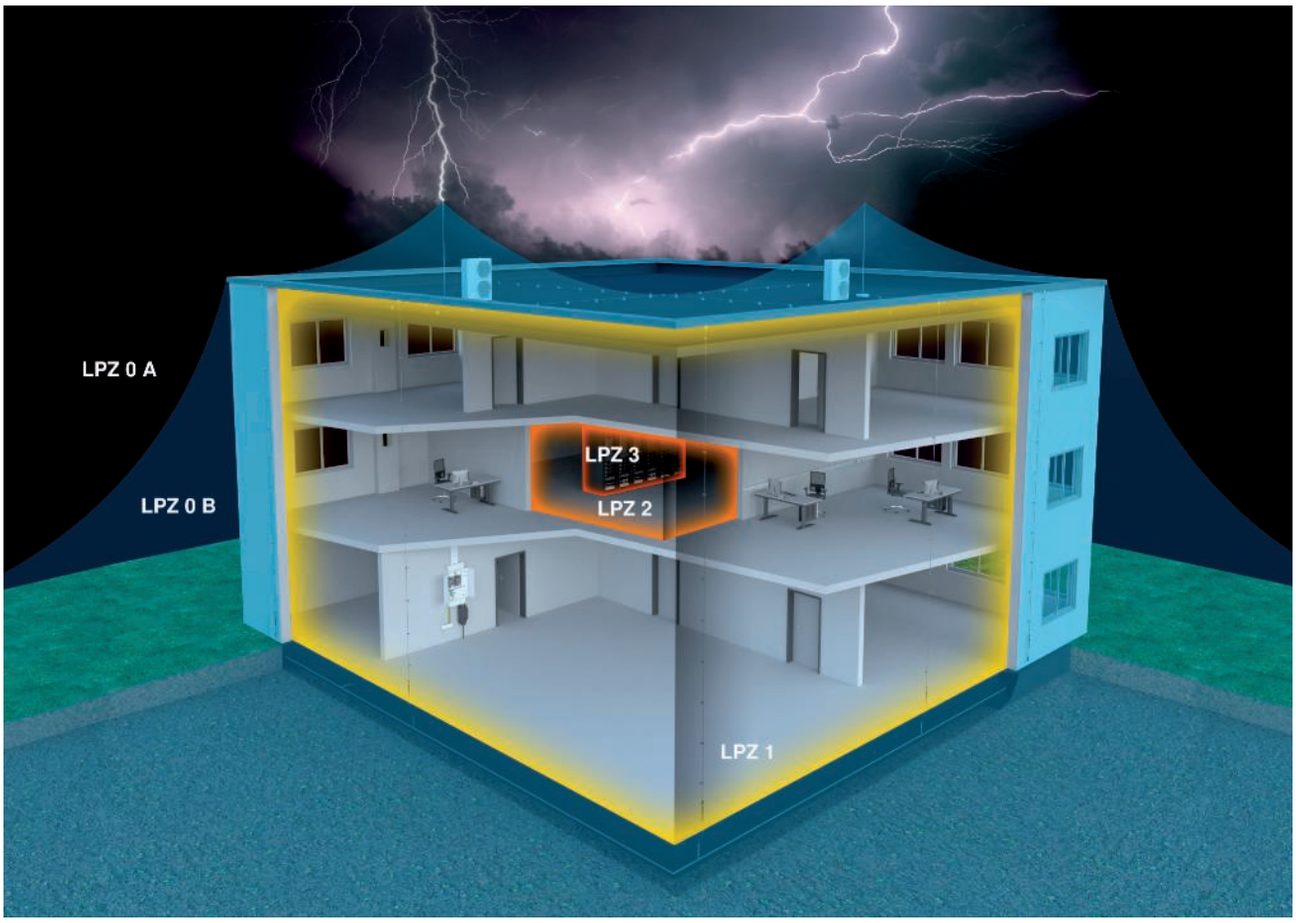
Gradual surge reduction with lightning protection zones



Lightning protection zone concept
The lightning protection zone concept described in international standard IEC 62305-4 (DIN VDE 0185 Part 4) has proved to be practical and efficient. This concept is based on the principle of gradually reducing surges to a safe level before they reach the terminal device and cause damage. In order to achieve this situation, a building's entire energy network is split into lightning protection zones (LPZ = Lightning Protection Zone). Installed at each transition from one zone to another is a surge arrestor for equipotential bonding. These arrestors correspond to the requirement class in question.

Lightning protection zone

LPZ 0 A		Unprotected zone outside the building. Direct lightning strike, no shielding against electromagnetic interference pulses LEMP (Lightning Electromagnetic Pulse).
LPZ 0 B		Through the area protected by the external lightning protection system. No shielding against LEMP.
LPZ 1		Zone inside the building. Low partial lightning energies possible.
LPZ 2		Zone inside the building. Low surges possible.
LPZ 3		Zone inside the building (can also be the metal housing of a consumer). No interference pulses through LEMP or surges present.

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Choosing the right surge protection devices

The classification of surge protection devices into types means they can be matched to different requirements with regard to location, protection level and current-carrying capacity. The table provides an overview of the zone transitions. It also shows which OBO surge protection devices can be installed in the energy supply network and their respective function.

Zone transition	Protection device and device type	Product example	Product figure
LPZ 0 B to LPZ 1	Protection device for lightning protection equipotential bonding in accordance with VDE 0185-305 (IEC 62305) for direct or close lightning strikes. Devices: Type 1+2 (Class I+II), e.g. CCF Compact Max. protection level according to standard: 1.5 kV OBO protection level: < 1.5 kV Installation e.g. in the main distributor/at building entry	MCF Compact Item no.: 5096987	
LPZ 1 to LPZ 2	Protection device for lightning protection equipotential bonding in accordance with VDE 0185-305 (IEC 62305) for direct or close lightning strikes. Devices: Type 2 (Class II), e.g. V20 Max. protection level according to standard: 1.5 kV OBO protection level: < 1.3 kV Installation e.g. in the main distributor/at building entry	V20 Item no.: 5095253	
LPZ 2 to LPZ 3	Protection device, designed for surge protection of portable consumers at sockets and power supplies. Devices: Type 3 (Class III), e.g. ÜSM-A Max. protection level according to standard: 1.5 kV OBO protection level: < 1.3 kV Installation e.g. on the end consumer	ÜSM-A Item no.: 5092451	

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BET – testing centre for lightning protection, electrical engineering and support systems

Lightning current generator

BET with countless tasks
Whereas previously only lightning current, environmental and electrical testing had been possible at BET, the BET Test Centre is now also a competent partner for the testing of cable support systems. This combination has made it necessary to revise the meaning of the name. If BET previously stood for "Blitzschutz- und EMV-Technologiezentrum" (Lightning protection and EMC technology centre), since 2009 these letters have meant BET Test Centre for lightning protection, electrical engineering and support systems.

Test generator for lightning current tests
The test generator planned in 1994 and completed in 1996 makes it possible to carry out lightning current tests at up to 200 kA. The generator was planned and constructed in cooperation with Soest Technical College. Due to the intensive planning and scientific support in the construction of the test system, it has worked for 20 years without errors and meets current standardised test requirements.

Testing tasks
The main load of the testing generator is generated through the testing of products from the TBS product division. For this, developmental tests of new developments, modifications to existing OBO products and also comparison tests with competitive products are carried out. These include lightning protection components, surge protection devices and lightning arrestors. Tests for lightning protection components are carried out according to DIN EN 62561-1, for spark gaps according to DIN EN 62561-3 and for lightning and surge protection devices according to DIN EN 61643-11. This is only a small amount of the testing standards used for tests in the BET Test Centre.

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Certification

In development, manufacture and marketing, the products of OBO Bettermann are subject to high, standardised quality standards and international standards. For decades now, OBO Bettermann has operated ISO 9001-certified quality management, which also fulfils the high requirements of the ATEX 2014/34/EU directive for EX products. In addition, OBO has run certified energy management according to ISO 50001 and is a long-standing member of Industrieverband Feuerverzinken e.V.

The BET Test Centre is a testing laboratory, recognised and certified by VDE, for the execution of countless international standards for lighting protection systems.

Zertifikat zur Anerkennung
Certificate of acceptance

von / of

OBO Bettermann GmbH & Co. KG
BET Testcenter
Hüingser Ring 52
58710 Menden
GERMANY

durch die / by the

VDE Prüf- und Zertifizierungsinstitut GmbH
VDE Testing and Certification Institute

Zertifikat
Mitteilung über die Bewertung des Qualitätssicherungssystems

für das / for the

Acceptance Program

Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen
Richtlinie 2014/34/EU
Anhang IV - Modul D: Konformität mit dem Baumuster auf der Grundlage einer Qualitätssicherung bezogen auf den Produktionsprozess
Anhang VII - Modul E: Konformität mit dem Baumuster auf der Grundlage der Qualitätssicherung bezogen auf das Produkt

Nummer des Zertifikates: BVS 16 ATEX ZQS/E310

Produktkategorie: Geräte und Komponenten
Gerätegruppe II, Kategorien 1G, 2G: Transienten- und Blitzschutz-Systeme

Stufe 2 / in Stage 2

40046136

2019-06-22

5022908-9501-0001/237781

VDE INSTITUT

Confirmation

Herewith we confirm, that

OBO BETTERMANN GmbH & Co. KG
Hüingser Ring 52
58710 Menden

is a member of our association

Industrieverband Feuerverzinken e. V., Düsseldorf.

The company OBO BETTERMANN GmbH & Co. KG provides among other things corrosion protection for fabricated iron and steel articles by hot dip galvanizing and examines that business in accordance with the requirements of the standard

DIN EN ISO 1461
"Hot dip galvanized coatings on fabricated iron and steel articles – specifications and test methods".

Industrieverband Feuerverzinken e.V.
- Director -

Düsseldorf, February 3rd, 2017

Mark Huckshold

Industrieverband Feuerverzinken e.V.
Mörsenbroicher Weg 200
40470 Düsseldorf

Fachzertifizierer

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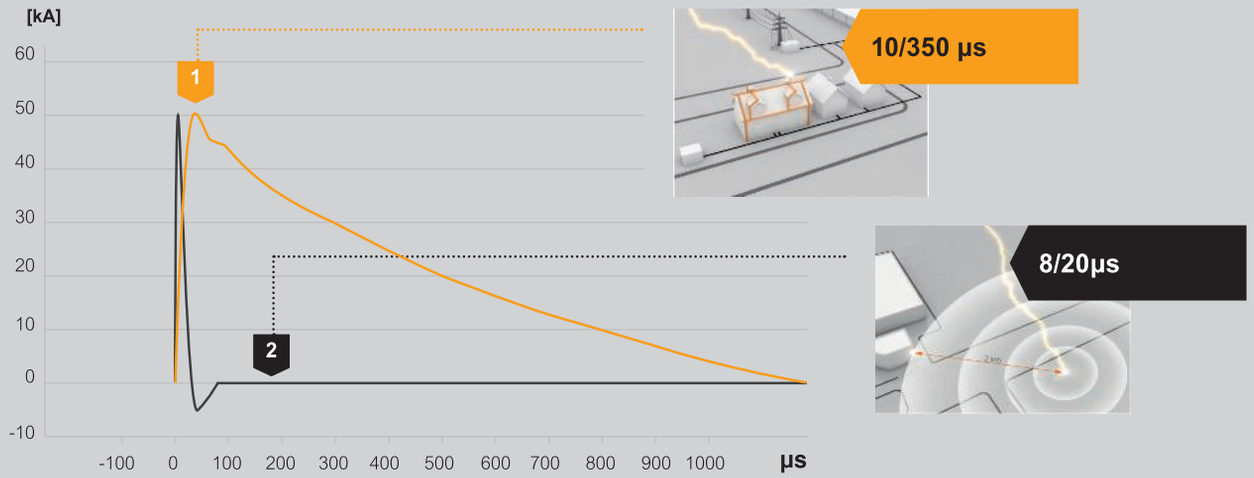

1	Pulse shape 1: Direct lightning strike, 10/350 µs simulated lightning pulse
2	Pulse shape 2: Remote lightning strike or switching operation, 8/20 µs simulated current pulse (surge voltage)

Types of pulse and their characteristics

Testing types for lightning and surge protection

Both lightning current tests and surge voltage tests can be carried out at up to 20 kV. A hybrid generator is used for these tests, which was also developed as part of a cooperation with the Soest Technical College. EMC testing of cable support systems can also be carried out using this test generator. All kinds of cable routing and cable support systems of up to 8 m length can be tested without any difficulties. Tests for electrical conductivity according to IEC 61537 are also carried out.

Simulation of real environmental conditions

To carry out standardised tests on components intended for external use, they must be pretreated under real environmental conditions. This takes place in a salt spray trough and a sulphur dioxide testing chamber. Depending on the test, the test length and the concentration of the salt spray or sulphur dioxide in the testing chambers may vary. This means that it is possible to conduct tests according to IEC 60068-2-52, ISO 7253, ISO 9227 and EN ISO 6988.

Testing cable support systems

The well-known KTS testing system, newly installed in the BET Test Centre, allows the investigation of the load capacities of any cable support system manufactured by OBO. The basis for this is IEC 61537 and VDE 0639.

In the BET Test Centre, OBO Bettermann has a testing department in which products can be tested according to standards, even during the development phase.

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Surge protection energy technology, arrester type 1+2

	Combination arrestor MCF Compact	21
	MCD combination arrestor	24
	Combination arrestor in VG housing	31
	V50 combination arrestor	42
	Accessories, upper parts and bases	72

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Surge protection energy technology, arrestor, type 1+2

- Type 1+2 SPD: I_{imp} = 25 kA per pole and up to 100 kA in total
- Protection level: < 1.5 kV, usable in coordination with type 3 SPD
- Usable in buildings with lightning protection class 1–4
- Quality according to EN 61643-11 certified by an external testing institute
- Universally usable for industry, offices, commercial and residential buildings
- System protection up to 315 A usable without separate fusing
- Remote signalling, potential-free changeover (RS)
- Variants in three to three-pole+NPE versions
- Operating instructions always available online via QR code
- Space savings of up to 25% (compared to MCD variant)

LightningController Compact

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Always indicate the item number when ordering.

LightningController Compact - MCF100

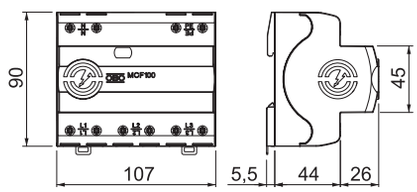
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
MCF100-3+NPE+FS	255	3+N/PE	IP20	1	93.500	**5096987**

Combination arrestor, lightning current and surge arrestor, type 1+2

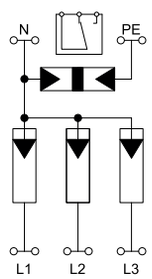
- Protection level < 1.5 kV
- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 100 kA (10/350), 3+NPE
- Line following current quenching 50 kA Ipeak, arrestor backup fuse to 315 A gL/gG
- Fulfils the requirements of the VDEW directive and E VDE-AR-N 4100 for use in pre-meter area
- Encapsulated, non-extinguishing spark gap arrestor for use in distributor housings

Application: Industrial systems and buildings with external lightning protection of the highest class I to IV.

Dimensions



Connection options



MCF100-3+NPE+FS

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	255 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	35 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	25 kA
Total discharge current (10/350)	I_{total}	100 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	100 kA
Protection level [L-N]	U_p	1.5 kV
Max. mains-side overcurrent protection		315
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		1.5 - 35 AWG
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 AWG

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LightningController Compact - MCF75

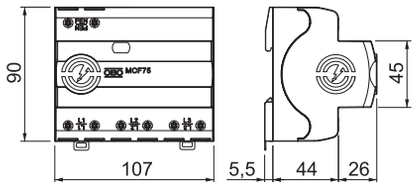
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
MCF75-3+FS	255	3	IP20	1	75.000	**5096981**

Combination arrestor, lightning current and surge arrestor, type 1+2

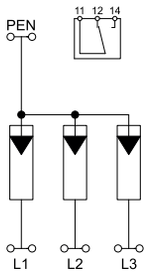
- Protection level < 1.5 kV
- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 75 kA (10/350), 3-pole
- Line following current quenching 50 kA Ipeak, arrestor backup fuse to 315 A gL/gG
- Fulfils the requirements of the VDEW directive and E VDE-AR-N 4100 for use in pre-meter area
- Encapsulated, non-extinguishing spark gap arrestor for use in distributor housings

Application: Industrial systems and buildings with external lightning protection of the highest class I to IV.

Dimensions



Connection options



MCF75-3+FS

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	255 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	35 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	25 kA
Total discharge current (10/350)	I_{total}	75 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	75 kA
Max. mains-side overcurrent protection		315
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		1.5 - 35 AWG
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 AWG

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Always indicate the item number when ordering.

Surge protection device for energy technology, arrester, type 1 (industry)

- Type 1+2 SPD – VDE-tested
- Connectable lightning current and surge arrestors
- High arresting capacity up to 50 kA (10/350) per pin
- Combination arrestors for buildings with lightning protection system
- Simple standard DIN rail mounting
- Labelled connections
- Usable in systems with lightning protection class 1–4

Combination arrestors and lightning arrestors

The combination lightning current arrestors MCD 50 meet the type 1 requirement class according to IEC 61643-11. These devices protect low-voltage consumer systems from overvoltages of all types and are available in single-pole to four-pole versions. The voltage-limiting, high-performance spark gaps provide several benefits. A short response time, a low protection level and high current leakage capability with long service life.

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Combination arrestor MCD, type 1+2, 255 V, for TN-S and TT networks

Combination arrestor, 3-pole + NPE

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCD 50-B 3+1	255	3 + NPE	1	168.000	**5096879**

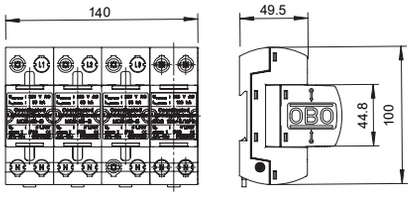
Combination arrestor, lightning current arrestor, type 1+2, 4-pole, for use in TT and TN-S networks.

Completely pre-terminated and ready for connection, consisting of:
3 x MCD 50-B: Coordinated lightning current arrestor, type 1+2 to EN 61643-11 and
1 x MCD 125-B/NPE: Coordinated N-PE spark gap, type 1+2 to EN 61643-11. For interface 0 to 2 (LPZ) in accordance with lightning protection zone concept to IEC 61312-1 and/or VDE 0185-305.

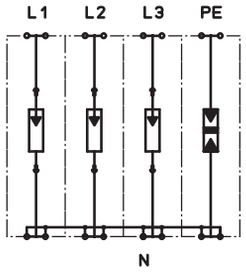
- Lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 125 kA (10/350) in total
- Protection level < 1.7 kV allows device protection
- Short-circuit resistance 10 kA, arrestor backup fuse to 500 A gL/gG
- Suitable for use in pre-meter area according to the VDEW directive
- Encapsulated, non-extinguishing spark gap

Application: Industrial systems and buildings with external lightning protection of the highest class I to IV.

Dimensions



Connection options



MCD 50-B 3+1

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	255 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	125 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	125 kA
Voltage protection level	U_p	< 1,7 kV
Protection level (N-PE)		< 1,5 kV
Response time	t_A	<100 ns
Follow current quenching capacity leff	$I_{fi\ eff}$	10 kA
Follow current quenching capacity (eff) [N-PE]	I_{fi}	0.1 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		8
Protection rating		IP20
Approvals		VDE
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

Combination arrestor, 3-pole + NPE with function display

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCD 50-B 3+1-OS	255	3 + NPE	1	172.000	**5096836**

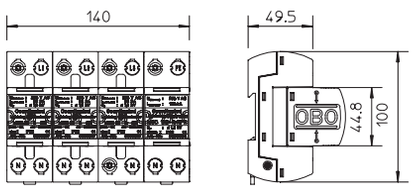
Combination arrestor, type 1+2, 4-pole, with visual function display, for use in TN-S and TT networks.

Completely pre-terminated and ready for connection, consisting of:
3 x MCD 50-B_OS: Type 1+2 (Class B) coordinated lightning current arrestor EN 61643-11.
1 x MCD 125-B/NPE: Coordinated N-PE spark gap, type 1+2 EN 61643-11 for use in TN-S and TT systems.
Interface 0 to 1 according to lightning protection zone concept according to IEC 61312-1 and VDE 0185-305.

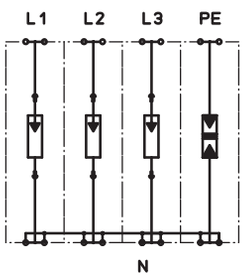
- Lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 125 kA (10/350) in total
- Protection level < 1.7 kV allows device protection
- Short-circuit resistance 10 kA, arrestor backup fuse to 500 A gL/gG
- Power consumption < 26 mW/pole
- Suitable for use in pre-meter area according to the VDEW directive
- Encapsulated, non-extinguishing spark gap

Application: Industrial systems and buildings with external lightning protection of Classes I to IV.

Dimensions



Connection options



MCD 50-B 3+1-OS

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	255 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	125 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	125 kA
Voltage protection level	U_p	< 1,7 kV
Protection level (N-PE)		< 1,5 kV
Response time	t_A	<100 ns
Follow current quenching capacity leff	$I_{fi\ eff}$	10 kA
Follow current quenching capacity (eff) [N-PE]	I_{fi}	0.1 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		8
Protection rating		IP20
Approvals		VDE
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

Combination arrestor MCD, type 1+2, 255 V, for TN-C networks

Combination arrestor, 3-pole

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCD 50-B 3	255	3-pole	1	117.000	**5096877**

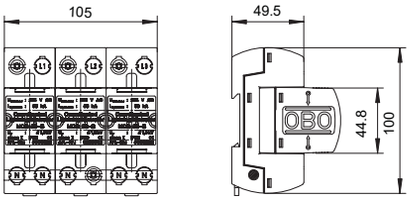
Combination arrestor, lightning current arrestor, type 1+2, 3-pole, for use in TN-C networks.

Completely pre-terminated and ready for connection, consisting of:
3 x MCD 50-B: Type 1+2 (Class B) coordinated lightning current arrestor EN 61643-11. For interface 0 to 2 (LPZ) in accordance with lightning protection zone concept to IEC 61312-1 and/or VDE 0185-305.

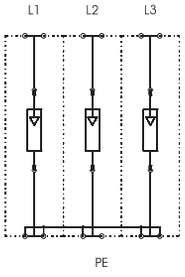
- Lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 150 kA (10/350) in total
- Protection level < 1.7 kV allows device protection
- Short-circuit resistance 10 kA, arrestor backup fuse to 500 A gL/gG
- Suitable for use in pre-meter area according to the VDEW directive
- Encapsulated, non-extinguishing spark gaps

Application: Industrial systems and buildings with external lightning protection of the highest class I to IV.

Dimensions



Connection options



MCD 50-B 3

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	150 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	150 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	<100 ns
Follow current quenching capacity leff	$I_{fi\ eff}$	10 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		6
Protection rating		IP20
Approvals		VDE
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

Combination arrestor, 3-pole with function display

Type 1+2 | LPZ 0→2 | 230/400 V System

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCD 50-B 3-OS	255	3-pole	1	118.000	**5096835**

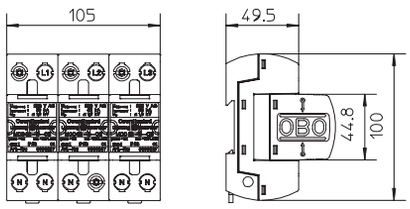
Combination arrestor set, type 1+2, 3-pole, with visual function display, for use in TN-C networks:

Completely pre-terminated and ready for connection, consisting of:
3 x MCD 50-B-OS: Type 1+2 coordinated lightning current arrestors to DIN EN 61643-11. For interface 0 to 2 (LPZ) in accordance with lightning protection zone concept to IEC 61312-1 and/or VDE 0185-305.

- Lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 150 kA (10/350) in total
- Protection level < 1.7 kV allows device protection
- Short-circuit resistance 10 kA, arrestor backup fuse to 500 A gL/gG
- Power consumption < 26 mW/pole
- Suitable for use in pre-meter area according to the VDEW directive
- Encapsulated, non-extinguishing spark gaps

Application: Industrial systems and buildings with external lightning protection of Classes I to IV.

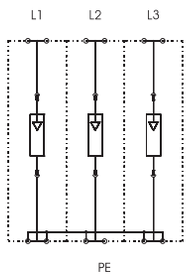
Dimensions



MCD 50-B 3-OS

Nominal voltage	U_N	230 V
		—
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	150 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	150 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	<100 ns
Follow current quenching capacity leff	$I_{fi\ eff}$	10 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		6
Protection rating		IP20
Approvals		VDE
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

Connection options



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Always indicate the item number when ordering.

Combination arrestor MCD, type 1+2, 255 V

Combination arrestor, 1-pole

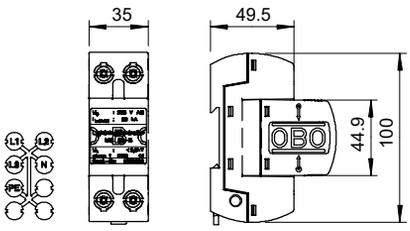
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCD 50-B	255	1-pole	1	34.400	**5096849**

Combination arrestor, lightning current arrestor, type 1+2, for use in TN and TT networks

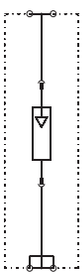
- Lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 150 kA (10/350) in total
- Protection level < 1.7 kV allows device protection
- Short-circuit resistance 10 kA, arrestor backup fuse to 500 A gL/gG
- Suitable for use in pre-meter area according to the VDEW directive
- Encapsulated, non-extinguishing spark gaps

Application: Industrial systems and buildings with external lightning protection of Classes I to IV.

Dimensions



Connection options



MCD 50-B

Nominal voltage	U_N	230 V
		–
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	50 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	50 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	<100 ns
Follow current quenching capacity leff	$I_{fi\ eff}$	10 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Approvals		VDE
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

Combination arrestor, 1-pole with function display

Type 1+2 | LPZ 0→2 | 230/400 V System

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCD 50-B-OS	255	1-pole	1	34.800	**5096852**

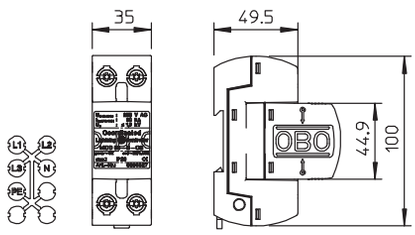
Combination arrestor, type 1+2, 1-pole, for use in TN and TT networks:

MCD 50-B-OS: Coordinated lightning current arrestor, Type 1 (Class B) to EN 61643-11 with visual function display. For interface 0 to 2 (LPZ) in accordance with lightning protection zone concept to IEC 61312-1 and/or DIN VDE 0185-305.

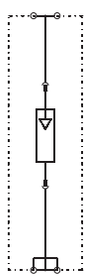
- Arresting capacity 50 kA (10/350 µs) per pole
- Power consumption < 26 mW/pole
- Protection level < 1.3 kV
- Line follow current quenching 25 kA Ipeak
- Incl. plug caps for identifying the connections
- Encapsulated, non-extinguishing spark gap
- Can be used in standard distributor housings.

Application: Compact surge protection concepts and installations in a distributor.

Dimensions



Connection options



MCD 50-B-OS

Nominal voltage	U_N	230 V
		–
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	50 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	50 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	<100 ns
Follow current quenching capacity leff	$I_{fi\ eff}$	10 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Approvals		VDE
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

Combination arrestor MCD, type 1+2, 255 V for TN-S and TT networks

Combination arrestor, 1-pole NPE

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCD 125-B NPE	255	NPE	1	46.500	**5096865**

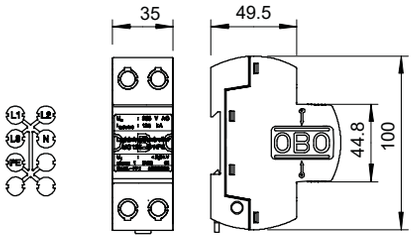
Combination arrestor, lightning current arrestor, type 1+2, N-PE, for use in TN-S and TT networks.

MCD 125-B/NPE: Coordinated N-PE spark gap, type 1+2 to EN 61643-11. For interface 0 to 2 (LPZ) in accordance with lightning protection zone concept to IEC 61312-1 and/or VDE 0185-305.

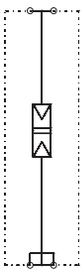
- Arresting capacity 125 kA (10/350 µs)
- Conforms to VDN Directive 2nd Edition 2004
- Incl. plug caps for identifying the connections
- Protection level < 1.5 kV, allows device protection
- Encapsulated, non-extinguishing spark gap

Application: Industrial systems and buildings with external lightning protection of Classes I to IV.

Dimensions



Connection options



MCD 125-B NPE

Nominal voltage	U_N	230 V
		–
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	125 kA
Total discharge current (10/350)	I_{total}	125 kA
Nominal discharge current (8/20)	I_n	125 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	125 kA
Protection level (N-PE)		< 1,5 kV
Response time	t_A	<100 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	0.1 kA
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Approvals		VDE
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

VG housing with MCD 50-B/3+1

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCD 50-B 3+1-VG	255	3 + NPE	1	290.000	**5096875**

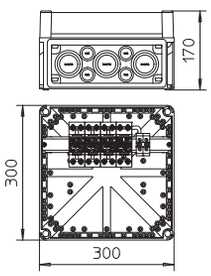
Combination arrester, pre-installed in IP65 housing for use in TN-S and TT networks.

VG...: Lightning arrester system solution type 1+2 according to DIN EN 61643-11.

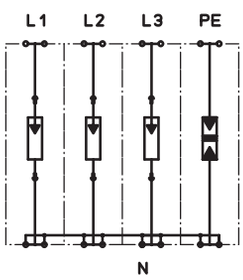
- LightningController MCD 50-B and MCD 125-B/NPE mounted in insulating housing IP 65, sealable housing
- Pulsed current 125 kA (10/350 µs), BET-tested
- Conforms to requirements of VDN Directive
- Protection level < 1.7 kV (L-N) and < 1.5 kV (N-PE)
- Enclosed, non-extinguishing discharge gap
- Suitable for TN-S and TT network systems

Application example: The system solution is used in the pre-meter area according to VDN Directive.

Dimensions



Connection options



MCD 50-B 3+1-VG

Nominal voltage	U_N	230 V
		—
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	125 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	125 kA
Voltage protection level	U_p	< 1,7 kV
Protection level (N-PE)		< 1,5 kV
Response time	t_A	<100 ns
Follow current quenching capacity leff	$I_{fi\ eff}$	10 kA
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		8
Protection rating		IP54
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

Always indicate the item number when ordering.

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Combination arrestor in VG housing, for TN-C networks

VG housing with MCD 50-B/3

IP 65 | 230/400 V System | Type 1 | LPZ 0→2 | Type 2

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCD 50-B 3-VG	255	3-pole	1	315.000	**5096874**

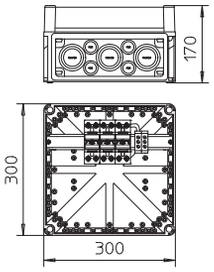
Combination arrestor, pre-installed in IP65 housing for use in TN-C networks.

VG...: Lightning arrestor system solution type 1 according to EN 61643-11.

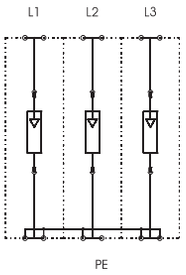
- LightningController MCD 50-B mounted in insulating housing IP 65, sealable housing
- Pulsed current 150 kA 10/350 µs / 50 kA (10/350) per pole, BET-tested
- Protection level < 1.7 kV
- Enclosed, non-extinguishing spark gaps
- Suitable for TN-C network systems

Application example: The system solution is used in the pre-meter area according to VDN Directive 2nd Edition 2004.

Dimensions



Connection options



MCD 50-B 3-VG

Nominal voltage	U_N	230 V
		–
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	150 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	150 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	<100 ns
Follow current quenching capacity leff	$I_{fi\ eff}$	10 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		6
Protection rating		IP54
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

Surge protection energy technology, arrestor, type 1+2: The plus of the V50 family

- Connectable lightning current and surge arrestors
- High arresting capacity up to 50 kA (10/350)
- Visual status display
- Available with optional remote signalling
- Vibration-proof
- For buildings with lightning protection
- Simple standard DIN rail mounting
- Labelled connections
- Usable in systems with lightning protection class III + IV
- Connectable NPE module
- Voltage encoding

V50 combination arrestor

Function and areas of use
The combination lightning current and surge arrestors V50 meet the type 1+2 requirement class according to IEC 61643-11. These devices protect low-voltage consumer systems from overvoltages of all types and are available in single-pole to four-pole versions. The use of high-performance varistors permits a rapid response time and a low protection level, without any line follow current. If circumstances are uncertain and there is a risk of fire from an overload, the internal cut-off unit disconnects the arrestor from the mains if necessary. In addition, the QR code printed on the arrestor allows direct access to the online installation instructions.

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Combination arrestor V50, 150 V, type 1+2

Combination arrestor V50, 1-pole 150 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1-150	150	1	IP20	1	15.400	**5093440**

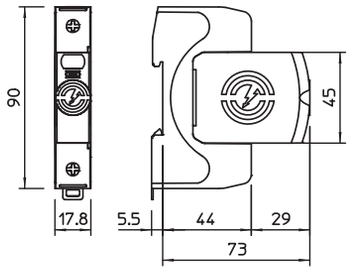
PA Polyamide

Lightning current combination arrestor, type 1+2

- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options

V50-1-150

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	— kA
Arrestor surge current (8/20 µs) [total]	I_{total}	— kA
Protection level [L-N]	U_p	0.8 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,4 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,5 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 1-pole with FS 150 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1+FS-150	150	1	IP20	1	15.600	**5093446**

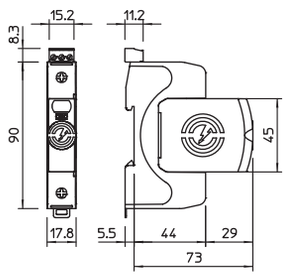
PA Polyamide

Lightning current combination arrestor, type 1+2

- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options

V50-1+FS-150

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	— kA
Arrestor surge current (8/20 µs) [total]	I_{total}	— kA
Protection level [L-N]	U_p	0.8 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,4 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,5 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 150 V, type 1+2, for TN-C networks

Combination arrestor V50, 3-pole 150 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3-150	150	3	IP20	1	43.500	**5093442**

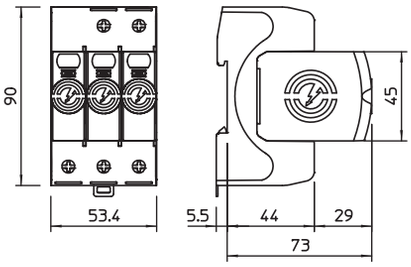
PA Polyamide

Lightning current combination arrestor, type 1+2

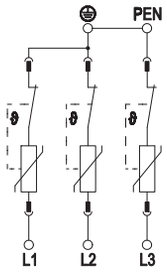
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3-150

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	37.5 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	0.8 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,4 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,5 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 3-pole with FS 150 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3+FS-150	150	3	IP20	1	43.900	**5093448**

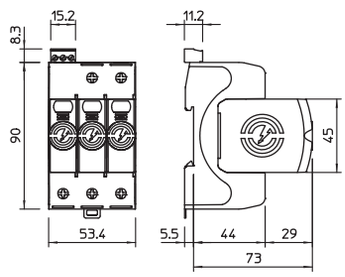
PA Polyamide

Lightning current combination arrestor, type 1+2

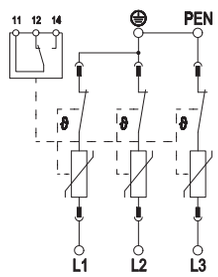
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3+FS-150

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	37.5 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	0.8 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,4 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,5 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 150 V, with NPE, type 1+2, for TN-S and TT networks

Combination arrestor V50, 1-pole + NPE 150 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1+NPE-150	150	1+N/PE	IP20	1	29.300	**5093452**

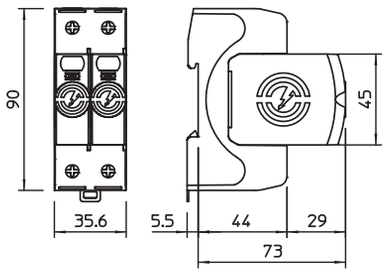
PA Polyamide

Lightning current combination arrestor, type 1+2

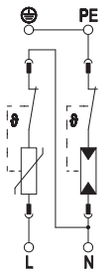
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-1+NPE-150

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	25 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	— kA
Protection level [L-N]	U_p	0.8 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	2.1 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,4 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,5 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 1-pole + NPE with FS 150 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1+NPE+FS-150	150	1+N/PE	IP20	1	29.600	**5093460**

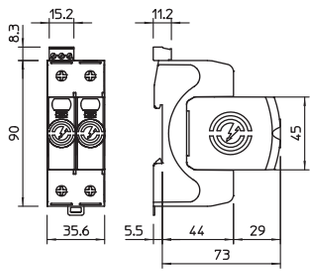
PA Polyamide

Lightning current combination arrestor, type 1+2

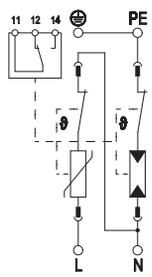
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-1+NPE+FS-150

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	12.5 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	— kA
Protection level [L-N]	U_p	0.8 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.1 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,4 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,5 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 150 V, with NPE, type 1+2, for TN-S and TT networks

Combination arrestor V50, 3-pole + NPE 150 V

LPZ 0→2 | Type 1+2

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3+NPE-150	150	3+N/PE	IP20	1	55.800	**5093454**

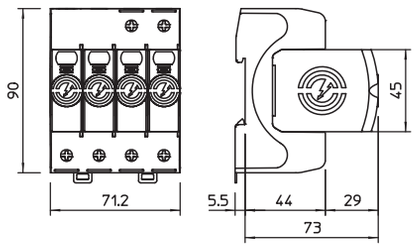
PA Polyamide

Lightning current combination arrestor, type 1+2

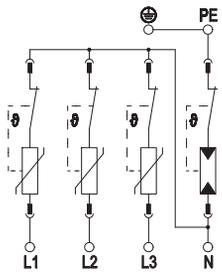
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3+NPE-150

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	50 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	0.8 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	2.1 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,4 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,5 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 3-pole + NPE with FS 150 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3+NPE+FS-150	150	3+N/PE	IP20	1	56.300	**5093462**

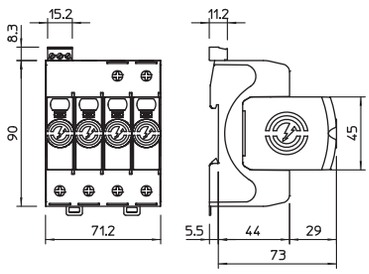
PA Polyamide

Lightning current combination arrestor, type 1+2

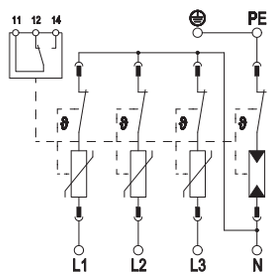
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3+NPE+FS-150

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	50 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	0.8 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.1 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,4 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,5 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 280 V, type 1+2

Combination arrestor V50, 1-pole 280 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1-280	280	1	IP20	1	16.400	**5093500**

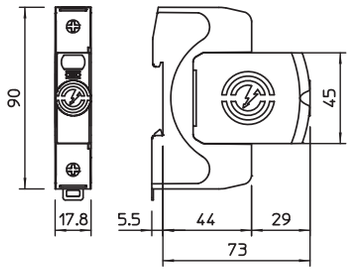
PA Polyamide

Lightning current combination arrestor, type 1+2

- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options

V50-1-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	— kA
Arrestor surge current (8/20 µs) [total]	I_{total}	— kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 1-pole with FS 280 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1+FS-280	280	1	IP20	1	16.600	**5093502**

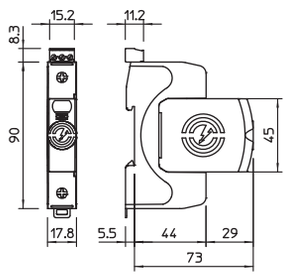
PA Polyamide

Lightning current combination arrestor, type 1+2

- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options

V50-1+FS-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 280 V, type 1+2, for TN-C networks

Combination arrestor V50, 3-pole 280 V

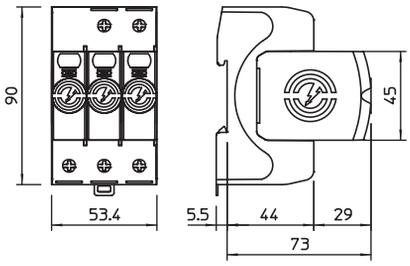
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3-280	280	3	IP20	1	46.500	**5093511**

Lightning current combination arrestor, type 1+2

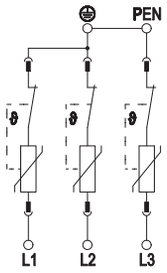
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	37.5 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 3-pole with FS 280 V

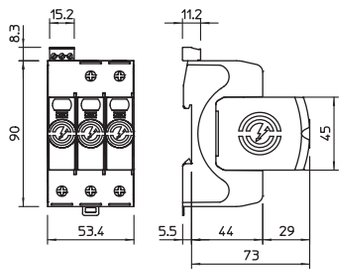
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3+FS-280	280	3	IP20	1	46.900	**5093516**

Lightning current combination arrestor, type 1+2

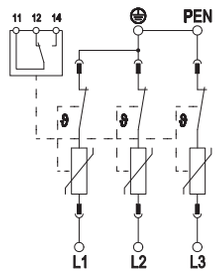
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3+FS-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	37.5 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 280 V, type 1+2, for TN-S networks

Combination arrestor V50, 4-pole 280 V

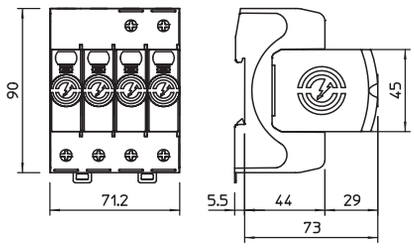
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-4-280	280	4	IP20	1	61.000	**5093513**

Lightning current combination arrestor, type 1+2

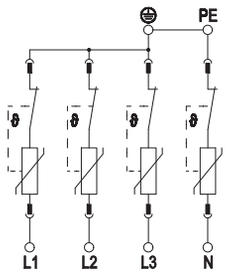
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-4-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	50 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	160 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 4-pole with FS 280 V

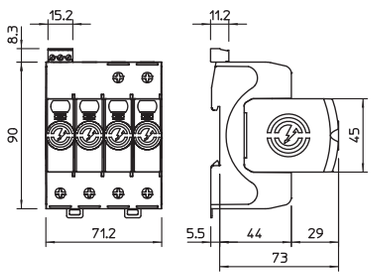
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-4+FS-280	280	4	IP20	1	61.500	**5093518**

Lightning current combination arrestor, type 1+2

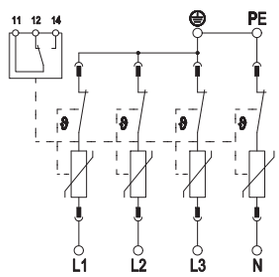
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-4+FS-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	50 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	160 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 280 V, with NPE, type 1+2, for TN-S and TT networks

Combination arrestor V50, 1-pole + NPE 280 V

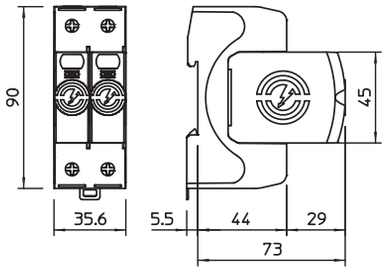
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1+NPE-280	280	1+N/PE	IP20	1	30.300	**5093522**

Lightning current combination arrestor, type 1+2

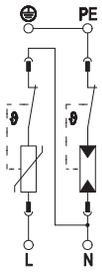
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-1+NPE-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	25 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.3 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

Always indicate the item number when ordering.

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Combination arrestor V50, 1-pole + NPE with FS 280 V

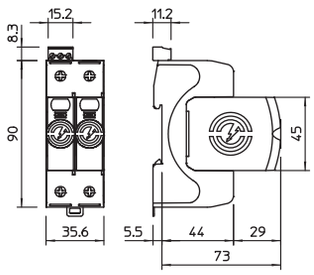
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1+NPE+FS-280	280	1+N/PE	IP20	1	30.600	**5093531**

Lightning current combination arrestor, type 1+2

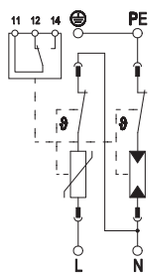
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-1+NPE+FS-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	25 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.3 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 280 V, with NPE, type 1+2, for TN-S and TT networks

Combination arrestor V50, 2-pole + NPE 280 V

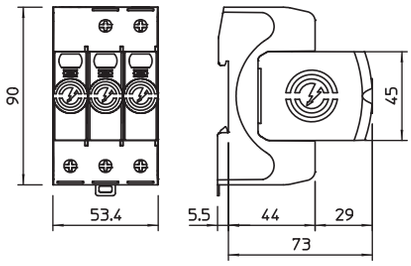
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-2+NPE-280	280	2+N/PE	IP20	1	44.300	**5093524**

Lightning current combination arrestor, type 1+2

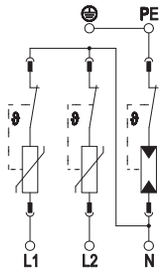
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-2+NPE-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	37.5 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.3 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 3-pole + NPE 280 V

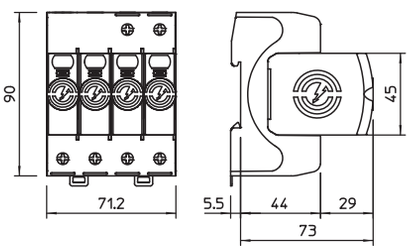
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3+NPE-280	280	3+N/PE	IP20	1	58.800	**5093526**

Lightning current combination arrestor, type 1+2

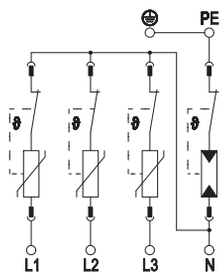
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3+NPE-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	50 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.3 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 280 V, with NPE, type 1+2, for TN-S and TT networks

Combination arrestor V50, 3-pole + NPE with FS 280 V

LPZ 0→2 | Type 1+2 | FS

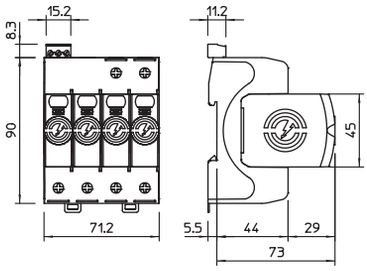
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3+NPE+FS-280	280	3+N/PE	IP20	1	59.300	**5093533**

Lightning current combination arrestor, type 1+2

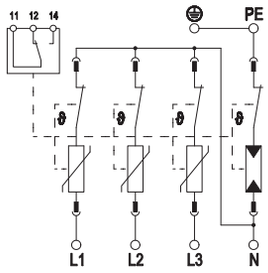
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3+NPE+FS-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	50 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.3 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

Always indicate the item number when ordering.

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Combination arrestor V50, 320 V, type 1+2

Combination arrestor V50, 1-pole 320 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1-320	320	1	IP20	1	17.200	**5093540**

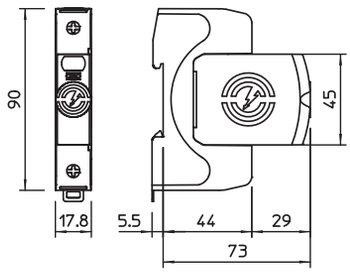
PA Polyamide

Lightning current combination arrestor, type 1+2

- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options

V50-1-320

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	— kA
Arrestor surge current (8/20 µs) [total]	I_{total}	— kA
Protection level [L-N]	U_p	1.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,9 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 1-pole with FS 320 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1+FS-320	320	1	IP20	1	17.200	**5093546**

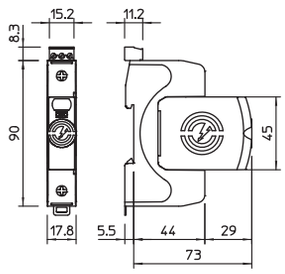
PA Polyamide

Lightning current combination arrestor, type 1+2

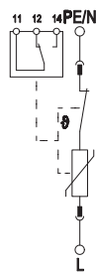
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-1+FS-320

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	— kA
Arrestor surge current (8/20 µs) [total]	I_{total}	— kA
Protection level [L-N]	U_p	1.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,9 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Combination arrestor V50, 320 V, type 1+2, for TN-C networks

Combination arrestor V50, 3-pole 320 V

LPZ 0→2 | Type 1+2

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3-320	320	3	IP20	1	48.900	**5093542**

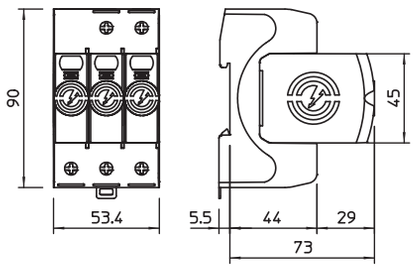
PA Polyamide

Lightning current combination arrestor, type 1+2

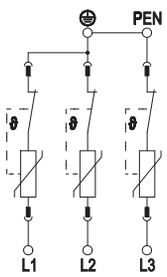
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3-320

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	37.5 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	1.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,9 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 3-pole with FS 320 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3+FS-320	320	3	IP20	1	49.300	**5093548**

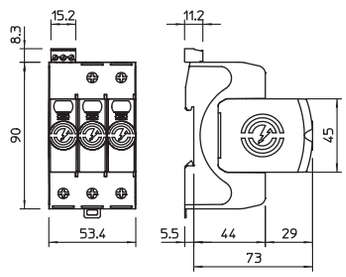
PA Polyamide

Lightning current combination arrestor, type 1+2

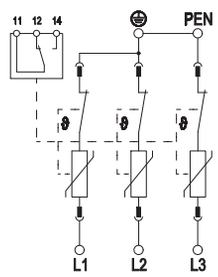
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3+FS-320

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	37.5 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	1.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,9 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 320 V, with NPE, type 1+2, for TN-S and TT networks

Combination arrestor V50, 1-pole + NPE 320 V

LPZ 0→2 | Type 1+2

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1+NPE-320	320	1+N/PE	IP20	1	31.100	**5093552**

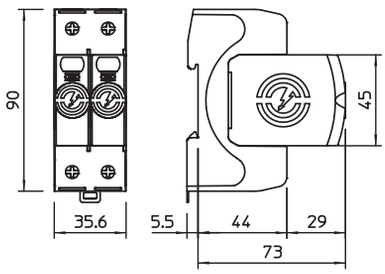
PA Polyamide

Lightning current combination arrestor, type 1+2

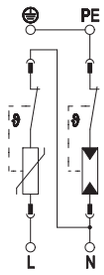
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-1+NPE-320

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	— kA
Arrestor surge current (8/20 µs) [total]	I_{total}	— kA
Protection level [L-N]	U_p	1.4 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,9 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 1-pole + NPE with FS 320 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1+NPE+FS-320	320	1+N/PE	IP20	1	31.100	**5093560**

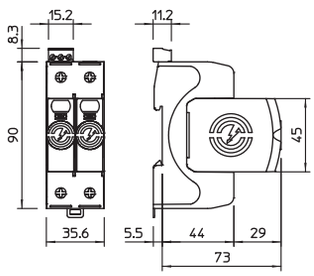
PA Polyamide

Lightning current combination arrestor, type 1+2

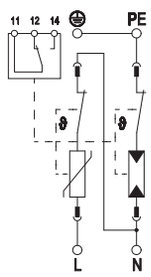
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-1+NPE+FS-320

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	12.5 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	— kA
Protection level [L-N]	U_p	1.4 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,9 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 3-pole + NPE 320 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3+NPE-320	320	3+N/PE	IP20	1	61.200	**5093554**

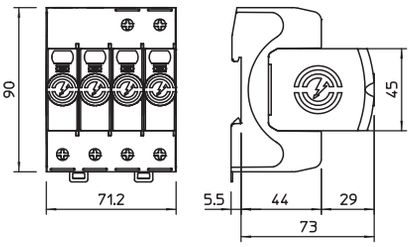
PA Polyamide

Lightning current combination arrestor, type 1+2

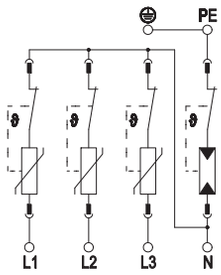
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3+NPE-320

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	50 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.4 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,9 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 3-pole + NPE with FS 320 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3+NPE+FS-320	320	3+N/PE	IP20	1	61.700	**5093562**

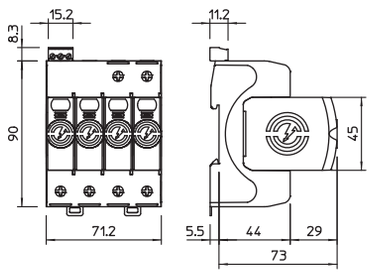
PA Polyamide

Lightning current combination arrestor, type 1+2

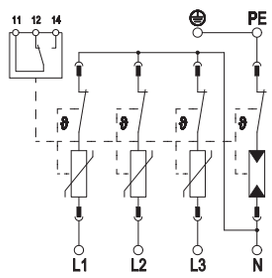
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3+NPE+FS-320

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	50 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.4 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,9 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 1-pole 385 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1-385	385	1	IP20	1	18.300	**5093572**

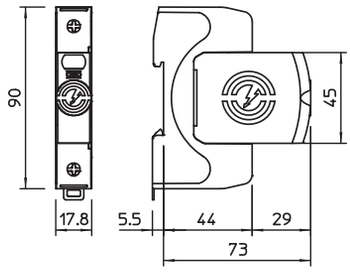
PA Polyamide

Lightning current combination arrestor, type 1+2

- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options

V50-1-385

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	350 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	— kA
Arrestor surge current (8/20 µs) [total]	I_{total}	— kA
Protection level [L-N]	U_p	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,1 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 1-pole with FS 385 V

LPZ 0→2 | Type 1+2 | FS

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1+FS-385	385	1	IP20	1	18.500	**5093578**

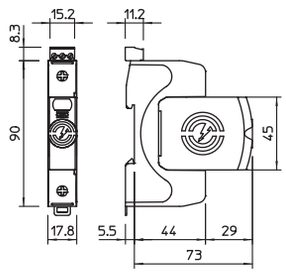
PA Polyamide

Lightning current combination arrestor, type 1+2

- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options

V50-1+FS-385

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	350 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	— kA
Arrestor surge current (8/20 µs) [total]	I_{total}	— kA
Protection level [L-N]	U_p	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,1 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 385 V, with NPE, type 1+2, for TN-S and TT networks

Combination arrestor V50, 1-pole + NPE 385 V

LPZ 0→2 | Type 1+2

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1+NPE-385	385	1+N/PE	IP20	1	32.200	**5093584**

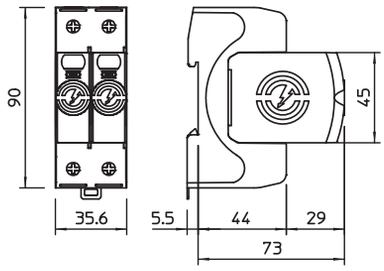
PA Polyamide

Lightning current combination arrestor, type 1+2

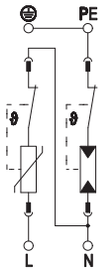
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-1+NPE-385

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	25 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.7 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,1 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 1-pole + NPE with FS 385 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-1+NPE+FS-385	385	1+N/PE	IP20	1	32.500	**5093590**

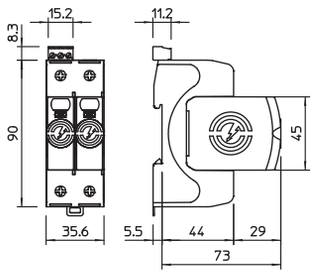
PA Polyamide

Lightning current combination arrestor, type 1+2

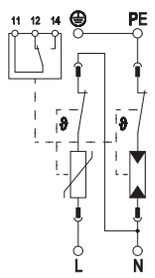
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-1+NPE+FS-385

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	12.5 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	— kA
Protection level [L-N]	U_p	1.7 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,1 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 385 V, with NPE, type 1+2, for TN-S and TT networks

Combination arrestor V50, 3-pole + NPE 385 V

LPZ 0→2 | Type 1+2

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3+NPE-385	385	3+N/PE	IP20	1	64.500	**5093586**

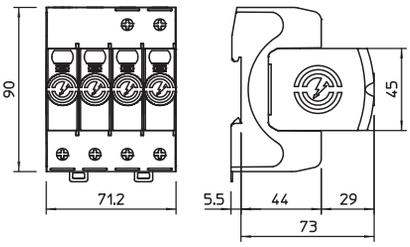
PA Polyamide

Lightning current combination arrestor, type 1+2

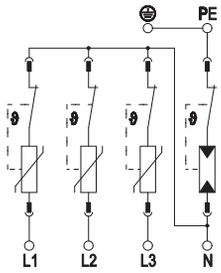
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3+NPE-385

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	50 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.7 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,1 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 3-pole + NPE with FS 385 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3+NPE+FS-385	385	3+N/PE	IP20	1	65.000	**5093592**

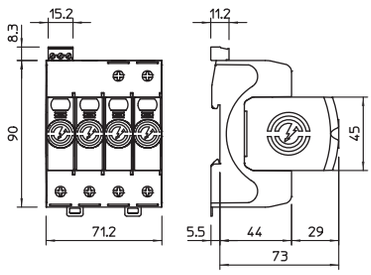
PA Polyamide

Lightning current combination arrestor, type 1+2

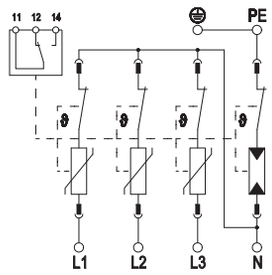
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3+NPE+FS-385

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	50 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.7 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	2.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,1 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50 upper part, type 1+2

Upper part V50 150 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-0-150	150	—	IP20	1	7.660	**5093505**

Upper part, lightning current combination arrestor, type 1+2

- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current discharge capacity of 12.5 kA (10/350) per pole
- Modular, plug-in arrestor with dynamic cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic (UL 94 V-0)

Upper part V50 280 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-0-280	280	—	IP20	1	8.500	**5093508**

Upper part, lightning current combination arrestor, type 1+2

- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current discharge capacity of 12.5 kA (10/350) per pole
- Modular, plug-in arrestor with dynamic cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic (UL 94 V-0)

Upper part V50 320 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-0-320	320	—	IP20	1	9.160	**5093509**

Upper part, lightning current combination arrestor, type 1+2

- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current discharge capacity of 12.5 kA (10/350) per pole
- Modular, plug-in arrestor with dynamic cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic (UL 94 V-0)

Upper part V50 385 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-0-385	385	—	IP20	1	10.510	**5093510**

Upper part, lightning current combination arrestor, type 1+2

- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current discharge capacity of 12.5 kA (10/350) per pole
- Modular, plug-in arrestor with dynamic cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic (UL 94 V-0)

Always indicate the item number when ordering.

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Upper part NPE-C50

LPZ 0→2 | Type 1+2

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
C50-0-255	255	N/PE	IP20	1	7.215	**5095609**

Lightning current combination arrestor, type 1+2

- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

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Combination arrestor V50, 385 V, type 1+2, for TN-C networks

Combination arrestor V50, 3-pole 385 V

LPZ 0→2 | Type 1+2

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3-385	385	3	IP20	1	52.200	**5093574**

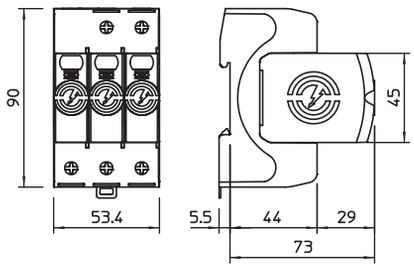
PA Polyamide

Lightning current combination arrestor, type 1+2

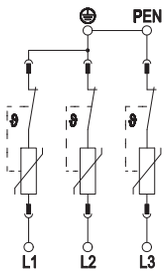
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3-385

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	350 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	37.5 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,1 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Combination arrestor V50, 3-pole with FS 385 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-3+FS-385	385	3	IP20	1	52.600	**5093580**

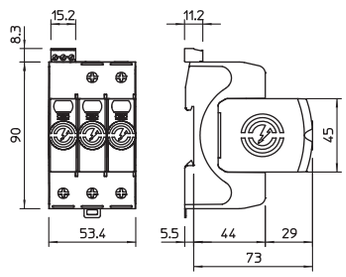
PA Polyamide

Lightning current combination arrestor, type 1+2

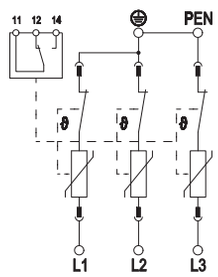
- For lightning current equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity of 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total
- Modular, plug-in arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling (FS) variants have a potential-free changeover contact for remote signalling

Application: Lighting current equipotential bonding for buildings of class III and IV.

Dimensions



Connection options



V50-3+FS-385

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	350 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	37.5 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,1 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, KEMA, ÖVE, VDE
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

MCD accessories, upper parts and bases

Combination arrestor upper part

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCD 50-B 0	255	1-pole	1	19.200	**5096822**

Combination arrestor, lightning current arrestor, type 1+2, upper part.

- Protection level < 1.7 kV, allows device protection
- Line current quenching capacity 10 kA
- Encapsulated, non-extinguishing spark gap

Application: Industrial systems and buildings with external lightning protection of Classes I to IV.

Upper part, combination arrestor with function display

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCD 50-B 0-OS	255	1-pole	1	19.500	**5096827**

Combination arrestor, lightning current arrestor, type 1+2, upper part with visual display.

- Lightning current arresting capacity 50 kA (10/350)
- Power consumption < 26 mW/pole
- Protection level < 1.7 kV
- Line current quenching capacity 10 kA
- Encapsulated, non-extinguishing spark gap

Application: Installations of surge protection devices, type 1+2, in a distribution.

Lightning arrestor/combination arrestor base

Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MC 50-B U VDE	1-pole	1	18.000	**5096839**

MC 50-B/U: LightningController bottom section fit type:

- MC 50-B VDE
- MCD 50-B
- Including plug caps for identifying the connections

Accessories for lightning current arrestor

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
MC V3	10	1.700	**5096884**
MC V4	10	2.300	**5096886**

Cu Copper

MC-V...: Copper bridge 16 mm², suitable for bridging MC arrestors in side channel.

- V3 for 3-pole circuits
- V4 for 4-pole circuits

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Always indicate the item number when ordering.

Protection set MCD + V20 1-pole + NPE

230/400 V System | Type 1+2 | LPZ 0→2

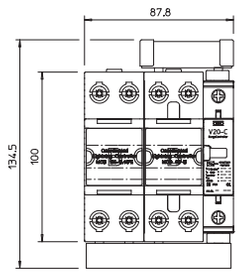
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
PS 2-B+C/TT+TNS	255	1 + NPE	1	101.000	**5089748**

Protection set, lightning and surge arrestor combination, type 1+2

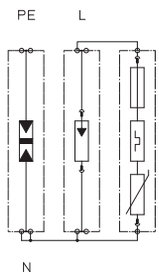
- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 125 kA (10/350) N-PE
- Arrestor, connectable, including connecting bridges, labelled connection terminals
- Encapsulated, non-extinguishing arrestor for use in distributor housings

Application: Mobile telecommunications systems and industrial systems with special requirements.

Dimensions



Connection options



PS 2-B+C/TT+TNS

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	100 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	100 kA
Maximum discharge current (8/20 µs)	I_{max}	100 kA
Voltage protection level	U_p	<1,3 kV
Response time	t_A	<25 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		5
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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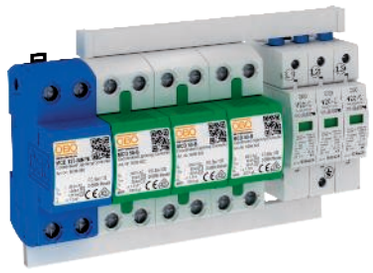
Always indicate the item number when ordering.

Combination arrestor, protection set VA, type 1+2, for TN-S and TT network systems

Protection set MCD + V20 3-pole + NPE



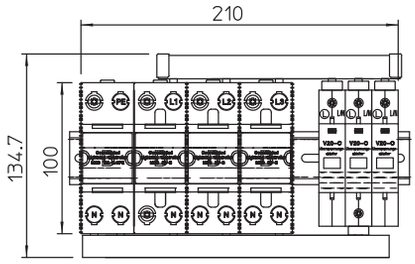
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
PS4-B+C TT+TNS	255	3 + NPE	1	206.000	**5089761**

Protection set, lightning and surge arrestor combination, type 1+2

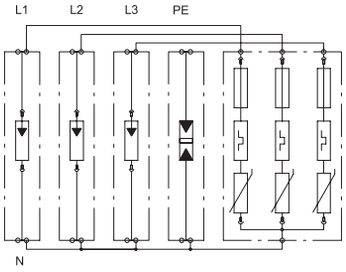
- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 125 kA (10/350) N-PE
- Arrestor, connectable, including connecting bridges, labelled connection terminals
- Encapsulated, non-extinguishing arrestor for use in distributor housings

Application: Mobile telecommunications systems and industrial systems with special requirements.

Dimensions



Connection options



PS4-B+C TT+TNS

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	100 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	100 kA
Maximum discharge current (8/20 µs)	I_{max}	100 kA
Voltage protection level	U_p	<1,3 kV
Protection level (N-PE)		<1,5 kV
Response time	t_A	<25 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		12
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

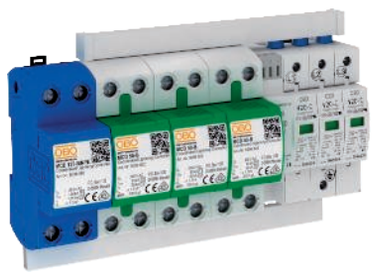
Protection set MCD + V20 3-pole + NPE with remote signalling

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
PS4-B+C TNS+FS	255	3 + NPE	1	211.000	**5089763**

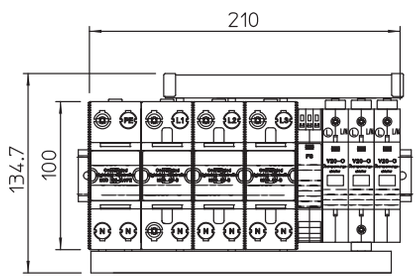
Series PS...: Protection Set, Type 1+2 (Class B+C) lightning and surge arrestor to VDE 0675 Part 6-11 (DIN EN 61643-11).

- Arresting capacity 100 kA 10/350 µs BET tested
- Pre-mounted and ready for connection, including connecting bridges, connection terminals marked
- With remote signalling, potential-free NO contact, for function monitoring
- For use in TN-C network system

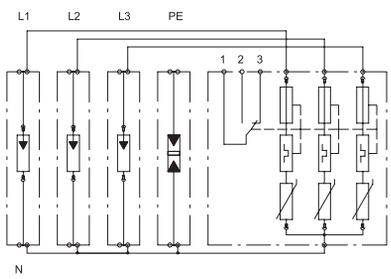
Note: Max. backup fuse (required only if not already fitted in network) 125 A gL/gG.



Dimensions



Connection options



PS4-B+C TNS+FS

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	100 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	100 kA
Maximum discharge current (8/20 µs)	I_{max}	100 kA
Voltage protection level	U_p	<1,3 kV
Response time	t_A	<25 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		12
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Combination arrestor, protection set, type 1+2 for TN-C network systems

Protection set MCD + V20 3-pole

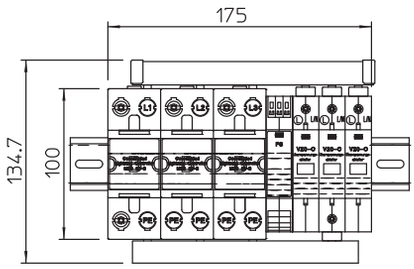
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
PS3-B+C TNC	255	3-pole	1	158.000	**5089754**

Protection set, lightning and surge arrestor combination, type 1+2

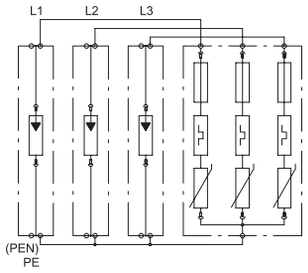
- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 125 kA (10/350) N-PE
- Arrestor, connectable, including connecting bridges, labelled connection terminals
- Encapsulated, non-extinguishing arrestor for use in distributor housings

Application: Mobile telecommunications systems and industrial systems with special requirements.

Dimensions



Connection options



PS3-B+C TNC

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	100 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	100 kA
Maximum discharge current (8/20 µs)	I_{max}	100 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	<25 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		10
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

Protection set MCD + V20 3-pole with remote signalling

230/400 V System | Type 1+2 | LPZ 0→2 | FS

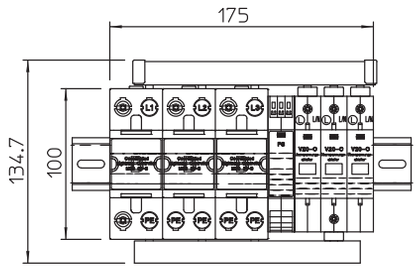
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
PS3-B+C TNC+FS	255	3-pole	1	163.000	**5089756**

Series PS...: Protection Set,, Type 1+2 (Class B+C) lightning and surge arrestor to VDE 0675 Part 6-11 (DIN EN 61643-11).

- Arresting capacity 100 kA 10/350 µs BET tested
- Pre-mounted and ready for connection, including connecting bridges, connection terminals marked
- With remote signalling, potential-free NO contact, for function monitoring
- For use in TN-C network system

Note: Max. backup fuse (required only if not already fitted in network) 125 A gL/gG.

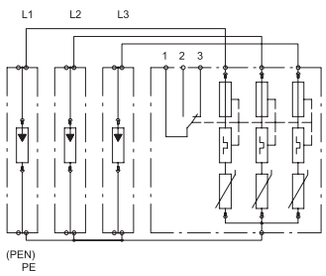
Dimensions



PS3-B+C TNC+FS

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	100 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	100 kA
Maximum discharge current (8/20 µs)	I_{max}	100 kA
Voltage protection level	U_p	<1,3 kV
Response time	t_A	<25 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		10
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

Connection options



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Always indicate the item number when ordering.

Combination arrestor, protection set, type 1+2 for TN-C network systems

Protection set MCD + V20 3-pole

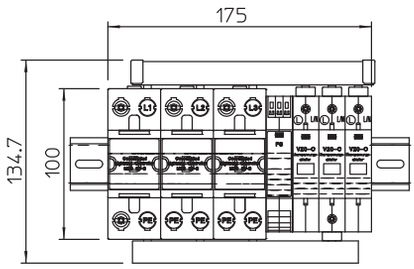
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
PS3-B+C-320	320	3-pole	1	160.000	**5089755**

Protection set, lightning and surge arrestor combination, type 1+2

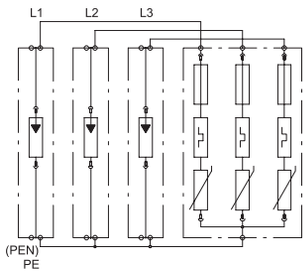
- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 125 kA (10/350) N-PE
- Arrestor, connectable, including connecting bridges, labelled connection terminals
- Encapsulated, non-extinguishing arrestor for use in distributor housings

Application: Mobile telecommunications systems and industrial systems with special requirements.

Dimensions



Connection options



PS3-B+C-320

Nominal voltage	U_N	320 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	100 kA
Nominal discharge current (8/20)	I_n	100 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	100 kA
Maximum discharge current (8/20 µs)	I_{max}	100 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	<25 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		10
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

Protection set MCD + V20 3-pole with remote signalling

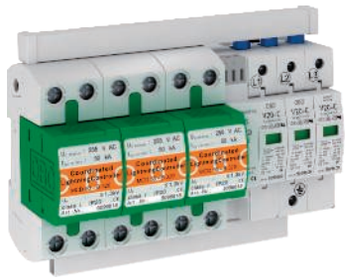
230/400 V System | Type 1+2 | LPZ 0→2 | FS

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
PS3-B+C-320+FS	320	3-pole	1	170.000	**5089757**

Protection set, lightning and surge arrestor combination, type 1+2

- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 125 kA (10/350) N-PE
- Arrestor, connectable, including connecting bridges, labelled connection terminals
- Encapsulated, non-extinguishing arrestor for use in distributor housings

Application: Mobile telecommunications systems and industrial systems with special requirements.



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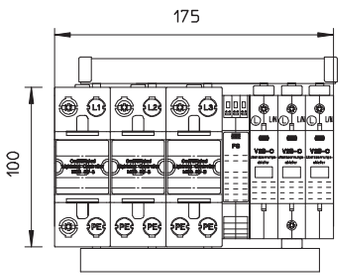
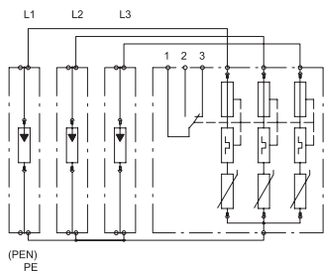


Connection options



PS3-B+C-320+FS

Nominal voltage	U_N	320 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	100 kA
Nominal discharge current (8/20)	I_n	100 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	100 kA
Maximum discharge current (8/20 µs)	I_{max}	100 kA
Voltage protection level	U_p	<1,7 kV
Response time	t_A	<25 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		10
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

Always indicate the item number when ordering.

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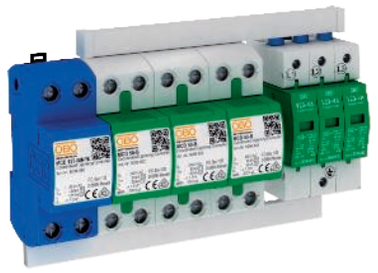
Combination arrestor, protection set VA, type 1+2, for TN and TT network systems

Protection set MCD + V20, leakage current-free, 3-pole + NPE

230/ 400 V System | Type 1+2 | LPZ 0→2



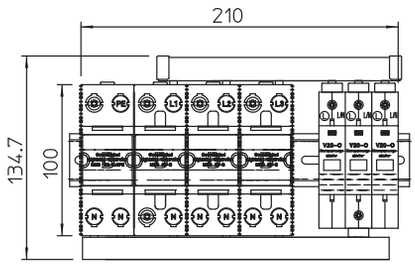
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
PS4-VA TT+TNS	255	3 + NPE	1	210.000	**5089770**

Protection set VA, lightning and surge arrestor combination, type 1+2

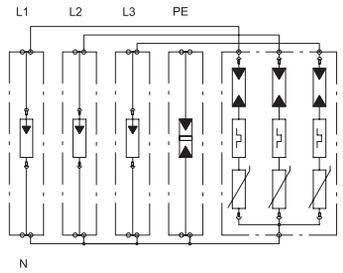
- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 125 kA (10/350) N-PE
- Free of leak current and suitable for use in pre-meter area according to the VDEW directive
- Arrestor, connectable, including connecting bridges, labelled connection terminals
- Encapsulated, non-extinguishing arrestor for use in distributor housings

Application: pre-meter area and industrial systems with special requirements.

Dimensions



Connection options



PS4-VA TT+TNS

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	100 kA
Total discharge current (10/350)	I_{total}	100 kA
Nominal discharge current (8/20)	I_n	100 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	100 kA
Maximum discharge current (8/20 µs)	I_{max}	100 kA
Voltage protection level	U_p	<1,3 kV
Response time	t_A	<25 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		12
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

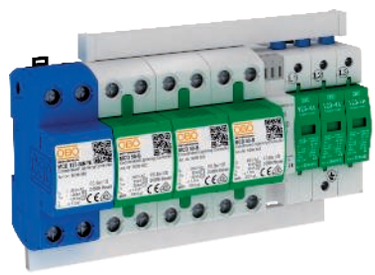
Protection set MCD + V20, leakage current-free, 3-pole + NPE with remote signalling

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
PS4-VA TT+FS	255	3 + NPE	1	215.000	**5089777**

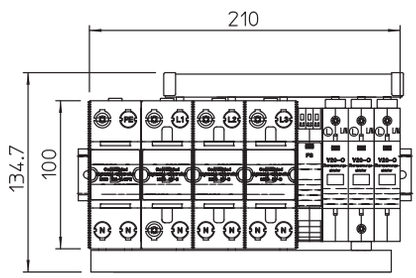
Protection set VA, lightning and surge arrestor combination, type 1+2

- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 125 kA (10/350) N-PE
- Free of leak current and suitable for use in pre-meter area according to the VDEW directive
- Arrestor, connectable, including connecting bridges, labelled connection terminals
- Encapsulated, non-extinguishing arrestor for use in distributor housings

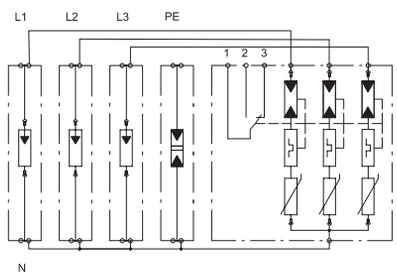
Application: pre-meter area and industrial systems with special requirements.



Dimensions



Connection options



PS4-VA TT+FS

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	100 kA
Total discharge current (10/350)	I_{total}	100 kA
Nominal discharge current (8/20)	I_n	100 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	100 kA
Maximum discharge current (8/20 µs)	I_{max}	100 kA
Voltage protection level	U_p	<1,3 kV
Response time	t_A	<25 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		12
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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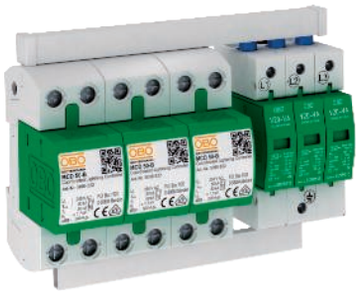
Always indicate the item number when ordering.

Combination arrestor, protection set VA, type 1+2, for TN and TT network systems

Protection set MCD + V20, leakage current-free, 3-pole



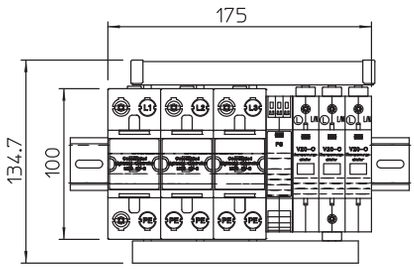
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
PS3-VA TNC	255	3-pole	1	162.000	**5089768**

Protection set VA, lightning and surge arrestor combination, type 1+2

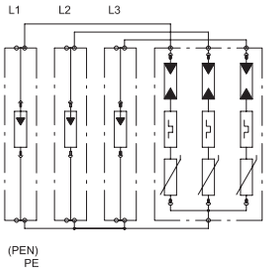
- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 125 kA (10/350) N-PE
- Free of leak current and suitable for use in pre-meter area according to the VDEW directive
- Arrestor, connectable, including connecting bridges, labelled connection terminals
- Encapsulated, non-extinguishing arrestor for use in distributor housings

Application: pre-meter area and industrial systems with special requirements.

Dimensions



Connection options



PS3-VA TNC

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	100 kA
Total discharge current (10/350)	I_{total}	100 kA
Nominal discharge current (8/20)	I_n	100 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	100 kA
Maximum discharge current (8/20 µs)	I_{max}	100 kA
Voltage protection level	U_p	<1,3 kV
Response time	t_A	<25 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		10
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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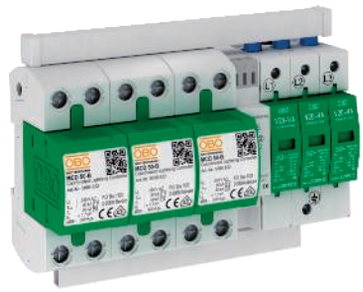
Always indicate the item number when ordering.

Protection set MCD + V20, leakage current-free, 3-pole with remote signalling

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
PS3-VA TNC+FS	255	3-pole	1	167.000	**5089775**

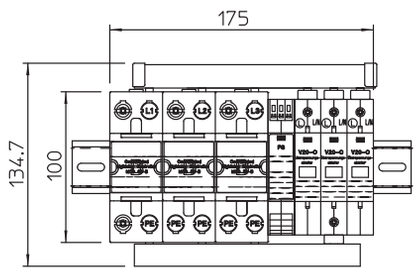


Protection set VA, lightning and surge arrestor combination, type 1+2

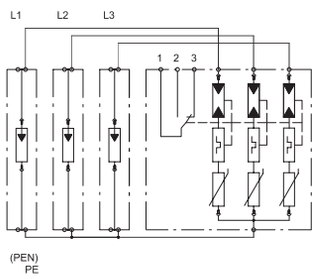
- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Lightning current arresting capacity to 50 kA (10/350) per pole and up to 125 kA (10/350) N-PE
- Free of leak current and suitable for use in pre-meter area according to the VDEW directive
- Arrestor, connectable, including connecting bridges, labelled connection terminals
- Encapsulated, non-extinguishing arrestor for use in distributor housings

Application: pre-meter area and industrial systems with special requirements.

Dimensions



Connection options



PS3-VA TNC+FS

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	100 kA
Total discharge current (10/350)	I_{total}	100 kA
Nominal discharge current (8/20)	I_n	100 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	100 kA
Maximum discharge current (8/20 µs)	I_{max}	100 kA
Voltage protection level	U_p	<1,3 kV
Response time	t_A	<25 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		10
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Combination arrestor V50, 1-pole + NPE 280 V

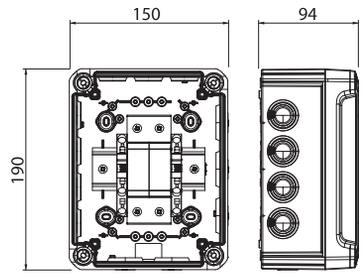
Type	Highest continuous voltage AC V	Pole version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-V50-1+NPE-280	280	1+N/PE	1	81.000	**5093594**

Lightning current combination arrestor, type 1+2 to DIN EN 61643-11

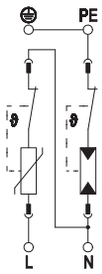
- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Complete unit, pre-mounted and ready for connection in polycarbonate housing (IP66)
- Lightning current arresting capacity 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total

Application: Lightning protection equipotential bonding for buildings of Class III and IV.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



Connection options



VG-V50-1+NPE-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	25 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	50 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP66
Approvals		UL, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Combination arrestor V50, 3-pole + NPE 280 V

LPZ 0→2 | Type 1+2

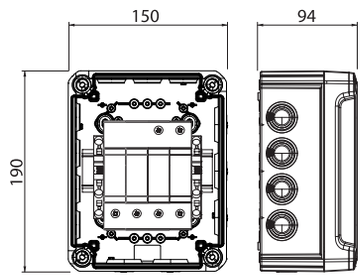
Type	Highest continuous voltage AC V	Pole version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-V50-3+NPE-280	280	3+N/PE	1	110.000	**5093596**

Lightning current combination arrestor, type 1+2 to DIN EN 61643-11

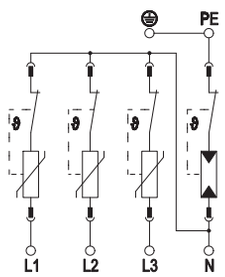
- For lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)
- Complete unit, pre-mounted and ready for connection in polycarbonate housing (IP66)
- Lightning current arresting capacity 12.5 kA (10/350) per pole and up to 50 kA (10/350) in total

Application: Lightning protection equipotential bonding for buildings of Class III and IV.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



Connection options



VG-V50-3+NPE-280

SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Lightning surge current (10/350 µs)	I_{imp}	12.5 kA
Total discharge current (10/350)	I_{total}	50 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	50 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP66
Approvals		UL, ÖVE, VDE
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

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Surge protection device for energy technology, arrester, type 1 (industry)

Lightning arrestor MCF 35 89

Accessories MCF 100

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Always indicate the item number when ordering.

Type 1, lightning arrestor MCF 35

1-pole with FS

Volts	Item no.	Page
440	5096974	95

3-pole with FS

Volts	Item no.	Page
440	5096976	96

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Always indicate the item number when ordering.

Lightning current arrestor, 1-pole

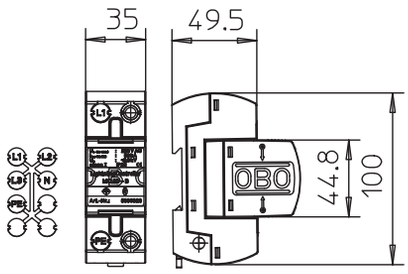
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MC 50-B VDE	255	1-pole	1	34.400	**5096847**

MC 50-B VDE: Type 1 (Class B) lightning current arrestor in accordance with DIN EN 61643-11 for interface 0 to 1 (LPZ) and/or in accordance with lightning protection concept to IEC 61313-1 and/or DIN VDE 0185-305 (IEC 62305)

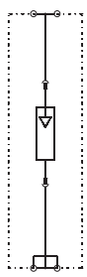
- Upper part and base, plug-in upper part
- Arresting capacity 50 kA (10/350 µs) per pole
- Protection level < 2.0 kV
- Line following current quenching 25 kA Ipeak
- Incl. plug caps for identifying the connections
- Encapsulated, non-extinguishing spark gap: can be used in standard distributor housings

Application example: Industrial plants; lightning current arrestor in accordance with VDN Directive for pre-meter area.
Note: Required as decoupling length for surge voltage protection of 5 m of cable.

Dimensions



Connection options



MC 50-B VDE

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1
SPD to IEC 61643-11		Class I
Lightning protection zone LPZ		0→1
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	50 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	50 kA
Voltage protection level	U_p	< 2,0 kV
Response time	t_A	<100 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

Lightning current arrestor, 1-pole with function display

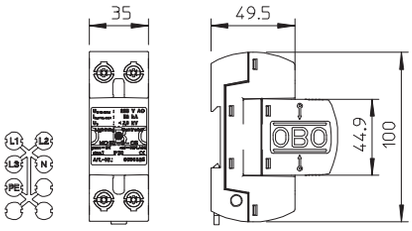
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MC 50-B-OS	255	1-pole	1	34.800	**5096851**

MC 50-B:OS: Type 1 (Class B) lightning current arrestor with visual function display in accordance with DIN EN 61643-11 for interface 0 to 1 (LPZ) in accordance with lightning protection concept to IEC 61313-1 and VDE 0185-305 (IEC 62305)

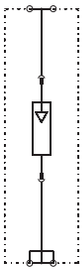
- Upper part and base, plug-in base
- Arresting capacity 50 kA (10/350 µs) per pole
- Protection level < 2.0 kV
- Power consumption < 26 mW/pole
- Line following current quenching 25 kA Ipeak
- Incl. plug caps for identifying the connections
- Encapsulated, non-extinguishing spark gap: Can be used in standard distributor housings

Application example: Industrial systems.
Note: Required as decoupling length for surge voltage protection of 5 m of cable.

Dimensions



Connection options



MC 50-B-OS

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1
SPD to IEC 61643-11		Class I
Lightning protection zone LPZ		0→1
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	50 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	50 kA
Voltage protection level	U_p	< 2,0 kV
Response time	t_A	<100 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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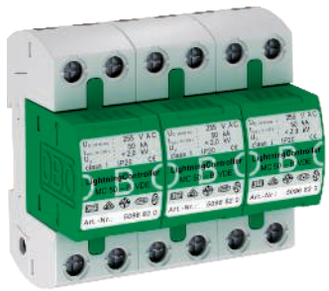
Lightning current arrestor, 3-pole

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MC 50-B 3	255	3-pole	1	117.000	**5096876**



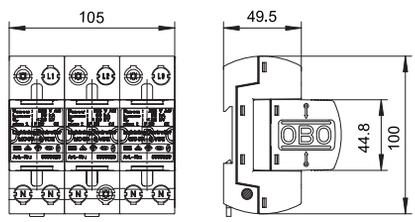
LightningController set, 3-pole, for use in TN-C networks:

Completely pre-terminated and ready for connection, consisting of:
MC 50-B VDE: Type 1 (Class B) lightning current arrestor in accordance with DIN EN 61643-11 for interface 0 to 1 (LPZ) to and/or in accordance with lightning protection concept to IEC 61312-1 and/or DIN V VDE V 0185-305 (IEC 62305)

- VDE test marks
- Conforms to VDN Directive 2nd Edition 2004
- Upper part and base, plug-in upper part
- Arresting capacity 50 kA (10/350 µs) per pole
- Voltage protection level < 2,0 kV
- Line following current quenching 25 kA Ipeak
- Incl. plug caps for identifying the connections
- Encapsulated, non-extinguishing spark gap: can be used in standard distributor housings

Application example: Industrial plants; lightning current arrestor in accordance with VDN Directive 2nd Edition 2004 for pre-meter area.
Note: Required as decoupling length for surge voltage protection of 5 m of cable.

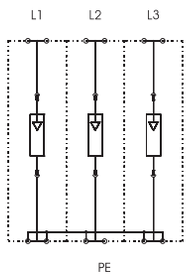
Dimensions



MC 50-B 3

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1
SPD to IEC 61643-11		Class I
Lightning protection zone LPZ		0→1
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	150 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	150 kA
Voltage protection level	U_p	< 2,0 kV
Response time	t_A	<100 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		6
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

Connection options



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Always indicate the item number when ordering.

Lightning current arrestor, 1-pole NPE

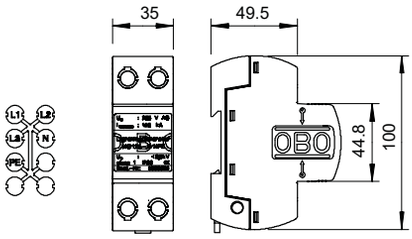
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MC 125-B NPE	255	NPE	1	52.000	**5096863**

MC 125-B/NPE: For use in TN-S and TT systems as N-PE discharge gap, type 1 (Class B) IEC 61643, for interface 0 to 1 (LPZ) according to lightning protection zone concept to IEC 61312-1 and/or DIN V VDE V 0185 Part 4 for use as discharge gap between N and PE.

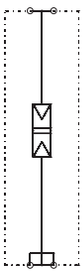
- VDE test mark
- Conforms to VDN Directive, 2nd Edition 2004
- Protection capability 125 kA 10/350 µs
- Including plug caps for identifying the connections
- Protection level <2.5 kV
- Enclosed, non-extinguishing discharge gap: can be used in normal commercial distributor housings

Application example: lightning arrestor in accordance with VDN Directive for pre-meter area.
Note: required as de-coupling length for overvoltage protection of 5 m of cable.

Dimensions



Connection options



MC 125-B NPE

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1
SPD to IEC 61643-11		Class I
Lightning protection zone LPZ		0→1
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	125 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	125 kA
Voltage protection level	U_p	< 2,5 kV
Response time	t_A	< 100 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	0.1 kA
Maximum back-up fuse		– A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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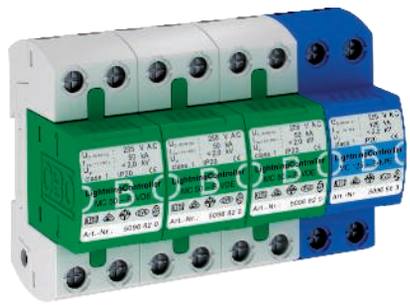
Lightning current arrestor, 3-pole + NPE

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MC 50-B 3+1	255	3 + NPE	1	168.000	**5096878**



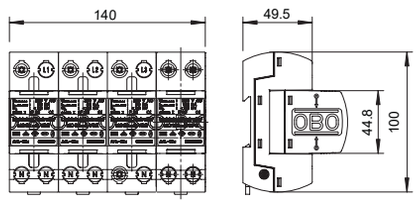
LightningController-Set, 4-pole, for use in TN-S and TT networks:

Completely pre-terminated and ready for connection, consisting of:
MC 50-B VDE: Lightning current arrestor, type 1 (Class B) to EN 61643-11 for interface 0 to 1 (LPZ) according to lightning protection zone concept to IEC 61313-1 and DIN VDE 0185-305.
MC 125-B/NPE: N-PE spark gap, type 1 (Class B) to IEC 61643 for use in TN-S and TT systems.

- VDE test marks
- Conforms to VDN Directive 2nd Edition 2004
- Upper part and base, plug-in upper part
- Arresting capacity 125 kA 10/350 µs
- Voltage protection level < 2,0 kV
- Line following current quenching 25 kA Ipeak
- Incl. plug caps for identifying the connections
- Encapsulated, non-extinguishing spark gap: can be used in standard distributor housings

Application example: Lightning current arrestor in accordance with VDN Directive 2nd Edition 2004 for pre-meter area.
Note: Required as decoupling length for surge voltage protection of 5 m of cable.

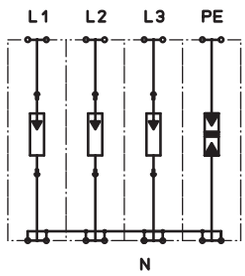
Dimensions



MC 50-B 3+1

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1
SPD to IEC 61643-11		Class I
Lightning protection zone LPZ		0→1
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	125 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	125 kA
Voltage protection level	U_p	< 2,0 kV
Response time	t_A	<100 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		8
Protection rating		IP20
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

Connection options



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Always indicate the item number when ordering.

Surge protection device for energy technology, arrester, type 1 (industry)

- Lightning current and surge arrestors
- High arresting capacity up to 35 kA (10/350) per pole
- Arrestors for buildings with lightning protection system
- Visual status display
- With remote signalling
- Simple standard DIN rail mounting
- Labelled connections
- Usable in systems with lightning protection class I-IV

Lightning current and surge arrestor MCF 35

The MCF lightning current arrestors meet the type 1 requirement class according to IEC 61643-11. These devices protect low-voltage systems and consumer systems against any kind of surge voltages. The voltage-limiting carbon spark gap provides multiple benefits. A short response time, a low protection level and high current leakage capability with long service life. In addition, the devices do not produce any line follow current. If circumstances are uncertain and there is a risk of fire from overloads, the cut-off unit disconnects the arrestor safely from the mains.

Always indicate the item number when ordering.

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Lightning arrestor MCF 35, 400/690 V, 1-pole with IR

400 V | Type 1 | LPZ 0→1

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCF 35-1+FS-440	440	1-pole	1	98.000	**5096974**

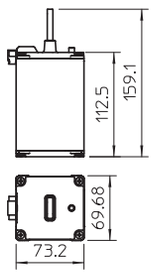
AIG Cast aluminium

Lightning arrestor type 1

- For lightning protection equipotential bonding to DIN EN 62305 (IEC 62305)
- Lightning current arresting capacity 35 kA (10/350) per pole
- Follow current extinguishing 50 kAeff, arrestor back-up fuse up to 400 A gL/gG
- Encapsulated, non-extinguishing spark gap arrestor for use in distributor housings
- Cut-off unit with visual indicator
- Remote signalling with potential-free changeover contact

Application: Without exception for 400/690 V network systems

Dimensions



MCF 35-1+FS-440

Nominal voltage	U_N	400 V
Max. continuous operating voltage	U_C	440 V
SPD to EN 61643-11		Type 1
SPD to IEC 61643-11		Class I
Impulse discharge current (10/350)	I_{imp}	35 kA
Nominal discharge current (8/20)	I_n	35 kA
Voltage protection level	U_p	2,5 kV
Follow current quenching capacity leff	$I_{fi\,eff}$	50 kA
Maximum back-up fuse		400 A
Protection rating		IP20
Response time	t_A	< 100 ns
Temperature range	ϑ	-40 - +85 °C

Connection options

Always indicate the item number when ordering.

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Lightning arrestor MCF 35, 400/690 V, 3-pole with IR

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCF 35-P3+FS-440	440	3-pole	1	400.000	**5096976**

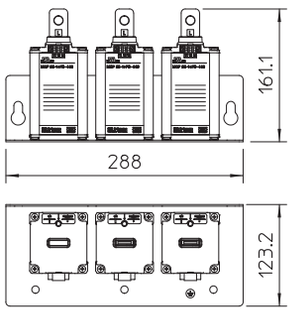
AIG Cast aluminium

Lightning arrestor type 1

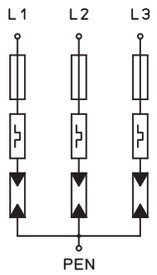
- Fully assembled 3-pole connection unit
- For lightning protection equipotential bonding according to DIN EN 62305 (IEC 62305)
- Lightning current arresting capacity 35 kA (10/350) per pole
- Line following current quenching 50 kAeff, arrestor back-up fuse up to 400 A gL/gG
- Encapsulated, non-extinguishing spark gap arrestor for use in distributor housings
- Cut-off unit with visual indicator
- Remote signalling with potential-free changeover contact
- For finished mounting on busbars and walls

Application: Without exception for 400/690 V power systems

Dimensions



Connection options



MCF 35-P3+FS-440

Nominal voltage	U_N	400 V
Max. continuous operating voltage	U_C	440 V
SPD to EN 61643-11		Type 1
SPD to IEC 61643-11		Class I
Impulse discharge current (10/350)	I_{imp}	35 kA
Nominal discharge current (8/20)	I_n	35 kA
Voltage protection level	U_p	2,5 kV
Follow current quenching capacity leff	$I_{fi\ eff}$	– kA
Maximum back-up fuse		400 A
Protection rating		IP20
Response time	t_A	< 100 ns
Temperature range	ϑ	-40 - +85 °C

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Always indicate the item number when ordering.

Combination arrestor in VG housing for TN-S and TT network systems

VG housing with MC 50-B/3+1

IP 65 | 230/400 V System | Type 1 | LPZ 0→1

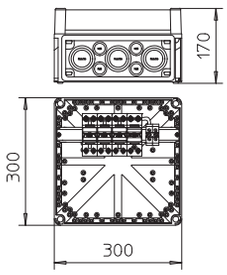
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG 4-B TNS+TT	255	3 + NPE	1	290.000	**5089200**

VG...: Lightning arrestor system solution Type 1 (Class B) to DIN EN 61643-11.

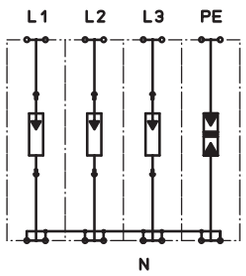
- LightningController MC 50-B/VDE and MC 125-B/NPE installed in insulating housing IP 65, sealable housing
- Pulsed current 100 kA 10/350 µs BET-tested
- Conforms to requirements of VDN Directive, 2nd Edition 2004
- Protection level < 2.0 kV
- Enclosed, non-extinguishing discharge gap
- Suitable for TNS and TT network systems

Application example: the system solution is used in the pre-meter area according to VDN Directive, 2nd Edition 2004.

Dimensions



Connection options



VG 4-B TNS+TT

Nominal voltage	U_N	230 V
		—
SPD to EN 61643-11		Type 1
SPD to IEC 61643-11		Class I
Lightning protection zone LPZ		0→1
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	125 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	125 kA
Voltage protection level	U_p	<2,0 kV
Response time	t_A	<100 ns
Follow current quenching capacity leff	$I_{fi\ eff}$	12.5 kA
Follow current quenching capacity (eff) [N-PE]	I_{fi}	25 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		8
Protection rating		IP54
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

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Always indicate the item number when ordering.

VG housing with MC 50-B/3

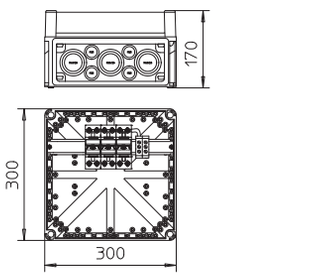
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG 3-B TNC	255	3-pole	1	315.000	**5089212**

VG...: Lightning arrestor system solution Type 1 (Class B) to DIN EN 61643-11.

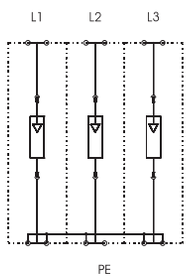
- LightningController MC 50-B/VDE installed in insulating housing IP 65, sealable housing
- Pulsed current 100 kA 10/350 µs BET-tested
- Conforms to requirements of VDN Directive, 2nd Edition 2004
- Protection level < 2.0 kV
- Enclosed, non-extinguishing discharge gap
- Suitable for TNC network systems

Application example: the system solution is used in the pre-meter area according to VDN Directive, 2nd Edition 2004.

Dimensions



Connection options



VG 3-B TNC

Nominal voltage	U_N	230 V
		—
SPD to EN 61643-11		Type 1
SPD to IEC 61643-11		Class I
Lightning protection zone LPZ		0→1
Impulse discharge current (10/350)	I_{imp}	50 kA
Total discharge current (10/350)	I_{total}	150 kA
Nominal discharge current (8/20)	I_n	50 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	150 kA
Voltage protection level	U_p	<2,0 kV
Response time	t_A	<100 ns
Follow current quenching capacity leff	$I_{fi\ eff}$	12.5 kA
Maximum back-up fuse		500 A
Temperature range	ϑ	-40 - +85 °C
Division unit TE (17.5 mm)		6
Protection rating		IP54
Connection cross-section rigid		10 - 50 mm²
Connection cross-section, multi-wire		10 - 35 mm²
Connection cross-section, flexible		10 - 25 mm²

Always indicate the item number when ordering.

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Upper part, lightning current arrestor

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MC 50-B 0 VDE	255	1-pole	1	24.000	**5096820**

MC 50-B/0: LightningController, upper part

Upper part, lightning current arrestor with function display

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MC 50-B 0-OS	255	1-pole	1	19.500	**5096825**

MC 50-B/0 OS: LightningController, upper part
Capacity: < 1mW

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Lightning arrestor/combination arrestor base

Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MC 50-B U VDE	1-pole	1	18.000	**5096839**

MC 50-B/U: LightningController bottom section fit type:

- MC 50-B VDE
- MCD 50-B
- Including plug caps for identifying the connections

Decoupling inductivity

Type	Rated current A	Version	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
LC 63	63	1-pole	63 A	1	43.500	**5096970**

LC 63: Decoupling inductivity.

- Compact design in a 35 mm housing
- Two connection options for input and output
- Nominal load current 63 A
- Nominal inductivity 5 µH

Application example: in combination with MC 50-B VDE and V 20-C for line lengths of less than 5 m.

Accessories for lightning current arrestor

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
MC V3	10	1.700	**5096884**
MC V4	10	2.300	**5096886**

Cu Copper

MC-V...: Copper bridge 16 mm², suitable for bridging MC arrestors in side channel.

- V3 for 3-pole circuits
- V4 for 4-pole circuits

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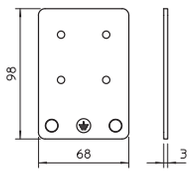
Mounting plate, 1-pole

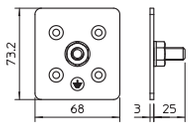


Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCF-MS-P1	1-pole	1	19.600	**5096992**

V2A Stainless steel, grade 304

Mounting plate 1-pole
- Mounting plate for installation of the arrestor MCF 35-1+FS-440
- Prefabricated hole pattern for mounting the arrestor on busbars
- Required screws for installation the arrestor enclosed

Mounting plate, 1-pole, M10

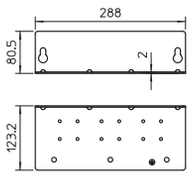


Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCF-MS-M10	1-pole	1	14.200	**5096990**

V2A Stainless steel, grade 304

Mounting plate with threaded connector M10
- Mounting plate with threaded M10 connector to install the arrestor MCF 35-1+FS-440
- M10 bolts for direct installation of the arrestor on busbars
- Required screws for installation enclosed

Mounting plate, 3-pole



Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MCF-MS-P3	3-pole	1	99.800	**5096994**

V2A Stainless steel, grade 304

Mounting plate 3-pole
- Mounting plate 3-pole for installation of the arrestor MCF 35-1+FS-440
- Prefabricated hole pattern for mounting the arrestor on busbars
- Suitable for wall mounting
- Required screws for installation enclosed

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Always indicate the item number when ordering.

V20 Überspannungsableiter Typ 2

V20 surge arrestor type 2

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Surge protection energy technology, type 2 arrester

	Surge arrestor V20	107
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	Accessories, upper parts and bases V20	161

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Surge protection energy technology, arrestor, type 2
The plus of the V20 family

- Connectable surge arrestor
- High arresting capacity
- Visual status display
- Available with optional remote signalling
- Vibration-proof
- Simple standard DIN rail mounting
- Labelled connections
- Voltage encoding

Surge arrestor V20

Function and areas of use
The surge arrestors V20 meet the type 2 requirement class according to IEC 61643-11. These devices protect low-voltage consumer systems from overvoltages of all types and are available in single-pole to four-pole versions. The use of high-performance varistors permits a rapid response time and a low protection level, without any line follow current. If circumstances are uncertain and there is a risk of fire from an overload, the internal cut-off unit disconnects the arrestor from the mains if necessary. In addition, the QR code printed on the arrestor allows direct access to the online installation instructions.

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Always indicate the item number when ordering.

Surge arrestor V20, 1-pole 75 V

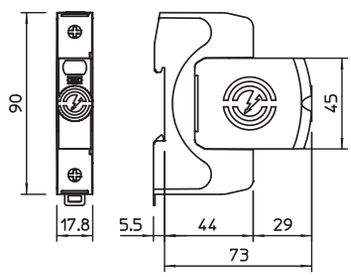
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1-75	75	1	IP20	1	11.500	**5095141**

Surge arrestor, type 2

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options

V20-1-75

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	60 V
Maximum continuous voltage AC	U_C	75 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	40 kA
Protection level [L-N]	U_p	0.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,3 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,4 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		25 kA
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 2-pole, 75 V

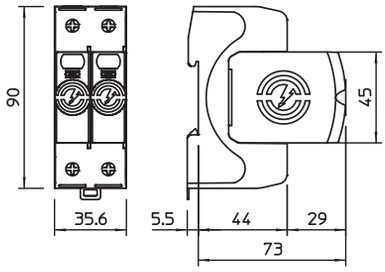
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-2-75	75	2	IP20	1	22.800	**5095142**

Surge arrestor, type 2

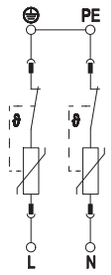
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-2-75

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	60 V
Maximum continuous voltage AC	U_C	75 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	0.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,3 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,4 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 1-pole, 150 V

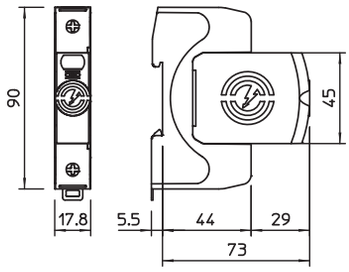
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1-150	150	1	IP20	1	11.900	**5095151**

Surge arrestor, type 2

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options

V20-1-150

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	40 kA
Protection level [L-N]	U_p	0.8 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,5 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,6 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Surge arrestor V20, 2-pole, 150 V

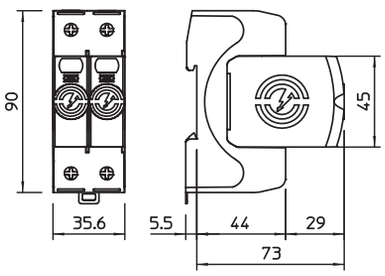
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-2-150	150	2	IP20	1	23.600	**5095152**

Surge arrestor, type 2

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options

V20-2-150

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	0.8 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,5 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,6 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 2-pole + NPE, 150 V

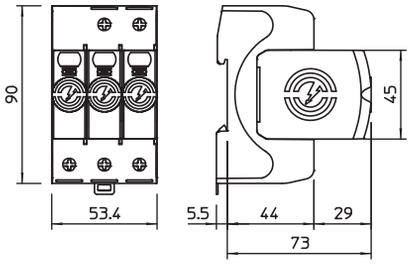
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-2+NPE-150	150	2+N/PE	IP20	1	32.800	**5095232**

Surge arrestor, type 2

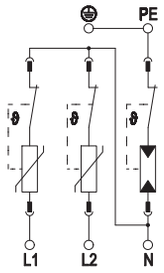
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-2+NPE-150

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	0.8 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	1.2 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,5 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,6 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Surge arrestor V20, 2-pole + NPE and FS, 150 V

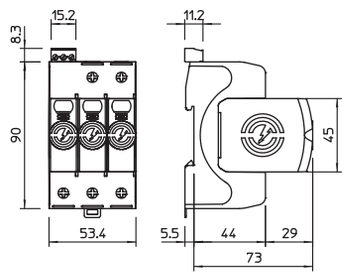
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-2+NPE+FS-150	150	2+N/PE	IP20	1	33.200	**5095322**

Surge arrestor, type 2

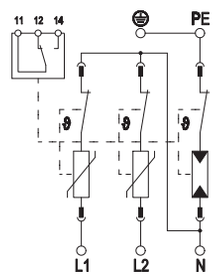
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-2+NPE+FS-150

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	0.8 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	1.2 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,5 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,6 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 3-pole, 150 V

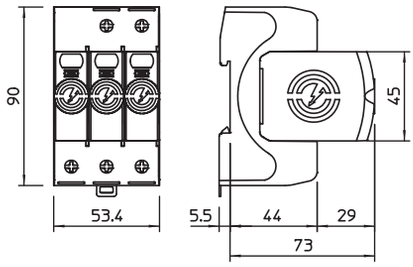
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3-150	150	3	IP20	1	33.000	**5095153**

Surge arrestor, type 2

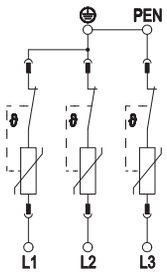
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3-150

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	0.8 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,5 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,6 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 1-pole+ NPE, 150 V

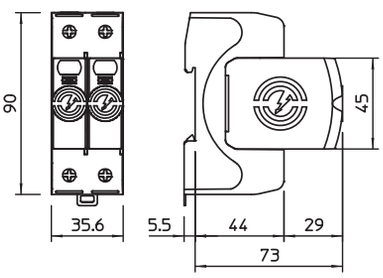
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1+NPE-150	150	1+N/PE	IP20	1	23.300	**5095231**

Surge arrestor, type 2

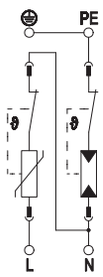
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-1+NPE-150

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	0.8 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	1.2 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,5 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,6 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 3-pole + NPE, 150 V

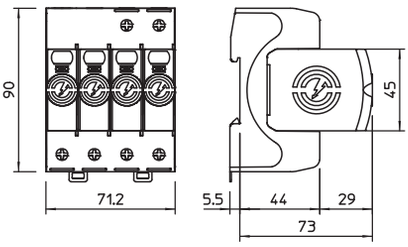
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3+NPE-150	150	3+N/PE	IP20	1	42.700	**5095233**

Surge arrestor, type 2

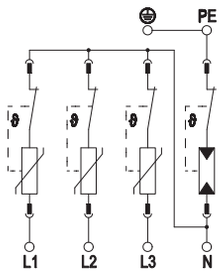
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3+NPE-150		
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	0.8 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	1.2 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,5 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,6 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

Always indicate the item number when ordering.

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Surge arrestor V20, 3-pole+ NPE and FS, 150 V

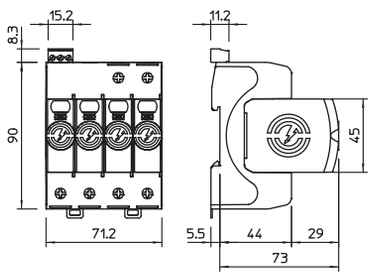
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3+NPE+FS-150	150	3+N/PE	IP20	1	43.300	**5095321**

Surge arrestor, type 2

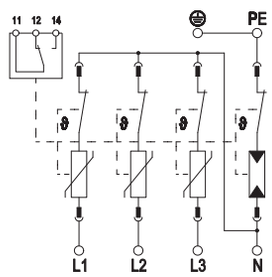
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3+NPE+FS-150

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	120 V
Maximum continuous voltage AC	U_C	150 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	0.8 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	1.2 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,5 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,6 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 1-pole, 280 V

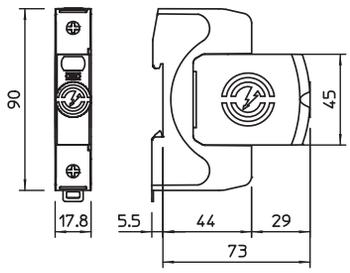
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1-280	280	1	IP20	1	12.900	**5095161**

Surge arrestor, type 2

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options

V20-1-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	40 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 1-pole with remote signalling, 280 V

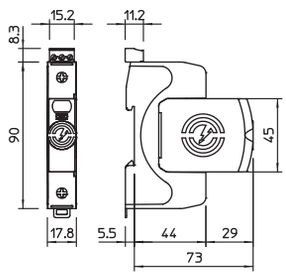
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1+FS-280	280	1	IP20	1	13.100	**5095281**

Surge arrestor, type 2

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options

V20-1+FS-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	40 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 2-pole, 280 V

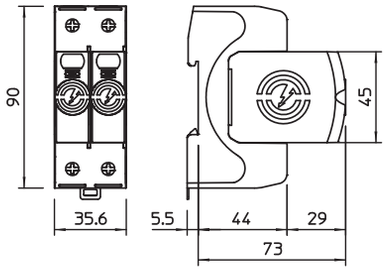
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-2-280	280	2	IP20	1	25.600	**5095162**

Surge arrestor, type 2

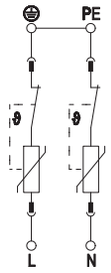
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-2-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 2-pole with remote signalling, 280 V

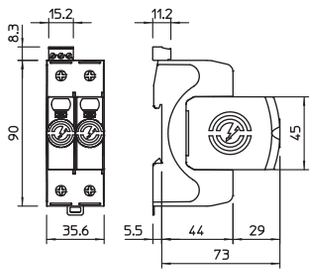
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-2+FS-280	280	2	IP20	1	25.900	**5095282**

Surge arrestor, type 2

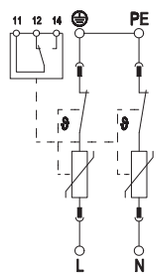
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-2+FS-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 2-pole + NPE, 280 V

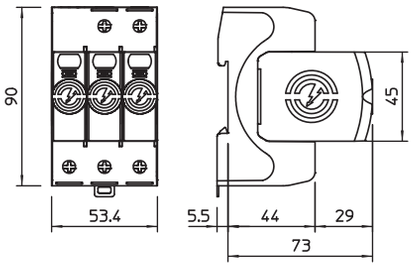
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-2+NPE-280	280	2+N/PE	IP20	1	34.600	**5095252**

Surge arrestor, type 2

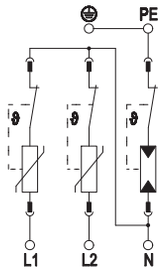
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-2+NPE-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.3 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	1.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 2-pole + NPE and remote signalling, 280 V

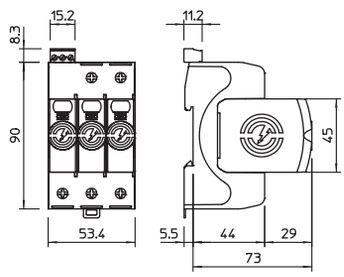
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-2+NPE+FS-280	280	2+N/PE	IP20	1	34.800	**5095332**

Surge arrestor, type 2

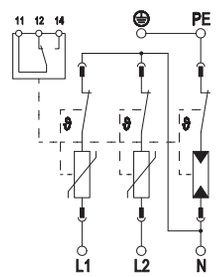
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-2+NPE+FS-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.3 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	1.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 3-pole, 280 V

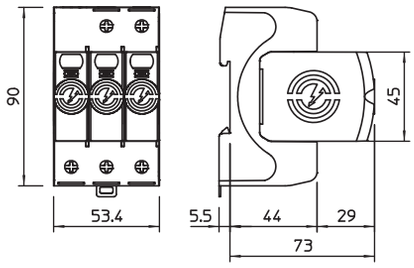
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3-280	280	3	IP20	1	36.000	**5095163**

Surge arrestor, type 2

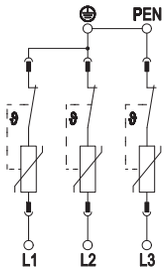
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ l\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 3-pole with remote signalling, 280 V

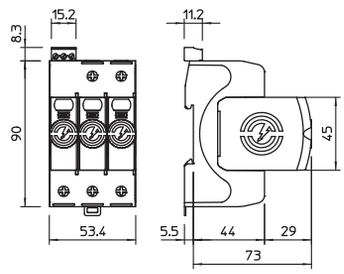
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3+FS-280	280	3	IP20	1	36.400	**5095283**

Surge arrestor, type 2

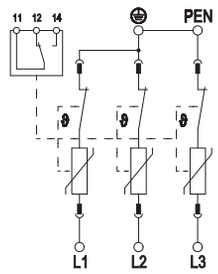
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3+FS-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 4-pole, 280 V

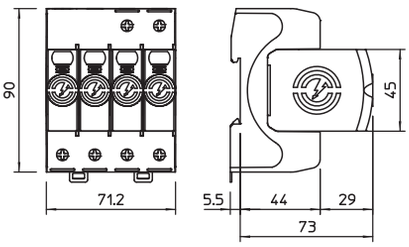
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-4-280	280	4	IP20	1	47.000	**5095164**

Surge arrestor, type 2

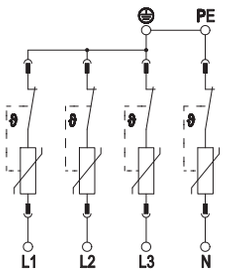
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-4-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	160 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 4-pole with remote signalling, 280 V

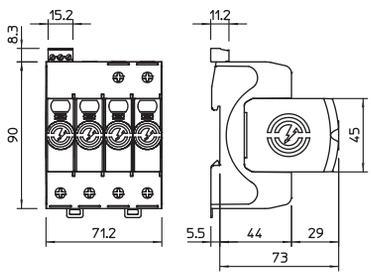
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-4+FS-280	280	4	IP20	1	47.500	**5095284**

Surge arrestor, type 2

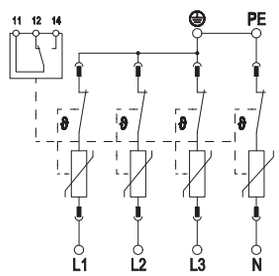
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-4+FS-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	160 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 1-pole + NPE, 280 V

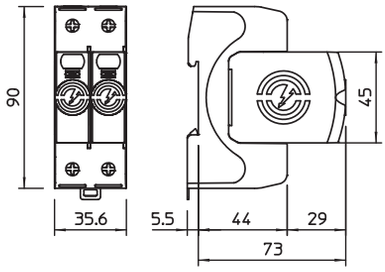
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1+NPE-280	280	1+N/PE	IP20	1	24.300	**5095251**

Surge arrestor, type 2

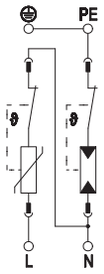
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-1+NPE-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.3 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	1.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

Always indicate the item number when ordering.

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Surge arrestor V20, 1-pole + NPE and remote signalling, 280 V

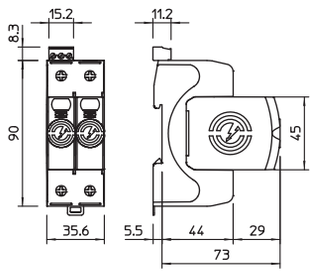
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1+NPE+FS-280	280	1+N/PE	IP20	1	24.600	**5095331**

Surge arrestor, type 2

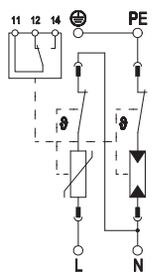
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-1+NPE+FS-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.3 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	1.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

Always indicate the item number when ordering.

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Surge arrestor V20, 3-pole + NPE, 280 V

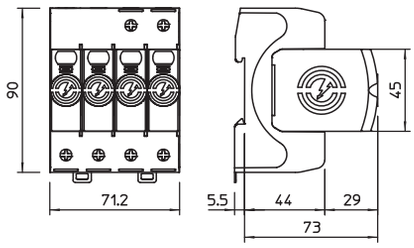
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3+NPE-280	280	3+N/PE	IP20	1	45.800	**5095253**

Surge arrestor, type 2

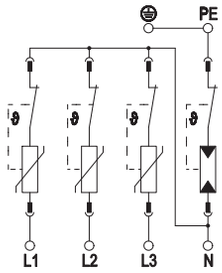
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3+NPE-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.3 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	1.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 3-pole + NPE and remote signalling, 280 V

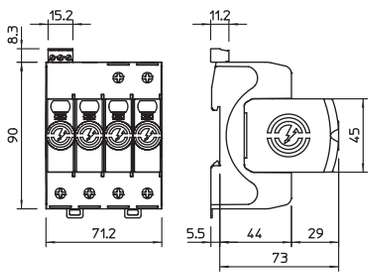
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3+NPE+FS-280	280	3+N/PE	IP20	1	46.300	**5095333**

Surge arrestor, type 2

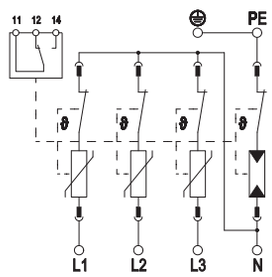
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3+NPE+FS-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.3 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	1.5 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,8 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,0 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 1-pole, 320 V

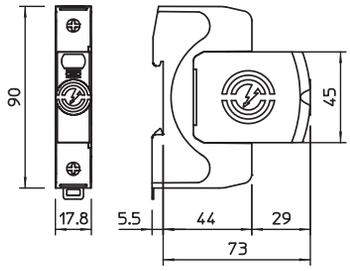
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1-320	320	1	IP20	1	13.000	**5095171**

Surge arrestor, type 2

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options

V20-1-320

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	40 kA
Protection level [L-N]	U_p	1.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,0 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 1-pole with remote signalling, 320 V

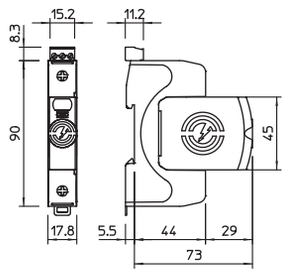
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1+FS-320	320	1	IP20	1	13.200	**5095291**

Surge arrestor, type 2

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options

V20-1+FS-320

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	40 kA
Protection level [L-N]	U_p	1.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,0 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 3-pole, 320 V

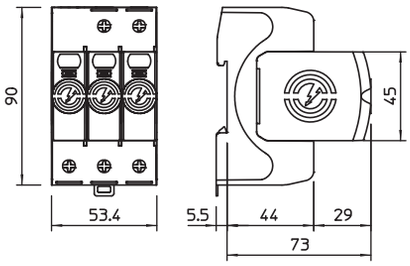
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3-320	320	3	IP20	1	36.300	**5095173**

Surge arrestor, type 2

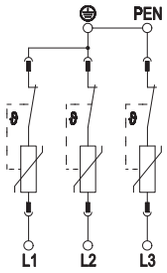
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3-320

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ l\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	1.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,0 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 3-pole with remote signalling, 320 V

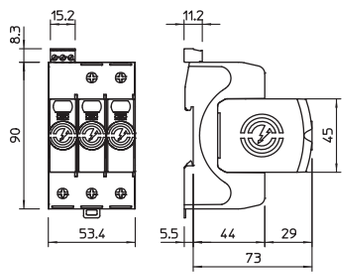
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3+FS-320	320	3	IP20	1	36.700	**5095293**

Surge arrestor, type 2

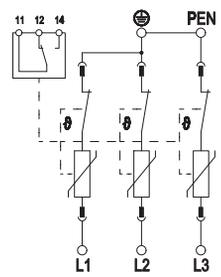
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3+FS-320

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	1.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,0 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 1-pole + NPE, 320 V

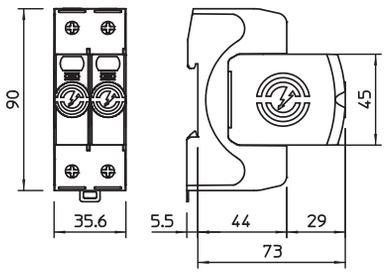
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1+NPE-320	320	1+N/PE	IP20	1	24.400	**5095261**

Surge arrestor, type 2

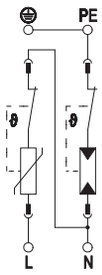
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-1+NPE-320

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.4 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,0 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Surge arrestor V20, 1-pole + NPE and remote signalling, 320 V

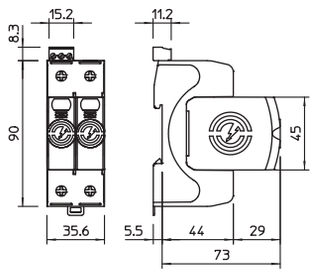
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1+NPE+FS-320	320	1+N/PE	IP20	1	24.700	**5095341**

Surge arrestor, type 2

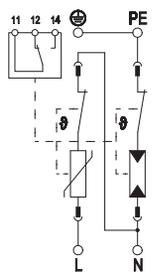
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-1+NPE+FS-320

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.4 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,0 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 3-pole + NPE, 320 V

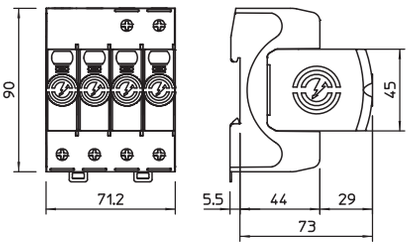
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3+NPE-320	320	3+N/PE	IP20	1	46.100	**5095263**

Surge arrestor, type 2

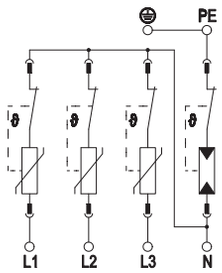
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3+NPE-320

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.4 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,0 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Surge arrestor V20, 3-pole + NPE and remote signalling, 320 V

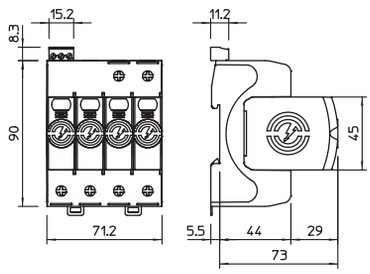
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3+NPE+FS-320	320	3+N/PE	IP20	1	46.600	**5095343**

Surge arrestor, type 2

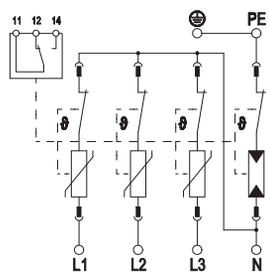
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3+NPE+FS-320

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	320 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.4 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,0 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,2 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20 in 385 V, type 2

Surge arrestor V20, 1-pole, 385 V

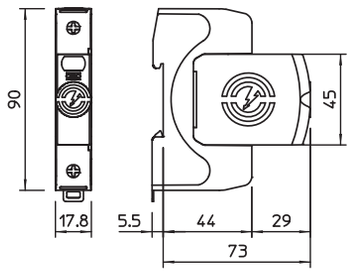
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1-385	385	1	IP20	1	13.300	**5095191**

Surge arrestor, type 2

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options

V20-1-385

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	40 kA
Protection level [L-N]	U_p	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,2 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,4 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 2-pole, 385 V

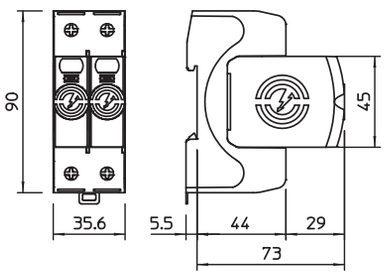
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-2-385	385	2	IP20	1	26.400	**5095192**

Surge arrestor, type 2

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options

V20-2-385

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,2 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,4 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 2-pole with remote signalling, 385 V

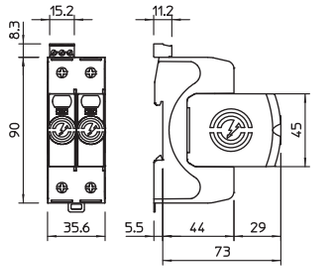
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-2+FS-385	385	2	IP20	1	26.700	**5095302**

Surge arrestor, type 2

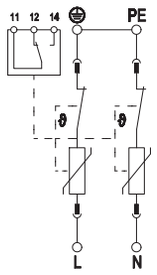
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-2+FS-385

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,2 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,4 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 1-pole + NPE, 385 V

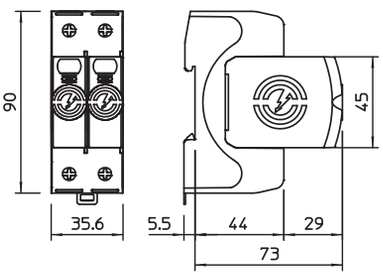
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1+NPE-385	385	1+N/PE	IP20	1	24.700	**5095271**

Surge arrestor, type 2

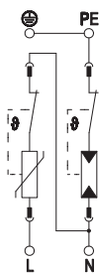
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-1+NPE-385

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.7 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ L\text{-}PE}$	1.9 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,2 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,4 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 3-pole + NPE, 385 V

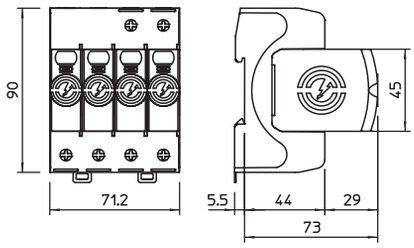
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3+NPE-385	385	3+N/PE	IP20	1	47.000	**5095273**

Surge arrestor, type 2

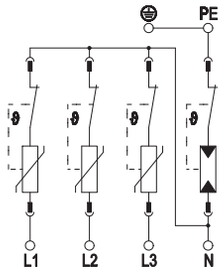
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3+NPE-385		
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.7 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	1.9 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,2 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,4 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

Always indicate the item number when ordering.

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Surge arrestor V20, 3-pole + NPE and remote signalling, 385 V

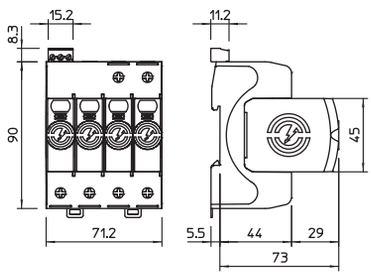
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3+NPE+FS-385	385	3+N/PE	IP20	1	47.500	**5095353**

Surge arrestor, type 2

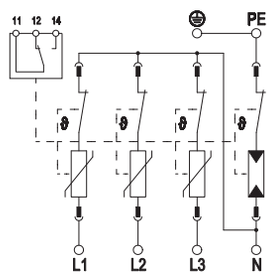
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3+NPE+FS-385

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.7 kV
Combined voltage protection level [L-PE]	$U_{p\ /\ I\text{-}PE}$	1.9 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,2 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,5 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

Always indicate the item number when ordering.

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Surge arrestor V20, 3-pole, 385 V

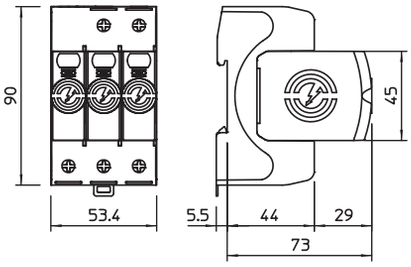
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3-385	385	3	IP20	1	35.600	**5095193**

Surge arrestor, type 2

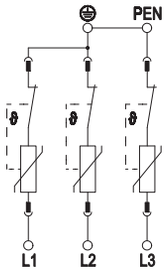
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3-385

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,2 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,4 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 3-pole with remote signalling, 385 V

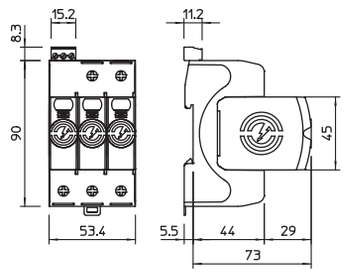
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3+FS-385	385	3	IP20	1	37.600	**5095303**

Surge arrestor, type 2

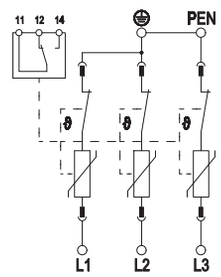
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3+FS-385

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,2 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,4 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 4-pole, 385 V

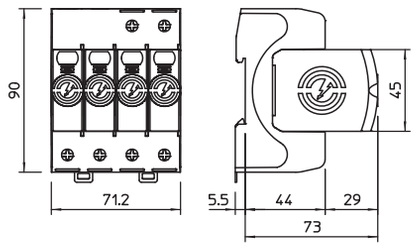
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-4-385	385	4	IP20	1	48.600	**5095194**

Surge arrestor, type 2

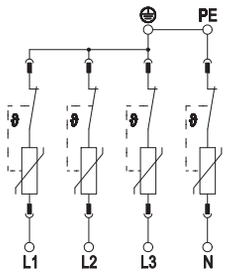
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-4-385

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	160 kA
Protection level [L-N]	U_p	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,2 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,4 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 4-pole with remote signalling, 385 V

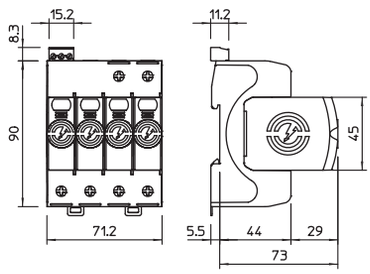
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-4+FS-385	385	4	IP20	1	49.100	**5095304**

Surge arrestor, type 2

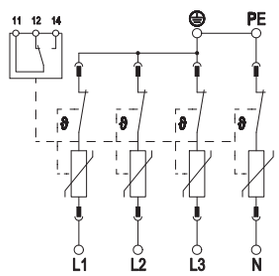
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-4+FS-385

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	160 kA
Protection level [L-N]	U_p	1.7 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,2 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,4 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 1-pole, 440 V

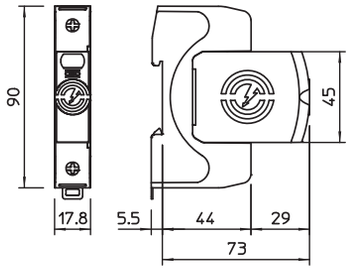
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1-440	440	1	IP20	1	13.600	**5095201**

Surge arrestor, type 2

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options

V20-1-440

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	400 V
Maximum continuous voltage AC	U_C	440 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	40 kA
Protection level [L-N]	U_p	2 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,5 kV
Residual voltage [L-N] @ 5 kA	U_{res}	1,8 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 1-pole, 550 V

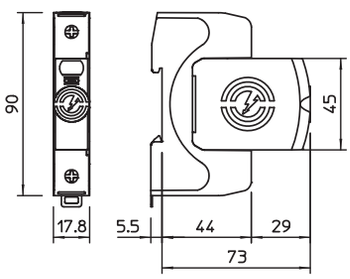
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-1-550	550	1	IP20	1	14.300	**5095211**

Surge arrestor, type 2

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options

V20-1-550

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	400 V
Maximum continuous voltage AC	U_C	550 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	15 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	40 kA
Protection level [L-N]	U_p	2.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	2,1 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 2-pole, 550 V

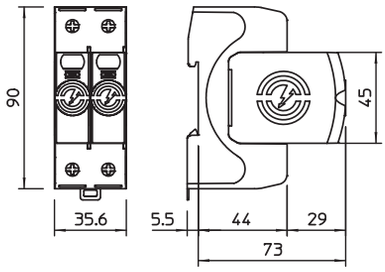
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-2-550	550	2	IP20	1	27.000	**5095212**

Surge arrestor, type 2

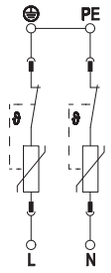
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-2-550

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	400 V
Maximum continuous voltage AC	U_C	550 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	15 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	2.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	2,1 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 2-pole with remote signalling, 550 V

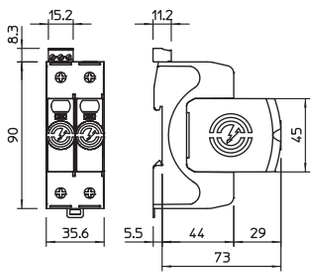
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-2+FS-550	550	2	IP20	1	27.300	**5095312**

Surge arrestor, type 2

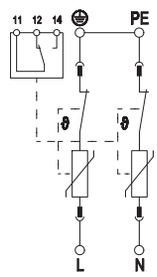
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-2+FS-550

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	480 V
Maximum continuous voltage AC	U_C	550 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	15 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	80 kA
Protection level [L-N]	U_p	2.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	2,1 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 3-pole, 550 V

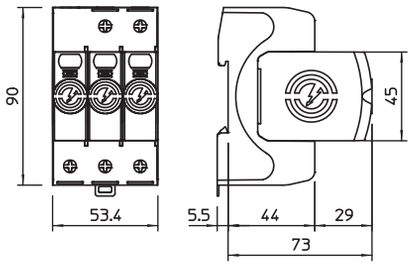
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3-550	550	3	IP20	1	38.100	**5095213**

Surge arrestor, type 2

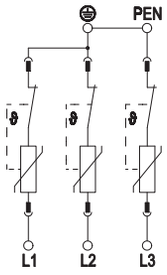
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3-550

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	400 V
Maximum continuous voltage AC	U_C	550 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	15 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	2.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	2,1 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 3-pole with remote signalling, 550 V

Type 2 | LPZ 1→2 | FS

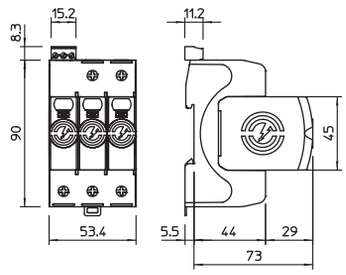
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-3+FS-550	550	3	IP20	1	38.500	**5095313**

Surge arrestor, type 2

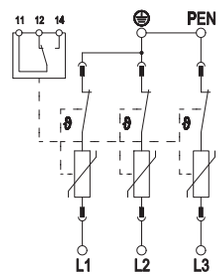
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-3+FS-550

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	480 V
Maximum continuous voltage AC	U_C	550 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	15 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	120 kA
Protection level [L-N]	U_p	2.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	2,1 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 4-pole, 550 V

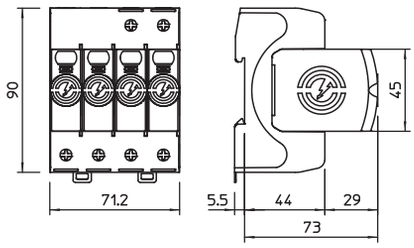
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-4-550	550	4	IP20	1	49.800	**5095214**

Surge arrestor, type 2

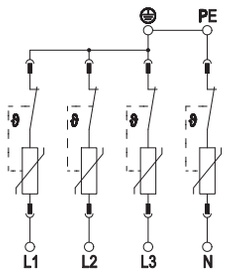
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-4-550

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	400 V
Maximum continuous voltage AC	U_C	550 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	15 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	160 kA
Protection level [L-N]	U_p	2.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	2,1 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20, 4-pole with remote signalling, 550 V

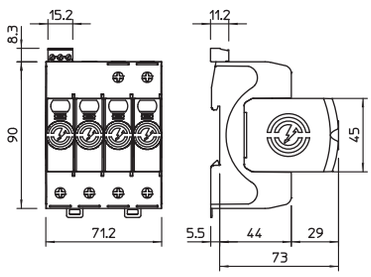
Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-4+FS-550	550	4	IP20	1	50.300	**5095314**

Surge arrestor, type 2

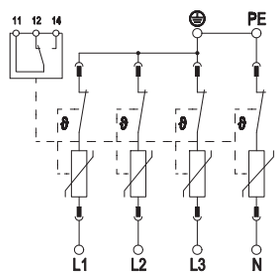
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic to UL 94 V-0
- The remote signalling variants (FS) have a potential-free changeover contact for remote signalling

Application: Equipotential bonding in main and sub-distributions.

Dimensions



Connection options



V20-4+FS-550

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	480 V
Maximum continuous voltage AC	U_C	550 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	15 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	160 kA
Protection level [L-N]	U_p	2.4 kV
Residual voltage [L-N] @ 1 kA	U_{res}	1,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	2,1 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL
FM contacts		Changeover
Switching power AC		230 V; 0,5 A
Switching power DC		230 V; 0,1 A / 75 V; 0,5 A
Connection cross-section, FM terminals		0,5 - 1,5 mm²
Connection cross-section, FM terminals		21 - 16 AWG
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

System solution, surge arrestor V20 in housing, 1-pole + NPE, 280 V

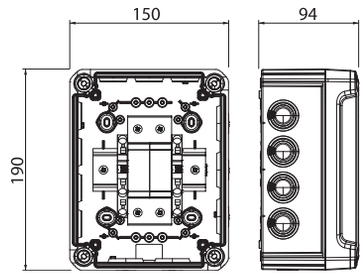
Type	Highest continuous voltage AC V	Pole version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-V20-1+NPE-280	280	1+N/PE	1	74.000	**5095381**

Surge arrestor, type 2, according DIN EN 61643-11

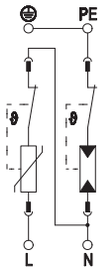
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Complete unit, pre-mounted and ready for connection in polycarbonate housing (IP66)
- Arresting capacity to 40 kA (8/20) per pole through high-performance varistors

Application: Equipotential bonding in main and sub-distributors.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



Connection options



VG-V20-1+NPE-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,9 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP66
Approvals		ÖVE, UL
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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System solution, surge arrester V20 in housing, 3-pole + NPE, 280 V

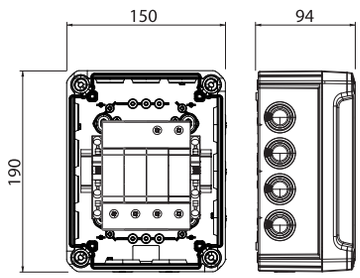
Type	Highest continuous voltage AC V	Pole version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-V20-3+NPE-280	280	3+N/PE	1	96.000	**5095383**

Surge arrestor, type 2, according DIN EN 61643-11

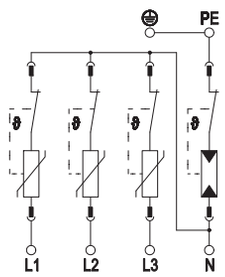
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Complete unit, pre-mounted and ready for connection in polycarbonate housing (IP66)
- Arresting capacity to 40 kA (8/20) per pole through high-performance varistors

Application: Equipotential bonding in main and sub-distributors.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



Connection options



VG-V20-3+NPE-280

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	280 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Arrestor surge current (8/20 µs) [total]	I_{total}	60 kA
Protection level [L-N]	U_p	1.3 kV
Residual voltage [L-N] @ 1 kA	U_{res}	0,7 kV
Residual voltage [L-N] @ 5 kA	U_{res}	0,9 kV
Max. mains-side overcurrent protection		160 A gL/gG
Short-circuit withstand for max. mains-side overcurrent protection		50 kA eff
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP66
Approvals		ÖVE, UL
Cable cross-section, flexible (fine-wire)		1.5 - 35 mm²
Rigid cable cross-section (single wire/multiwire)		1.5 - 35 mm²
Cable cross-section, flexible (fine-wire)		16 - 2 AWG
Rigid cable cross-section (single wire/multiwire)		16 - 2 AWG

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Always indicate the item number when ordering.

Surge arrestor V20 upper parts, type 2

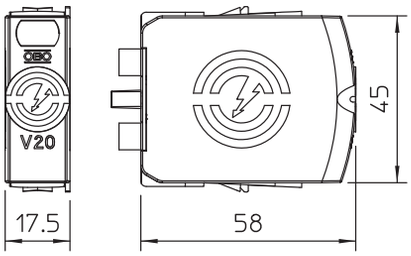
Upper part V20 75 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-0-75	75	1	IP20	1	3.600	**5095360**

Upper part, surge arrestor, type 2

- For surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular, plug-in upper part with dynamic cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic (UL 94 V-0)

Dimensions



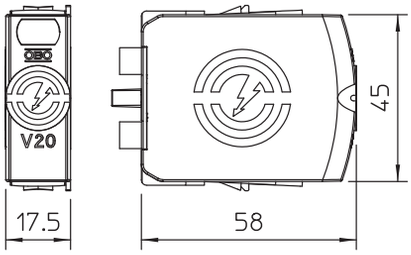
Upper part V20 150 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-0-150	150	1	IP20	1	4.160	**5095362**

Upper part, surge arrestor, type 2

- For surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular, plug-in upper part with dynamic cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic (UL 94 V-0)

Dimensions



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Always indicate the item number when ordering.

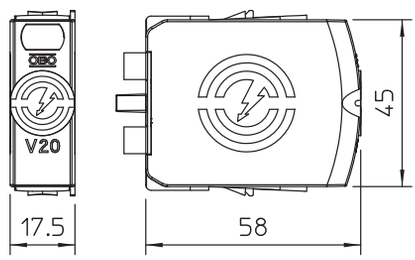
Upper part V20 280 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-0-280	280	1	IP20	1	5.000	**5095364**

Upper part, surge arrestor, type 2

- For surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular, plug-in upper part with dynamic cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic (UL 94 V-0)

Dimensions



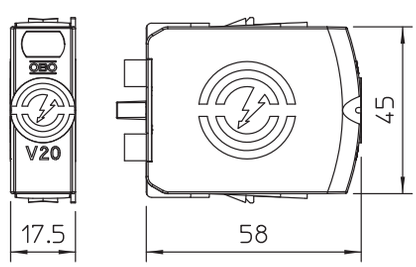
Upper part V20 320 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-0-320	320	1	IP20	1	5.100	**5095366**

Upper part, surge arrestor, type 2

- For surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular, plug-in upper part with dynamic cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic (UL 94 V-0)

Dimensions



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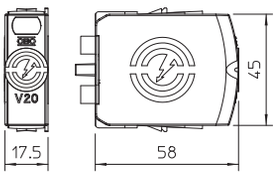
Upper part V20 385 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-0-385	385	1	IP20	1	5.360	**5095368**

Upper part, surge arrestor, type 2

- For surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular, plug-in upper part with dynamic cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic (UL 94 V-0)



V20-0-385

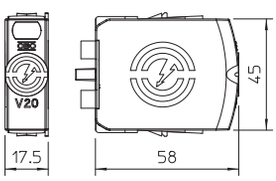
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	385 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA

Upper part V20 440 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-0-440	440	1	IP20	1	5.660	**5095370**

Upper part, surge arrestor, type 2

- For surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular, plug-in upper part with dynamic cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic (UL 94 V-0)



V20-0-440

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	400 V
Maximum continuous voltage AC	U_C	440 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL

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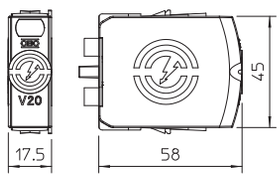
Upper part V20 550 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-0-550	550	1	IP20	1	6.360	**5095372**

Upper part, surge arrestor, type 2

- For surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular, plug-in upper part with dynamic cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic (UL 94 V-0)



V20-0-550

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	400 V
Maximum continuous voltage AC	U_C	550 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL

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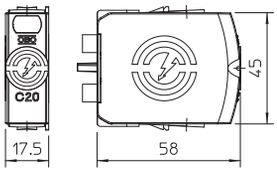
Always indicate the item number when ordering.

NPE discharge gap C20 in 280 V, type 2

Upper part C20 280 V

Type	Highest continuous voltage AC V	Pole version	Protection rating	Pack. pcs	Weight kg/100 pcs.	Item No.
C20-0-255	255	N/PE	IP20	1	3.680	**5095600**

Upper part, N-PE surge arrestor, type 2



- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Discharge capacity to 40 kA (8/20) per pole through high-performance varistors
- Modular connectable arrestor with dynamic cut-off unit and visual status display
- Locking mechanism with vibration protection and voltage keying
- Plastic (UL 94 V-0)

Application: Equipotential bonding in main and sub-distributors.

C20-0-255

SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
SPD to UL 1449		Type 4
Nominal voltage AC (50 / 60 Hz)	U_n	230 V
Maximum continuous voltage AC	U_C	255 V
Nominal discharge current (8/20 µs)	$I_{n\ /\ I\text{-}N}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Operating temperature range	T_u	-40 - +80 °C
Protection rating		IP20
Approvals		UL, ÖVE, VDE, KEMA

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Always indicate the item number when ordering.

Surge arrestor, 1-pole

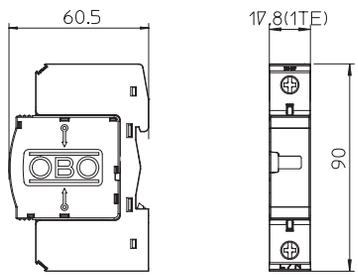
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 1-150	150	1-pole	1	11.300	**5094677**

Surge arrestor, type 2, 150 V

- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pole
- Arrestor, connectable with dynamic cut-off unit and visual function display
- Encapsulated, non-extinguishing zinc oxide varistor arrestor for use in distributor housings
- Base with multiple connection terminals

Application: Equipotential bonding (LPZ 1 to 2) and device protection in main and sub-distributors.

Dimensions



Connection options

V20-C 1-150

Nominal voltage	U_N	130 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 0,8 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor, 2-pole

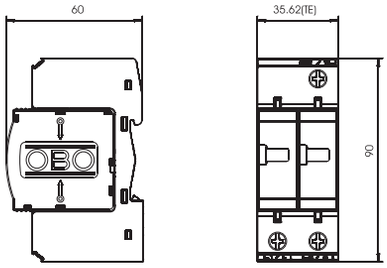
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 2-150	150	2-pole	1	21.300	**5094679**

Surge arrestor, type 2, 150 V

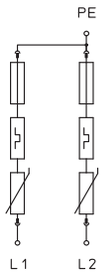
- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pole
- Arrestor, connectable with dynamic cut-off unit and visual function display
- Encapsulated, non-extinguishing zinc oxide varistor arrestor for use in distributor housings
- Base with multiple connection terminals

Application: Equipotential bonding (LPZ 1 to 2) and device protection in main and sub-distributors.

Dimensions



Connection options



V20-C 2-150

Nominal voltage	U_N	130 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	40 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	– kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Surge arrestor, 3-pole

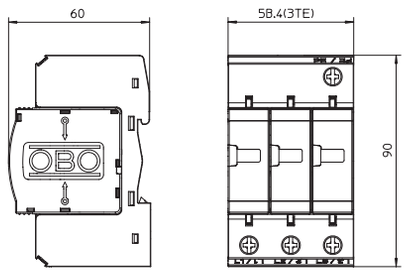
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3-150	150	3-pole	1	31.500	**5094680**

Surge arrestor, type 2, 150 V

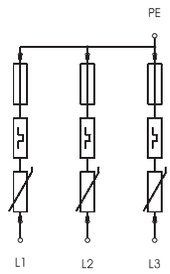
- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pole
- Arrestor, connectable with dynamic cut-off unit and visual function display
- Encapsulated, non-extinguishing zinc oxide varistor arrestor for use in distributor housings
- Base with multiple connection terminals

Application: Equipotential bonding (LPZ 1 to 2) and device protection in main and sub-distributors.

Dimensions



Connection options



V20-C 3-150

Nominal voltage	U_N	130 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	60 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 0,8 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		3
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor, 3-pole + NPE with remote signalling

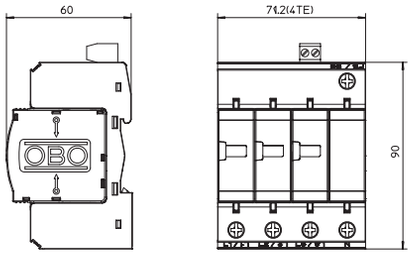
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V 20-C 3+NPE+FS	150	3+NPE + FS	1	41.300	**5094764**

V 20-C/...: Type 2 (Class C) surge arrestor to EN 61643-11 (VDE 0675 Parts 6–11).

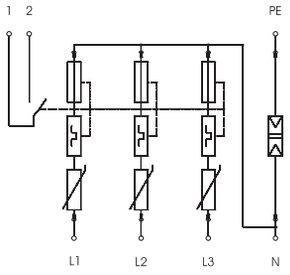
- With new MultiBase base with multiple connection terminals
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN and TT network systems
- Plug-in upper part, upper part can be separated from base without tool
- With remote signalling, potential-free changeover contact, for function monitoring
- Incl. thermal and dynamic cut-off unit
- With visual fault display
- High current conductivity and long service life
- Labelled connections

Application example: Residential buildings, single-family homes and industry

Dimensions



Connection options



V 20-C 3+NPE+FS

Nominal voltage	U_N	130 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	80 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 0,8 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Always indicate the item number when ordering.

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Surge arrestor, 1-pole + NPE

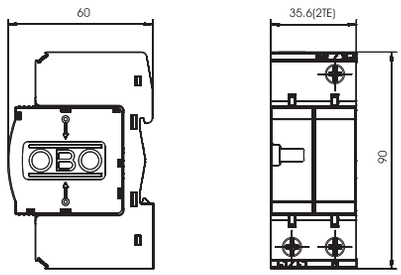
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 1+NPE-150	150	1+NPE	1	21.500	**5094639**

V 20-C/...: Type 2 (Class C) surge arrestor to EN 61643-11 (VDE 0675 Parts 6–11).

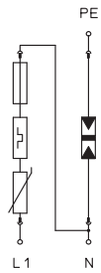
- With new MultiBase base with multiple connection terminals
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN and TT network systems
- Plug-in upper part, upper part can be separated from base without tool
- Incl. thermal and dynamic cut-off unit
- With visual fault display
- High current conductivity and long service life
- Labelled connections

Application example: Residential buildings, single-family homes and industry

Dimensions



Connection options



V20-C 1+NPE-150

Nominal voltage	U_N	130 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	40 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 0,8 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Always indicate the item number when ordering.

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Surge arrestor V20 in 150 V, type 2, for TN-S and TT networks

Surge arrestor, 3-pole + NPE

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3+NPE-150	150	3+NPE	1	39.600	**5094644**

V 20-C/...: Type 2 (Class C) surge arrestor to EN 61643-11 (VDE 0675 Parts 6–11).

- With new MultiBase base with multiple connection terminals
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN and TT network systems
- Plug-in upper part, upper part can be separated from base without tool
- Incl. thermal and dynamic cut-off unit
- With visual fault display
- High current conductivity and long service life
- Labelled connections

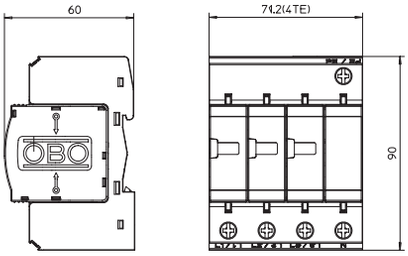
Application example: Residential buildings, single-family homes and industry

V 20-C/...: Surge protection device Type 2 (Class C) according to VDE 0675 Parts 6–11 (DIN EN 61643-11), designed for surge voltage protection to DIN VDE 0100 part 443 for protecting low voltage consumer systems from transient surge voltage due to atmospheric discharges and switching actions.

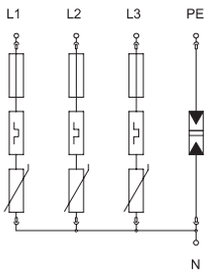
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic cut-off unit
- Visual function display
- Nominal/maximum arresting surge current 20 kA/40 kA
- High current conductivity and long service life
- Protection level at 20 kA < 1.4 kV
- 5 year warranty

Application: Industrial buildings and housing in any standard distributor housing

Dimensions



Connection options



V20-C 3+NPE-150

Nominal voltage	U_N	130 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	80 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 0,8 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

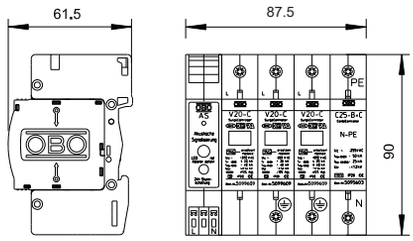
Surge arrestor, 3-pole + NPE with acoustic signalling

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3+NPE+AS	280	3 + NPE	1	57.000	**5096397**

V 20-C/...: Surge protection device Type 2 (Class C) to VDE 0675 part 6-11 (DIN EN 61643-11) with acoustic signalling.

- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- With acoustic signalling for function monitoring, signal tone can be shut down for 24 h
- VDE-tested
- Suitable for TN and TT network systems
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life

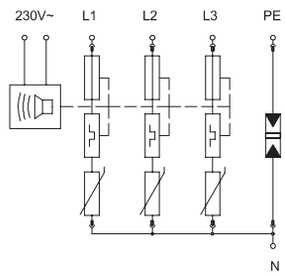
Dimensions



V20-C 3+NPE+AS

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	80 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		5
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Connection options



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Always indicate the item number when ordering.

Surge arrestor V20 in 280 V, type 2, for TN-S and TT networks

Surge arrestor, 1-pole + NPE

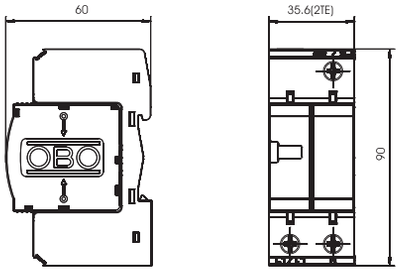
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 1+NPE-280	280	1+NPE	1	22.300	**5094650**

V 20-C/...: Surge protection device Type 2 (Class C) to VDE 0675 part 6-11 (DIN EN 61643-11).

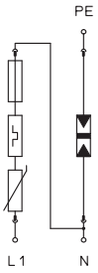
- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN- and TT network systems
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes without outer lightning protection system.

Dimensions



Connection options



V20-C 1+NPE-280

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	40 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Combination arrestor C25, 1-pole+NPE

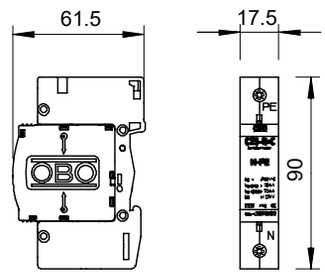
Type 1+2 LPZ 0→2

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
C 25-B+C 1	255	NPE	1	12.500	**5095606**

C 25-B+C/..+NPE: Plug-in total discharge gap for use between neutral lines (N) and protector (PE). Suitable for use in combination with:

- CombiController Type V 25-B+C
- SurgeController Type V 20-C
- SurgeController Type V 10-C

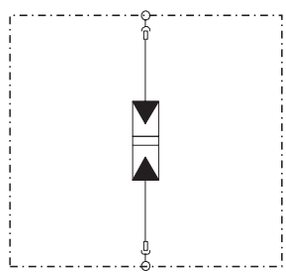
Dimensions



C 25-B+C 1

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Lightning impulse current (10/350) (N-PE)	I_{imp}	25 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Voltage protection level	U_p	<1,2 kV
Response time	t_A	< 100 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	0.1 kA
Maximum back-up fuse		— A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Connection options



Always indicate the item number when ordering.

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Surge arrestor V20 in 280 V, type 2, for TN-S and TT networks

Surge arrestor, 3-pole + NPE

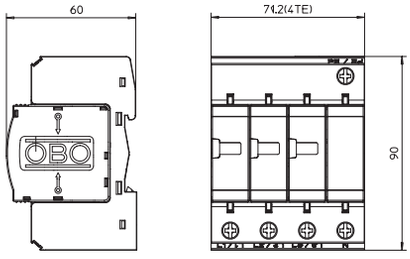
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3+NPE-280	280	3+NPE	1	41.700	**5094656**

V 20-C/...: Surge protection device Type 2 (Class C) to VDE 0675 part 6-11 (DIN EN 61643-11).

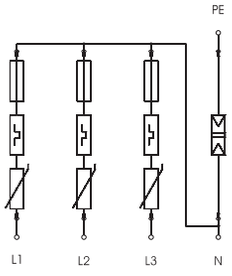
- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN- and TT network systems
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes without outer lightning protection system.

Dimensions



Connection options



V20-C 3+NPE-280

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	50 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

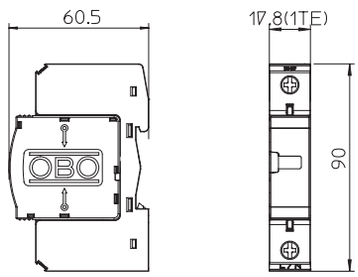
Surge arrestor, 1-pole

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 1-280	280	1-pole	1	12.000	**5094618**

Surge arrestor, type 2, 280 V
- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin
- Arrestor, connectable with dynamic cut-off unit and visual function display
- Encapsulated, non-extinguishing zinc oxide varistor arrestor for use in distributor housings
- Base with multiple connection terminals

Application: Equipotential bonding (LPZ 1 to 2) and device protection in main and subdistributors.

Dimensions



Connection options

V20-C 1-280

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor V20, 280 V, type 2, for TN-S networks

Surge arrestor, 2-pole, with acoustic signalling

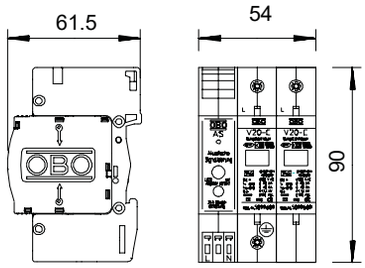
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 2+AS-280	280	2-pole	1	35.000	**5096375**

V 20-C/...: Surge protection device Type 2 (Class C) to VDE 0675 part 6-11 (DIN EN 61643-11) with acoustic signalling.

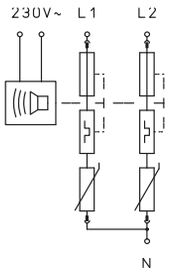
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN network systems
- With acoustic signalling for function monitoring, signal tone can be shut down for 24 h
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes

Dimensions



Connection options



V20-C 2+AS-280

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	40 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		3
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

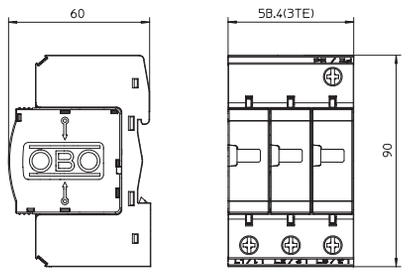
Surge arrestor, 3-pole

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3-280	280	3-pole	1	33.500	**5094624**

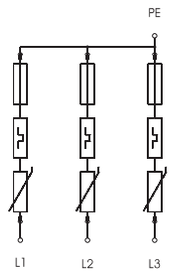
Surge arrestor, type 2, 280 V
- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin
- Arrestor, connectable with dynamic cut-off unit and visual function display
- Encapsulated, non-extinguishing zinc oxide varistor arrestor for use in distributor housings
- Base with multiple connection terminals

Application: Equipotential bonding (LPZ 1 to 2) and device protection in main and subdistributors.

Dimensions



Connection options



V20-C 3-280

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	60 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		3
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Always indicate the item number when ordering.

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Surge arrestor V20, 280 V, type 2, for TN-C networks

Surge arrestor, 3-pole, with acoustic signalling

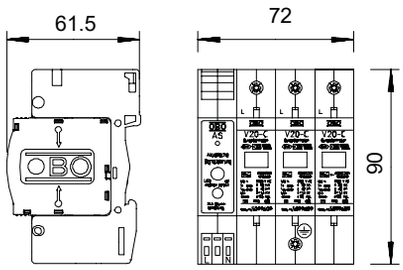
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3+AS-280	280	3-pole	1	44.000	**5096383**

V 20-C/...: Surge protection device Type 2 (Class C) to VDE 0675 part 6-11 (DIN EN 61643-11) with acoustic signalling.

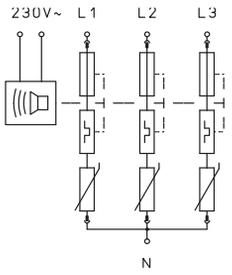
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN network systems
- With acoustic signalling for function monitoring, signal tone can be shut down for 24 h
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes

Dimensions



Connection options



V20-C 3+AS-280

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	60 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

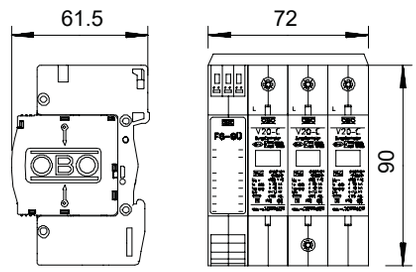
Surge arrestor, 3-pole with fuse monitoring

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3+FS-SÜ	280	3-pole	1	45.000	**5096251**

V 20-C/...: Surge protection device Type 2 (Class C) to VDE 0675 part 6-11 (DIN EN 61643-11), ready-for-connection with remote signalling and voltage monitoring.

- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN network systems
- With voltage monitoring of phases and function monitoring of arrestor upper part, remote signalling
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life

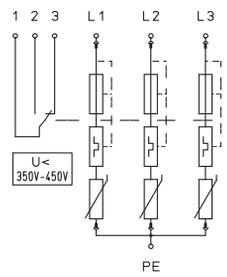
Dimensions



V20-C 3+FS-SÜ

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	60 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Connection options



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Always indicate the item number when ordering.

Surge arrestor V20, 280 V, type 2, for TN-S networks

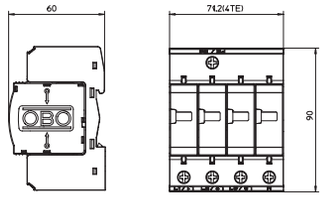
Surge arrestor, 4-pole

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 4-280	280	4-pole	1	43.000	**5094627**

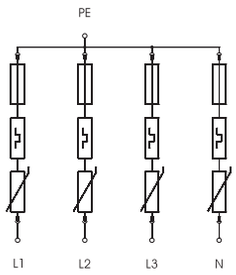
Surge arrestor, type 2, 280 V
- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin
- Arrestor, connectable with dynamic cut-off unit and visual function display
- Encapsulated, non-extinguishing zinc oxide varistor arrestor for use in distributor housings
- Base with multiple connection terminals

Application: Equipotential bonding (LPZ 1 to 2) and device protection in main and subdistributors.

Dimensions



Connection options



V20-C 4-280

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	80 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor, 4-pole with acoustic signalling

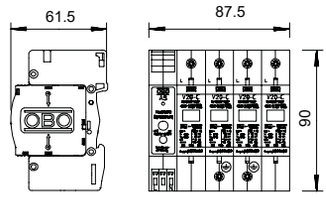
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 4+AS-280	280	4-pole	1	57.000	**5096391**

V 20-C/...: Surge protection device Type 2 (Class C) to VDE 0675 part 6-11 (DIN EN 61643-11) with acoustic signalling.

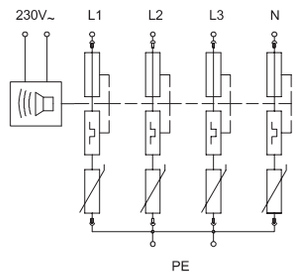
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN network systems
- With acoustic signalling for function monitoring, signal tone can be shut down for 24 h
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes

Dimensions



Connection options



V20-C 4+AS-280

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	80 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		5
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

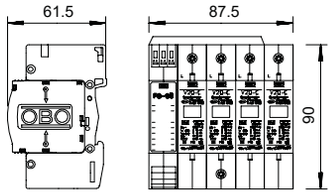
Surge arrestor, 4-pole with fuse monitoring

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 4+FS-SÜ	280	4-pole	1	56.500	**5096278**

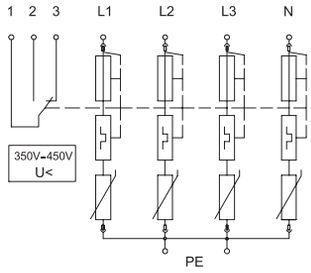
V 20-C/...: Surge protection device Type 2 (Class C) to VDE 0675 part 6-11 (DIN EN 61643-11), ready-for-connection with remote signalling and voltage monitoring.

- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN network systems
- With voltage monitoring of phases and function monitoring of arrestor upper part, remote signalling
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life

Dimensions



Connection options



V20-C 4+FS-SÜ

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	80 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		5
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor, 1-pole

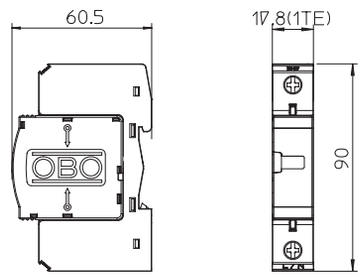
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 1-385	385	1-pole	1	12.500	**5094703**

Surge arrestor, type 2, 385 V

- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin
- Arrestor, connectable with dynamic cut-off unit and visual function display
- High-performance varistor technology

Application: Equipotential bonding (LPZ 1 to 2) in main and subdistributors.

Dimensions



Connection options

V20-C 1-385

Nominal voltage	U_N	350 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Always indicate the item number when ordering.

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Surge arrestor, 2-pole

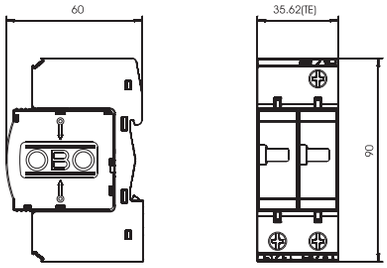
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 2-385	385	2-pole	1	23.700	**5094704**

Surge arrestor, type 2, 385 V

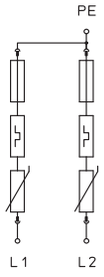
- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin
- Arrestor, connectable with dynamic cut-off unit and visual function display
- High-performance varistor technology

Application: Equipotential bonding (LPZ 1 to 2) in main and subdistributors.

Dimensions



Connection options



V20-C 2-385

Nominal voltage	U_N	350 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	40 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Surge arrestor, 3-pole

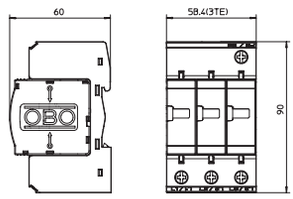
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3-385	385	3-pole	1	34.500	**5094705**

Surge arrestor, type 2, 385 V

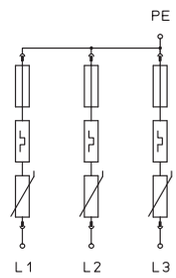
- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin
- Arrestor, connectable with dynamic cut-off unit and visual function display
- High-performance varistor technology

Application: Equipotential bonding (LPZ 1 to 2) in main and subdistributors.

Dimensions



Connection options



V20-C 3-385

Nominal voltage	U_N	350 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	60 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		3
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor, 3-pole with remote signalling

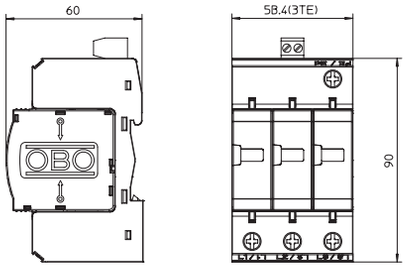
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3+FS-385	385	3-pole + FS	1	34.700	**5094780**

V 20-C/...: Surge protection device Type 2 Class C) to VDE 0675 part 6-11 (DIN EN 61643-11).

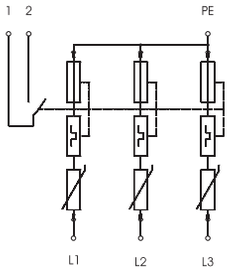
- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN network systems
- Plug-in upper part; upper part can be separated from base without tools
- With remote signalling, potential-free changeover contact, for function monitoring
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes

Dimensions



Connection options



V20-C 3+FS-385

Nominal voltage	U_N	350 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	60 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		3
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor, 4-pole

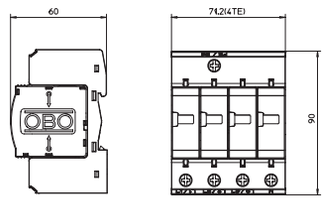
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 4-385	385	4-pole	1	44.000	**5094708**

Surge arrestor, type 2, 385 V

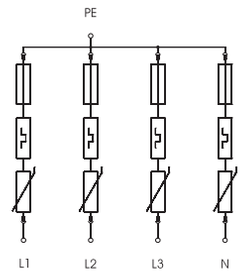
- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin
- Arrestor, connectable with dynamic cut-off unit and visual function display
- High-performance varistor technology

Application: Equipotential bonding (LPZ 1 to 2) in main and subdistributors.

Dimensions



Connection options



V20-C 4-385

Nominal voltage	U_N	350 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	80 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor, 1-pole + NPE

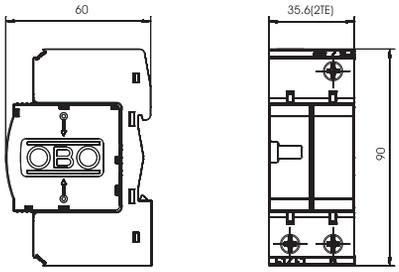
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 1+NPE-385	385	1+NPE	1	23.300	**5094666**

V 20-C/...: Surge protection device Type 2 (Class C) to VDE 0675 part 6-11 (DIN EN 61643-11).

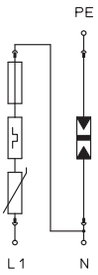
- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN- and TT network systems
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes without outer lightning protection system.

Dimensions



Connection options



V20-C 1+NPE-385

Nominal voltage	U_N	350 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	40 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor, 3-pole + NPE

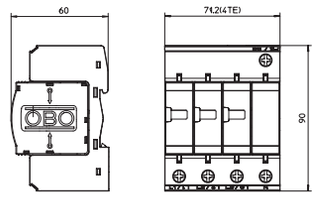
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3+NPE-385	385	3+NPE	1	42.600	**5094668**

V 20-C/...: Surge protection device Type 2 (Class C) to VDE 0675 part 6-11 (DIN EN 61643-11).

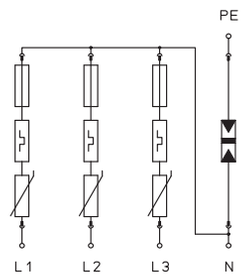
- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN- and TT network systems
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes without outer lightning protection system.

Dimensions



Connection options



V20-C 3+NPE-385

Nominal voltage	U_N	350 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	80 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor V20 in 385 V, type 2, for TN-S and TT networks

Surge arrestor, 3-pole + NPE with remote signalling

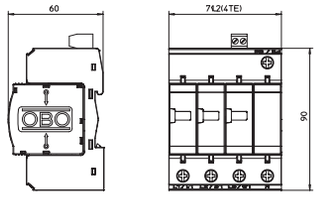
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3+NPEFS38	385	3+NPE + FS	1	45.200	**5094788**

V 20-C/...: Surge protection device Type 2 Class C) to VDE 0675 part 6-11 (DIN EN 61643-11).

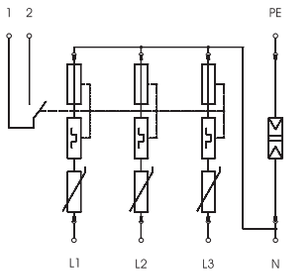
- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN- and TT- network systems
- Plug-in upper part; upper part can be separated from base without tools
- With remote signalling, potential-free changeover contact, for function monitoring
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes

Dimensions



Connection options



V20-C 3+NPEFS38

Nominal voltage	U_N	350 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	80 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor, 1-pole

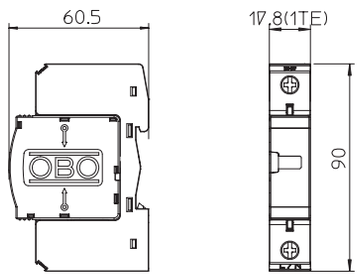
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 1-550	550	1-pole	1	12.900	**5094713**

Surge arrestor, type 2, 550 V

- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin
- Arrestor, connectable with dynamic cut-off unit and visual function display
- High-performance varistor technology

Application: Equipotential bonding (LPZ 1 to 2) in main and subdistributors.

Dimensions



Connection options

V20-C 1-550

Nominal voltage	U_N	500 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	15 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	15 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 2,4 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor, 2-pole

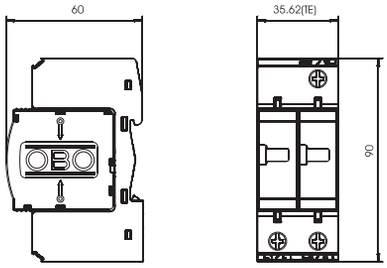
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 2-550	550	2-pole	1	24.300	**5094714**

Surge arrestor, type 2, 550 V

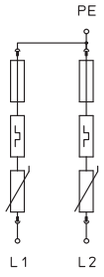
- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin
- Arrestor, connectable with dynamic cut-off unit and visual function display
- High-performance varistor technology

Application: Equipotential bonding (LPZ 1 to 2) in main and subdistributors.

Dimensions



Connection options



V20-C 2-550

Nominal voltage	U_N	500 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	15 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	30 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 2,4 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Surge arrestor, 3-pole

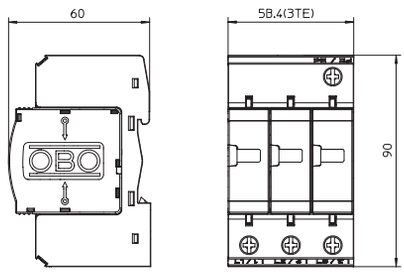
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3-550	550	3-pole	1	36.000	**5094715**

Surge arrestor, type 2, 550 V

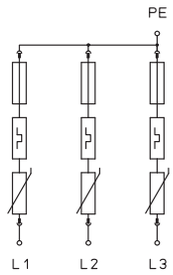
- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin
- Arrestor, connectable with dynamic cut-off unit and visual function display
- High-performance varistor technology

Application: Equipotential bonding (LPZ 1 to 2) in main and subdistributors.

Dimensions



Connection options



V20-C 3-550

Nominal voltage	U_N	500 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	15 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	45 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 2,4 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		3
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor, 3-pole with remote signalling

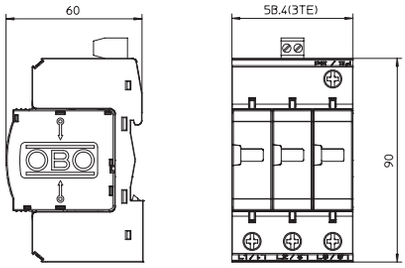
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3+FS-550	550	3-pole + FS	1	36.200	**5094792**

V 20-C/...: Surge protection device Type 2 Class C) to VDE 0675 part 6-11 (DIN EN 61643-11).

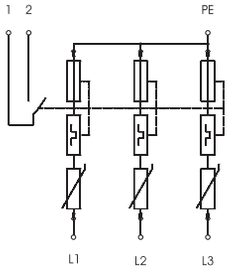
- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- VDE-tested
- Suitable for TN network systems
- Plug-in upper part; upper part can be separated from base without tools
- With remote signalling, potential-free changeover contact, for function monitoring
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes

Dimensions



Connection options



V20-C 3+FS-550

Nominal voltage	U_N	500 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	15 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	45 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 2,4 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		3
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor, 4-pole

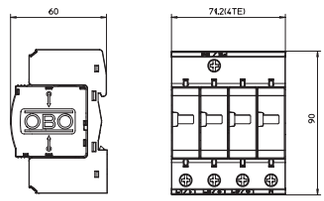
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 4-550	550	4-pole	1	45.500	**5094718**

Surge arrestor, type 2, 550 V

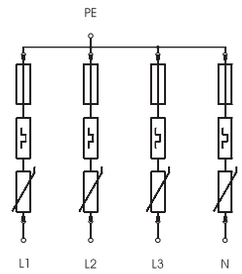
- VDE-tested
- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin
- Arrestor, connectable with dynamic cut-off unit and visual function display
- High-performance varistor technology

Application: Equipotential bonding (LPZ 1 to 2) in main and subdistributors.

Dimensions



Connection options



V20-C 4-550

Nominal voltage	U_N	500 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	15 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	60 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 2,4 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor V20, for 400 V/690 V, type 2, networks

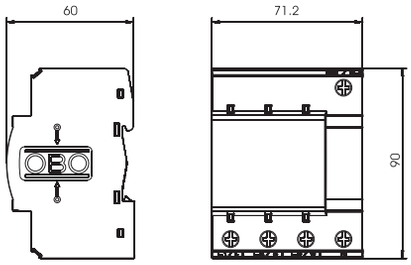
MultiBase base MB25

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MB25-3+NPE	440	3 + NPE	1	27.000	**5096672**

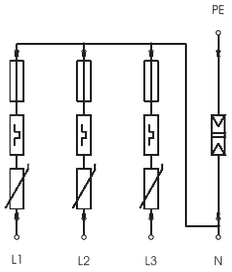
Base for 400/690 V networks
- VDE-tested
- Suitable for TN, TT and IT network systems
- NPE spark gap designed for max 440 V AC (IEC 60364-5-53)
- Arresting capacity of the spark gap MB25 up to 25 kA (10/350)
- Labelled connections
- Vibration-proof through Shock Guard
- Particularly suitable for use in wind power plants

Application example: Industrial and wind power plants

Dimensions



Connection options



MB25-3+NPE

Nominal voltage	U_N	400 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Nominal discharge current (8/20)	I_n	– kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	50 kA
Maximum discharge current (8/20 µs)	I_{max}	– kA
Voltage protection level	U_p	<2,0 kV
Response time	t_A	100 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 35 mm²

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Always indicate the item number when ordering.

Surge arrestor, 1-pole, leakage current-free

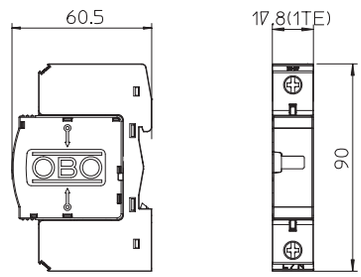
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-VA 1-385	385	1-pole	1	12.500	**5099475**

V 20-VA/...: Surge protection device Type 2 Class C) to VDE 0675 part 6-11 (DIN EN 61643-11).

- With new MultiBase base part and Multi-connection clamps
- Suitable for use in the pre-meter area (absolutely free of leakage current)
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- Suitable for TN-C network systems
- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device
- With visual display of defects
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes

Dimensions



Connection options

V20-VA 1-385

Nominal voltage	U_N	350 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	25 kA
		–
Voltage protection level	U_p	< 1,8 kV
Response time	t_A	< 100 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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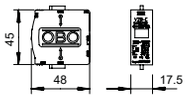
Always indicate the item number when ordering.

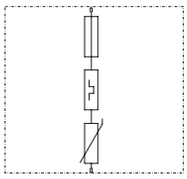
Cover, surge arrestor 75 V



Type	Highest continuous voltage V	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 0-75	75	100	1-pole	1	5.160	**5099579**

Upper part – type 2 surge arrestor

- Plug-in upper part: upper part can be separated from base without tools
- Including thermal and dynamic separating device and visual fault display
- High current conductivity and long service life

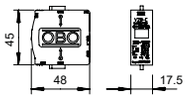


Connection options

V20-C 0-75

Max. continuous operating voltage	U_C	75 V
U max DC	U_c DC	100 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	15 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 0,5 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1

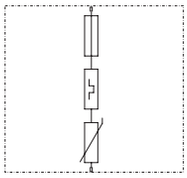
Cover, surge arrestor 150 V



Type	Highest continuous voltage V	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 0-150	150	200	1-pole	1	4.794	**5096707**

Upper part – type 2 surge arrestor

- Plug-in upper part: upper part can be separated from base without tools
- Including thermal and dynamic separating device and visual fault display
- High current conductivity and long service life



Connection options

V20-C 0-150

Max. continuous operating voltage	U_C	150 V
U max DC	U_c DC	200 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 0,8 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1

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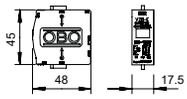
Cover, surge arrestor 280 V

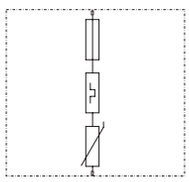
Type 2 | LPZ 1→2

Type	Highest continuous voltage V	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 0-280	280	350	1-pole	1	8.500	**5099609**



Upper part – type 2 surge arrestor

- Plug-in upper part: upper part can be separated from base without tools
- Including thermal and dynamic separating device and visual fault display
- High current conductivity and long service life



Connection options

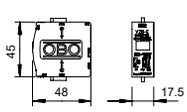
V20-C 0-280

Max. continuous operating voltage	U_C	280 V
U max DC	U_c DC	350 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1

Cover, surge arrestor 320 V

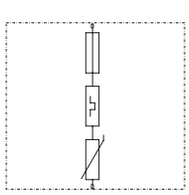
Type 2 | LPZ 1→2

Type	Highest continuous voltage V	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 0-320	320	420	1-pole	1	5.545	**5099848**



Upper part – type 2 surge arrestor

- Plug-in upper part: upper part can be separated from base without tools
- Including thermal and dynamic separating device and visual fault display
- High current conductivity and long service life



Connection options

V20-C 0-320

Max. continuous operating voltage	U_C	320 V
U max DC	U_c DC	420 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,4 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1

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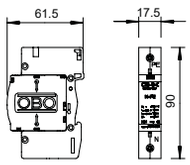
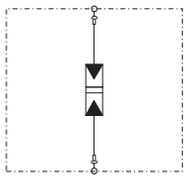
Always indicate the item number when ordering.

Combination arrestor C25, 1-pole+NPE





Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
C 25-B+C 1	255	NPE	1	12.500	**5095606**

C 25-B+C/..+NPE: Plug-in total discharge gap for use between neutral lines (N) and protector (PE). Suitable for use in combination with:

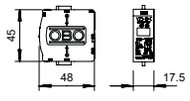
- CombiController Type V 25-B+C
- SurgeController Type V 20-C
- SurgeController Type V 10-C

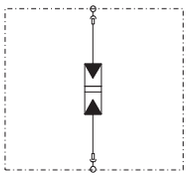
Connection options

C 25-B+C 1

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Lightning impulse current (10/350) (N-PE)	I_{imp}	25 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Voltage protection level	U_p	<1,2 kV
Response time	t_A	< 100 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	0.1 kA
Maximum back-up fuse		— A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Cover, total spark gap between N and PE 255 V





Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
C 25-B+C 0	255	NPE	1	5.300	**5095603**

C 25-B+C/..+NPE: Plug-in total discharge gap for use between N and PE. Suitable for use in combination with:

- CombiController Type V 25-B+C
- SurgeController Type V 20-C
- SurgeController Type V 10-C

Connection options

C 25-B+C 0

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Lightning impulse current (10/350) (N-PE)	I_{imp}	25 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Voltage protection level	U_p	<1,2 kV
Response time	t_A	< 100 ns
Follow current quenching capacity (eff) [N-PE]	I_{fi}	0.1 kA
Maximum back-up fuse		160 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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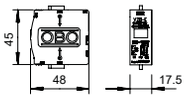
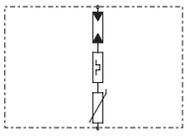
Upper part, surge protection, leak current-free

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-VA 0	385	1-pole	1	6.018	**5099613**



V 20-VA/O...: Separate upper part (plug-in).

- Suitable for use in the pre-meter area (absolutely free of leakage current)
- Plug-in upper part; upper part can be separated from base without tools



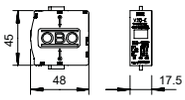
Connection options

V20-VA 0

Max. continuous operating voltage	U_C	385 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	25 kA
Voltage protection level	U_p	< 1,8 kV
Response time	t_A	< 100 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20

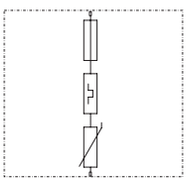
Cover, surge arrestor 335 V

Type	Highest continuous voltage V	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 0-335	335	420	1-pole	1	5.545	**5099850**



Upper part – type 2 surge arrestor

- Plug-in upper part: upper part can be separated from base without tools
- Including thermal and dynamic separating device and visual fault display
- High current conductivity and long service life



Connection options

V20-C 0-335

Max. continuous operating voltage	U_C	335 V
U max DC	U_c DC	420 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,4 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1

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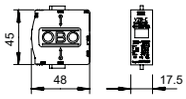
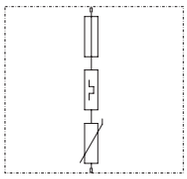
Cover, surge arrestor 385 V





Type	Highest continuous voltage V	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 0-385	385	505	1-pole	1	5.826	**5099595**

Upper part – type 2 surge arrestor

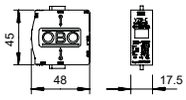
- Plug-in upper part: upper part can be separated from base without tools
- Including thermal and dynamic separating device and visual fault display
- High current conductivity and long service life

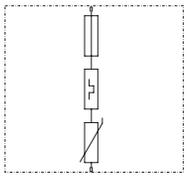
Connection options

V20-C 0-385

Max. continuous operating voltage	U_C	385 V
U max DC	U_c DC	505 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,7 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1

Cover, surge arrestor 440 V





Type	Highest continuous voltage V	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 0-440	440	585	1-pole	1	6.452	**5099706**

Upper part – type 2 surge arrestor

- Plug-in upper part: upper part can be separated from base without tools
- Including thermal and dynamic separating device and visual fault display
- High current conductivity and long service life

Connection options

V20-C 0-440

Max. continuous operating voltage	U_C	440 V
U max DC	U_c DC	585 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 2,0 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1

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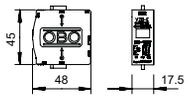
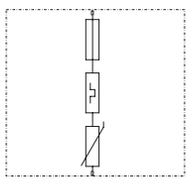
Cover, surge arrestor 550 V

Type	Highest continuous voltage V	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 0-550	550	745	1-pole	1	6.452	**5099617**



Upper part – type 2 surge arrestor

- Plug-in upper part: upper part can be separated from base without tools
- Including thermal and dynamic separating device and visual fault display
- High current conductivity and long service life



Connection options

V20-C 0-550

Max. continuous operating voltage	U_C	550 V
U max DC	U_c DC	745 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	15 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 2,4 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1

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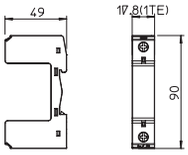
Always indicate the item number when ordering.

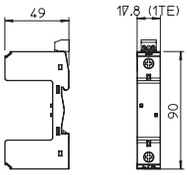
MultiBase base



Type	Version	Dividing unit TE (17.5 mm)	Pack. pcs	Weight kg/100 pcs.	Item No.
MB 1	1-pole	1	1	7.000	**5096648**
MB 2	2-pole	2	1	11.200	**5096653**
MB 3	3-pole	3	1	16.000	**5096665**
MB 4	4-pole	4	1	21.000	**5096680**

- Suitable for V25-B+C, V20-C and V10-C
- Pre-mounted and ready for connection
- For TN systems
- Multifunction terminals for easy circuit of series-mounted devices
- Upper parts can be rotated through 180 degrees

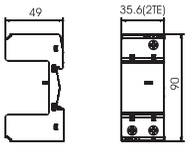
Base, MultiBase with remote signalling



Type	Version	Dividing unit TE (17.5 mm)	Pack. pcs	Weight kg/100 pcs.	Item No.
MB 1+FS	1-pole	1	1	6.700	**5096649**
MB 2+FS	2-pole	2	1	11.700	**5096654**
MB 3+FS	3-pole	3	1	16.500	**5096667**
MB 4+FS	4-pole	4	1	21.000	**5096682**

- Suitable for V 25-B+C, V 20-C and V10-C
- Pre-mounted and ready for connection
- Multifunction terminals for easy connection to series-mounted devices
- Upper parts can be rotated through 180 degrees
- With remote signalling, potential-free NO contact, for function monitoring

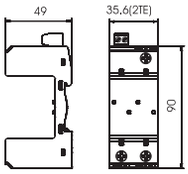
MultiBase base + NPE



Type	Version	Dividing unit TE (17.5 mm)	Pack. pcs	Weight kg/100 pcs.	Item No.
MB 1+NPE	1 + NPE	2	1	11.500	**5096650**
MB 2+NPE	2 + NPE	3	1	16.100	**5096655**
MB 3+NPE	3 + NPE	4	1	20.000	**5096669**

- Suitable for V 25-B+C, V 20-C and V10-C
- Pre-mounted and ready for connection
- Multifunction terminals for easy connection to series-mounted devices
- Upper parts can be rotated through 180 degrees
- For TN-S and TT network systems

Base, MultiBase + NPE with remote signalling



Type	Version	Dividing unit TE (17.5 mm)	Pack. pcs	Weight kg/100 pcs.	Item No.
MB 1+NPE+FS	1 + NPE	2	1	11.600	**5096651**
MB 2+NPE+FS	2 + NPE	3	1	16.000	**5096657**
MB 3+NPE+FS	3 + NPE	4	1	21.000	**5096671**

- Suitable for V 25-B+C, V 20-C and V10-C
- Pre-mounted and ready for connection
- Multifunction terminals for easy connection to series-mounted devices
- Upper parts can be rotated through 180 degrees
- With remote signalling, potential-free NO contact, for function monitoring
- 3+1 protection circuit for TN-S and TT network systems

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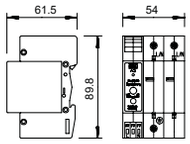
Base, MultiBase with acoustic signalling

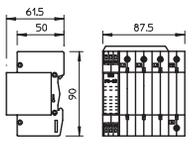
Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C U-2 AS	2-pole	1	23.000	**5096413**
V20-C U-3 AS	3-pole	1	29.000	**5096421**
V20-C U-4 AS	4-pole	1	35.000	**5096448**
V20-C U-3+NPE-AS	3 + NPE	1	32.500	**5096372**



- Suitable for V 25-B+C, V 20-C and V 10-C
- With remote signalling, potential-free changeover contact, for function monitoring
- With acoustic signalling for function monitoring, signal tone can be shut down for 24 h
- Pre-mounted and ready for connection

Base, MultiBase + NPE with fuse monitoring

Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C U-3+NPE	3-NPE with FS-SÜ	1	30.000	**5096370**



- Suitable for V 25-B+C, V 20-C and V 10-C
- With voltage monitoring of phases and function monitoring of arrestor upper part, remote signalling
- With remote signalling, potential-free changeover contact, for function monitoring
- For TN-S and TT network systems
- Pre-mounted and ready for connection

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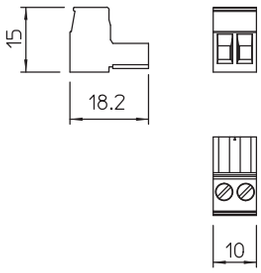
Always indicate the item number when ordering.

Remote signalling replacement connector for MultiBase

Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MB-FS	2-pole	25	0.310	**5096693**

Replacement telephony connector, 2-pole version, for MultiBase base



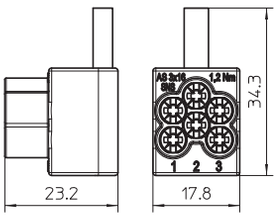
Connection terminal for through-wiring

Type	Colour	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
AS 3x16	Light grey	3 x 16 mm²	5	2.474	**5012010**

Connection terminal type: AS 3 x 16

Connection cross-section: 3 x 1.5 - 16 sq mm rigid/ multiple strands
3 x 1.5 - 10 sq mm fine-wire/with wire end sleeve
Stripping length: 16 mm
Rec. tightening torque: 1.2 Nm
Nominal current: 50 A
Width: 17.5 mm (1 TE)

For EMC-optimised V through-wiring to IEC 60364-5-53 (VDE 0100-534).



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Surge protection energy technology, arrester, type 2+3

Surge arrestor V10 Compact 211

Accessories, upper parts and bases V10 216

Compact surge protection 231

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Type 2+3, surge arrestor V10 Compact

3-pole + NPE

Volts	Item no.	Page
255	5093380	212
255	5093380	212
385	5093384	213

Type 2+3, surge arrestor V10 Compact with remote/acoustic signalling

3-pole + NPE + FS

Volts	Item no.	Page
255	5093382	215

3-pole + NPE + AS

Volts	Item no.	Page
255	5093391	214

Type 2+3, surge arrestor ÜSM-LED

IP20

Volts	Item no.	Page
255	5092 43 1	233
255	5092 43 3	234
255	5092 42 6	253
255	5092 42 4	254
255	5092 42 2	255
255	5092 42 4	254

IP65

Volts	Item no.	Page
255	5092 43 3	234

Type 2+3, surge arrestor V10 upper parts

Upper part

Volts	Item no.	Page
280	5093402	222
280	5093402	222
320	5093404	223
385	5093406	224

Always indicate the item number when ordering.

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Surge arrestor Compact 150 V

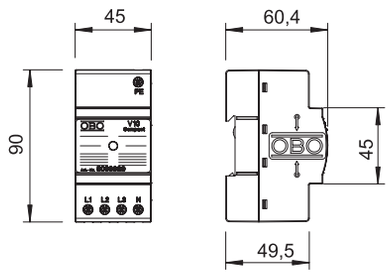
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10 COMPACT 150	150	3 + NPE	1	15.800	**5093378**

Surge protection device, compact module, type 2+3

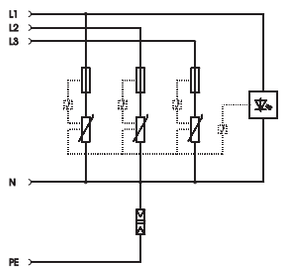
- Surge protection in subdistributors to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity up to 60 kA (8/20) in total
- Integrated 3+1 solution for TN and TT network systems on 45 mm module width
- High-performance varistor technology
- Including thermic and dynamic cut-off unit and visual function display
- Optionally with -AS acoustic signalling or -FS remote signalling

Application: Sub/storey distribution as well as device protection in rotational current systems.

Dimensions



Connection options



V10 COMPACT 150

Nominal voltage	U_N	130 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	60 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 0,7 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		63 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		2.5
Protection rating		IP20
Connection cross-section rigid		2.5 - 10 mm²
Connection cross-section, multi-wire		2.5 - 10 mm²
Connection cross-section, flexible		2.5 - 10 mm²

Always indicate the item number when ordering.

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Surge arrester Compact 255 V

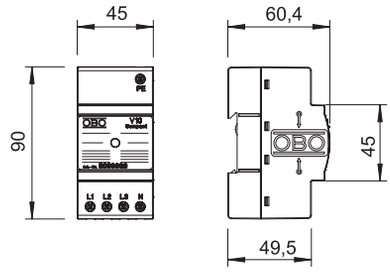
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10 COMPACT 255	255	3 + NPE	1	15.800	**5093380**

Surge protection device, compact module, type 2+3

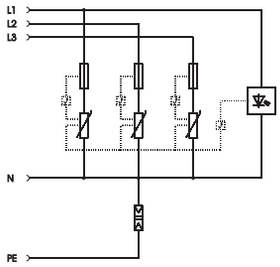
- Surge protection in subdistributors to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity up to 60 kA (8/20) in total
- Integrated 3+1 solution for TN and TT network systems on 45 mm module width
- High-performance varistor technology
- Including thermic and dynamic cut-off unit and visual function display
- Optionally with -AS acoustic signalling or -FS remote signalling

Application: Sub/storey distribution as well as device protection in rotational current systems.

Dimensions



Connection options



V10 COMPACT 255

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	60 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 1,1 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		63 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		2.5
Protection rating		IP20
Connection cross-section rigid		2.5 - 10 mm²
Connection cross-section, multi-wire		2.5 - 10 mm²
Connection cross-section, flexible		2.5 - 10 mm²

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Always indicate the item number when ordering.

Surge arrestor Compact 385 V

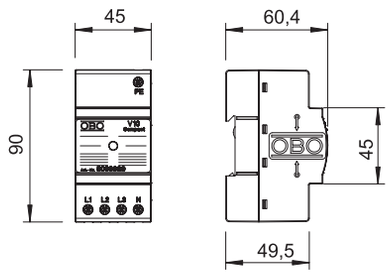
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10 COMPACT 385	385	3 + NPE	1	16.800	**5093384**

Surge protection device, compact module, type 2+3

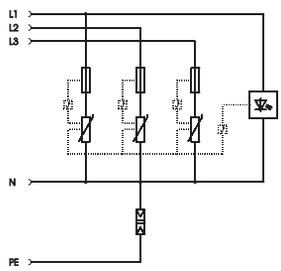
- Surge protection in subdistributors to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity up to 60 kA (8/20) in total
- Integrated 3+1 solution for TN and TT network systems on 45 mm module width
- High-performance varistor technology
- Including thermic and dynamic cut-off unit and visual function display
- Optionally with -AS acoustic signalling or -FS remote signalling

Application: Sub/storey distribution as well as device protection in rotational current systems.

Dimensions



Connection options



V10 COMPACT 385

Nominal voltage	U_N	385 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	60 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 1,5 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		63 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		2.5
Protection rating		IP20
Connection cross-section rigid		2.5 - 10 mm²
Connection cross-section, multi-wire		2.5 - 10 mm²
Connection cross-section, flexible		2.5 - 10 mm²

Always indicate the item number when ordering.

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Surge arrestor Compact with acoustic signalling

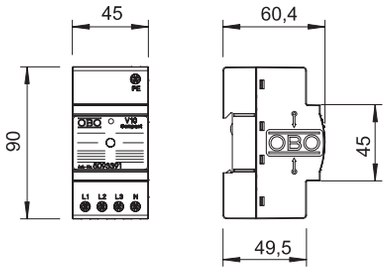
Type	Highest continuous voltage V	Version	Designation	Pack. pcs	Weight kg/100 pcs.	Item No.
V10 COMPACT-AS	255	3 + NPE	with acoustic signalling	1	15.800	**5093391**

Surge protection device, compact module, type 2+3

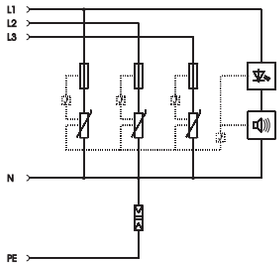
- Surge protection in subdistributors to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity up to 60 kA (8/20) in total
- Integrated 3+1 solution for TN and TT network systems on 45 mm module width
- High-performance varistor technology
- Including thermic and dynamic cut-off unit and visual function display
- ...-AS version with additional acoustic defect signalling (switchable)

Application: Sub/storey distribution as well as device protection in rotational current systems.

Dimensions



Connection options



V10 COMPACT-AS

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	60 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 1,1 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		63 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		2.5
Protection rating		IP20
Connection cross-section rigid		2.5 - 10 mm²
Connection cross-section, multi-wire		2.5 - 10 mm²
Connection cross-section, flexible		2.5 - 10 mm²

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Always indicate the item number when ordering.

Surge arrestor Compact with remote signalling

LPZ 1→3 | Type 2+3 | FS

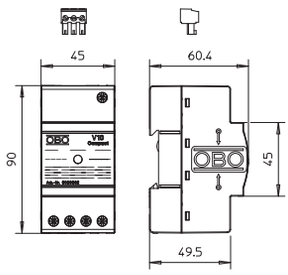
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10 COMPACT-FS	255	3 + NPE	1	17.300	**5093382**

Surge protection device, compact module, type 2+3

- Surge protection in subdistributors to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity up to 60 kA (8/20) in total
- Integrated 3+1 solution for TN and TT network systems on 45 mm module width
- High-performance varistor technology
- Including thermic and dynamic cut-off unit and visual function display
- ...-FS version with potential-free changeover contact for remote signalling

Application: Sub/storey distribution as well as device protection in rotational current systems.

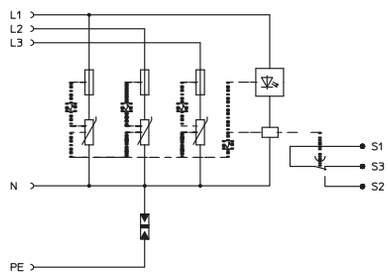
Dimensions



V10 COMPACT-FS

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	60 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 1,1 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		63 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		2.5
Protection rating		IP20
Connection cross-section rigid		2.5 - 10 mm²
Connection cross-section, multi-wire		2.5 - 10 mm²
Connection cross-section, flexible		2.5 - 10 mm²

Connection options



Always indicate the item number when ordering.

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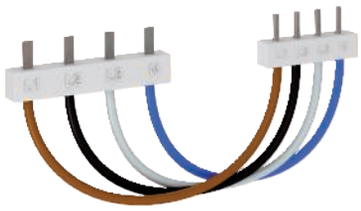
Connecting bridge for V10 Compact 200 mm

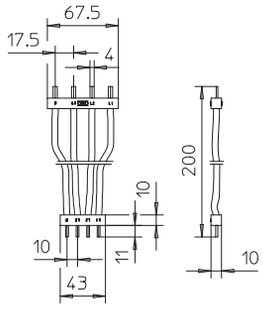


Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VB-V10 COMPACT-2	200 mm	1	5.300	**5089650**

VB-V10 Compact: To bridge V10 Compact e.g. to FI protection switches in a 17.5 mm grid.

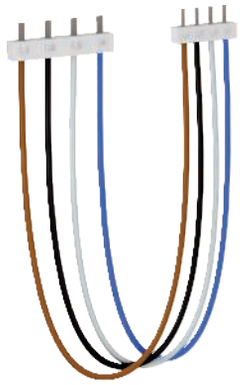
- 4-pole version (L1; L2; L3; N)
- Conductor: H07V-K 4 mm²
- V10 Compact connection via pin contact (diameter: 2.7 mm)
- FI protection switch connection via flat contact (4 x 1.5 mm)

Dimensions



Connection options

Connecting bridge for V10 Compact 400 mm

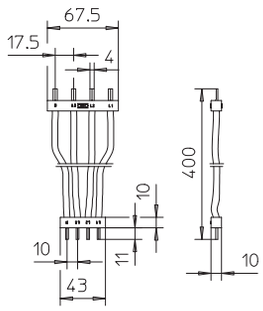


Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VB-V10 COMPACT-4	400 mm	1	8.900	**5089652**

VB-V10 Compact: To bridge V10 Compact e.g. to FI protection switches in a 17.5 mm grid.

- 4-pole version (L1; L2; L3; N)
- Conductor: H07V-K 4 mm²
- V10 Compact connection via pin contact (diameter: 2.7 mm)
- FI protection switch connection via flat contact (4 x 1.5 mm)

Dimensions



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Surge arrestor V10 3-pole + NPE 280 V

LPZ 1→3 | Type 2+3

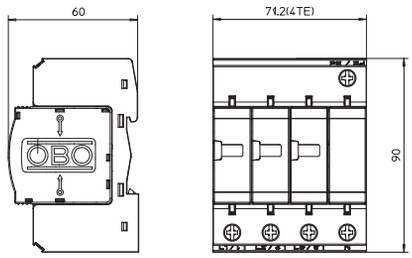
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10-C 3+NPE	280	3 + NPE	1	37.800	**5094920**

V 10-C/...: lightning and surge protection device type 2+3 (Class C+D) to VDE 0675 part 6-11 (DIN EN 61643-11) to overvoltage protection to DIN VDE 0100 part 443.

- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- Suitable for any TN and TT network systems
- Plug-in arrestor with dynamic separating device
- With visual function display
- Version FS with remote signalling, potential-free changeover contact, for function monitoring
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes

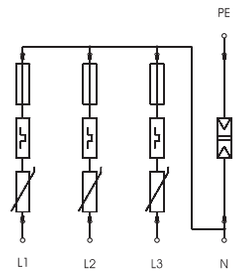
Dimensions



V10-C 3+NPE

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	40 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 1,1 kV
Response time	t_A	<25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Connection options



Always indicate the item number when ordering.

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Surge arrestor V10 3-pole + NPE with remote signalling 280 V

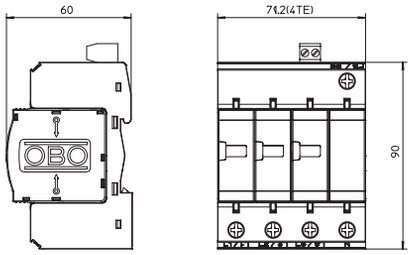
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10-C 3+NPE+FS	280	3 + NPE	1	37.900	**5094931**

V 10-C/...: lightning and surge protection device type 2+3 (Class C+D) to VDE 0675 part 6-11 (DIN EN 61643-11) to overvoltage protection to DIN VDE 0100 part 443.

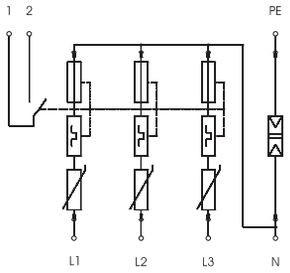
- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- Suitable for any TN and TT network systems
- Plug-in arrestor with dynamic separating device
- With visual function display
- Version FS with remote signalling, potential-free changeover contact, for function monitoring
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes

Dimensions



Connection options



V10-C 3+NPE+FS

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	40 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 1,1 kV
Response time	t_A	<25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Surge arrestor V10 1-pole + NPE 280 V

LPZ 1→3 | Type 2+3

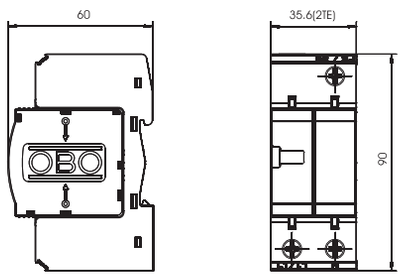
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10-C 1+NPE-280	280	1 + NPE	1	22.200	**5093418**

V 10-C/...: lightning and surge protection device type 2+3 (Class C+D) to VDE 0675 part 6-11 (DIN EN 61643-11) to overvoltage protection to DIN VDE 0100 part 443.

- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- Suitable for any TN and TT network systems
- Plug-in arrestor with dynamic separating device
- With visual function display
- Version FS with remote signalling, potential-free changeover contact, for function monitoring
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes

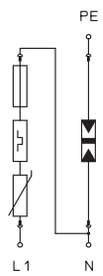
Dimensions



V10-C 1+NPE-280

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	40 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 1,1 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		2
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 35 mm²

Connection options



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Always indicate the item number when ordering.

Surge arrestor V10 3-pole + NPE 320 V

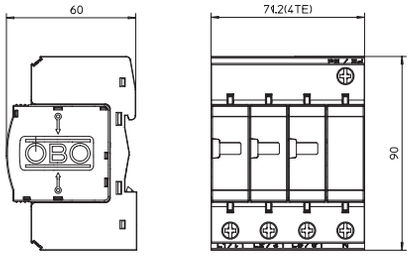
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10-C 3+NPE-320	320	3 + NPE	1	39.000	**5094924**

V 10-C/...: lightning and surge protection device type 2+3 (Class C+D) to VDE 0675 part 6-11 (DIN EN 61643-11) to overvoltage protection to DIN VDE 0100 part 443.

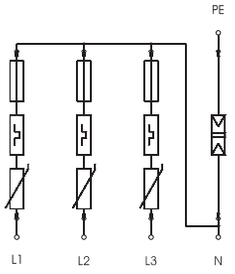
- With new MultiBase base part and Multi-connection clamps
- Complete unit consisting of upper part and base, pre-mounted and ready for connection
- Suitable for any TN and TT network systems
- Plug-in arrestor with dynamic separating device
- With visual function display
- Version FS with remote signalling, potential-free changeover contact, for function monitoring
- High current conductivity and long service life
- Marked connections

Application example: residential buildings, single-family homes

Dimensions



Connection options



V10-C 3+NPE-320

Nominal voltage	U_N	320 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	40 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 1,2 kV
Response time	t_A	<25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		4
Protection rating		IP20
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

Upper part, surge arrestor V10 280 V

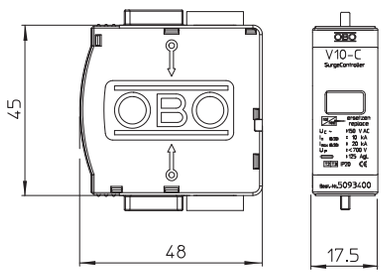
LPZ 1→3 Type 2+3

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10-C 0-150	150	1-pole	1	2.900	**5093400**

Upper part – V 10-C/...: Type 2+3 surge arrestor to EN 61643-11

- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device and visual fault display
- High current conductivity and long service life

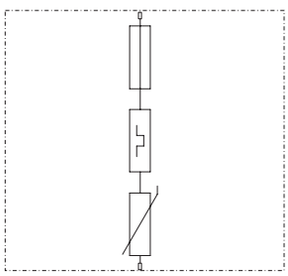
Dimensions



V10-C 0-150

Max. continuous operating voltage	U_C	150 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	10 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 0,7 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20

Connection options



Always indicate the item number when ordering.

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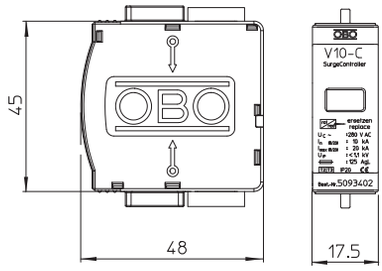
Upper part, surge arrestor V10 280 V

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10-C 0-280	280	1-pole	1	3.360	**5093402**

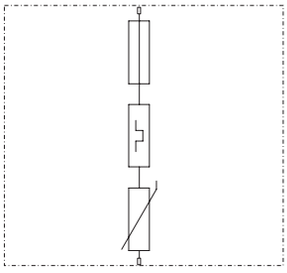
Upper part – V 10-C/...: Type 2+3 surge arrestor to EN 61643-11

- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device and visual fault display
- High current conductivity and long service life

Dimensions



Connection options



V10-C 0-280

Max. continuous operating voltage	U_C	280 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	10 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 1,1 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20

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Upper part, surge arrestor V10 320 V

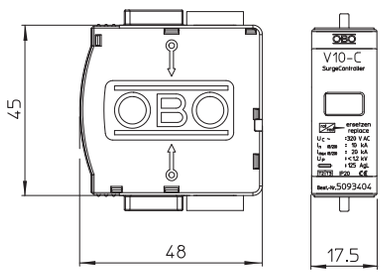
LPZ 1→3 Type 2+3

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10-C 0-320	320	1-pole	1	3.510	**5093404**

Upper part – V 10-C/...: Type 2+3 surge arrestor to EN 61643-11

- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device and visual fault display
- High current conductivity and long service life

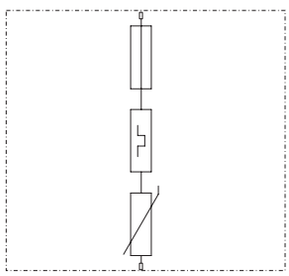
Dimensions



V10-C 0-320

Max. continuous operating voltage	U_C	320 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	10 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 1,2 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20

Connection options



Always indicate the item number when ordering.

02_TBS_Produkteinheitenkatalog_EX_2018 / en / 2018/11/23 15:05:20 15:05:20 (LLExport_02235) / 2018/11/23 15:07:49 15:07:49

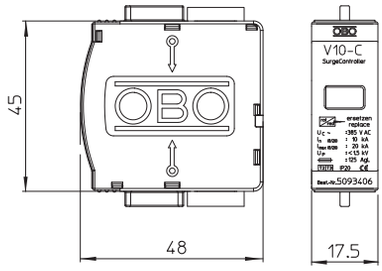
Upper part, surge arrestor V10 385 V

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V10-C 0-385	385	1-pole	30	3.630	**5093406**

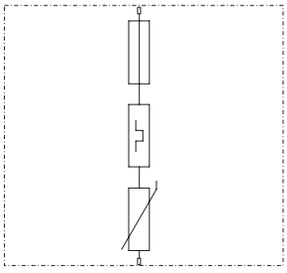
Upper part – V 10-C/...: Type 2+3 surge arrestor to EN 61643-11

- Plug-in upper part; upper part can be separated from base without tools
- Including thermal and dynamic separating device and visual fault display
- High current conductivity and long service life

Dimensions



Connection options



V10-C 0-385

Max. continuous operating voltage	U_C	385 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	10 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	< 1,5 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Division unit TE (17.5 mm)		1
Protection rating		IP20

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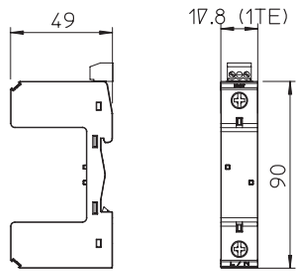
Base, MultiBase with remote signalling

Type	Version	Dividing unit TE (17.5 mm)	Pack. pcs	Weight kg/100 pcs.	Item No.
MB 1+FS	1-pole	1	1	6.700	**5096649**
MB 2+FS	2-pole	2	1	11.700	**5096654**
MB 3+FS	3-pole	3	1	16.500	**5096667**
MB 4+FS	4-pole	4	1	21.000	**5096682**

- Suitable for V 25-B+C, V 20-C and V10-C
- Pre-mounted and ready for connection
- Multifunction terminals for easy connection to series-mounted devices
- Upper parts can be rotated through 180 degrees
- With remote signalling, potential-free NO contact, for function monitoring

Dimensions



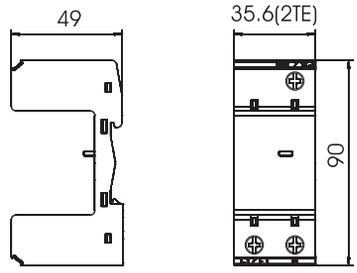
Connection options

MultiBase base + NPE

Type	Version	Dividing unit TE (17.5 mm)	Pack. pcs	Weight kg/100 pcs.	Item No.
MB 1+NPE	1 + NPE	2	1	11.500	**5096650**
MB 2+NPE	2 + NPE	3	1	16.100	**5096655**
MB 3+NPE	3 + NPE	4	1	20.000	**5096669**

- Suitable for V 25-B+C, V 20-C and V10-C
- Pre-mounted and ready for connection
- Multifunction terminals for easy connection to series-mounted devices
- Upper parts can be rotated through 180 degrees
- For TN-S and TT network systems

Dimensions



Connection options

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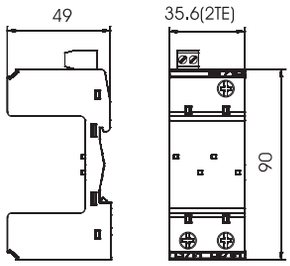
Base, MultiBase + NPE with remote signalling

Type	Version	Dividing unit TE (17.5 mm)	Pack. pcs	Weight kg/100 pcs.	Item No.
MB 1+NPE+FS	1 + NPE	2	1	11.600	**5096651**
MB 2+NPE+FS	2 + NPE	3	1	16.000	**5096657**
MB 3+NPE+FS	3 + NPE	4	1	21.000	**5096671**

- Suitable for V 25-B+C, V 20-C and V10-C
- Pre-mounted and ready for connection
- Multifunction terminals for easy connection to series-mounted devices
- Upper parts can be rotated through 180 degrees
- With remote signalling, potential-free NO contact, for function monitoring
- 3+1 protection circuit for TN-S and TT network systems

Dimensions



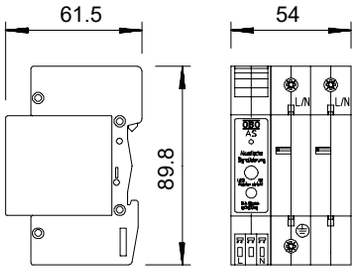
Connection options

Base, MultiBase with acoustic signalling

Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C U-2 AS	2-pole	1	23.000	**5096413**
V20-C U-3 AS	3-pole	1	29.000	**5096421**
V20-C U-4 AS	4-pole	1	35.000	**5096448**
V20-C U-3+NPE-AS	3 + NPE	1	32.500	**5096372**

- Suitable for V 25-B+C, V 20-C and V 10-C
- With remote signalling, potential-free changeover contact, for function monitoring
- With acoustic signalling for function monitoring, signal tone can be shut down for 24 h
- Pre-mounted and ready for connection

Dimensions



Connection options

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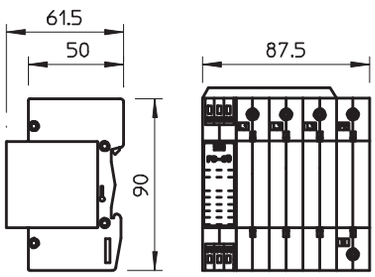
Base, MultiBase + NPE with fuse monitoring

Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C U-3+NPE	3-NPE with FS-SÜ	1	30.000	**5096370**

- Suitable for V 25-B+C, V 20-C and V 10-C
- With voltage monitoring of phases and function monitoring of arrestor upper part, remote signalling
- With remote signalling, potential-free changeover contact, for function monitoring
- For TN-S and TT network systems
- Pre-mounted and ready for connection

Dimensions



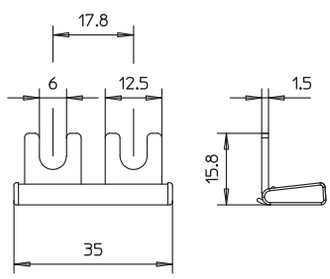
Connection options

Copper bridges with step width 17.6 mm

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
KB MB	10	0.900	**5089660**

The bridges KB... permit parallel connection of bases and poles of the MultiBase bases.
The bridges are available in various widths.

Dimensions



Connection options

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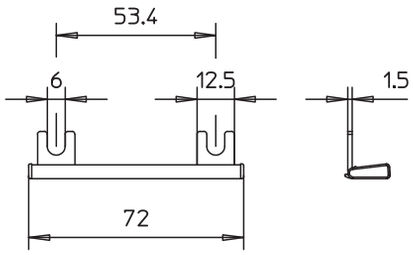
Always indicate the item number when ordering.

Copper bridges with step width 53.4 mm

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
KB MB	10	1.470	**5089662**

The bridges KB... permit parallel connection of bases and poles of the MultiBase bases.
The bridges are available in various widths.

Dimensions



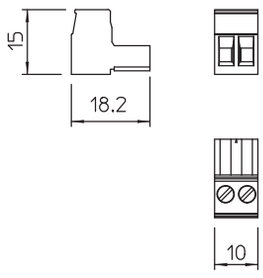
Connection options

Remote signalling replacement connector for MultiBase

Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
MB-FS	2-pole	25	0.310	**5096693**

Replacement telephony connector, 2-pole version, for MultiBase base

Dimensions



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Always indicate the item number when ordering.

Connection terminal for through-wiring

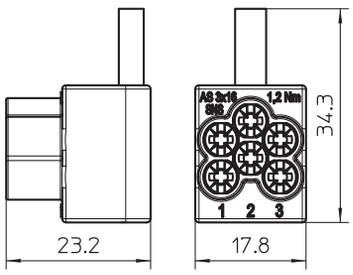
Type	Colour	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
AS 3x16	Light grey	3 x 16 mm²	5	2.474	**5012010**

Connection terminal type: AS 3 x 16

Connection cross-section: 3 x 1.5 - 16 sq mm rigid/ multiple strands
3 x 1.5 - 10 sq mm fine-wire/with wire end sleeve
Stripping length: 16 mm
Rec. tightening torque: 1.2 Nm
Nominal current: 50 A
Width: 17.5 mm (1 TE)

For EMC-optimised V through-wiring to IEC 60364-5-53 (VDE 0100-534).

Dimensions



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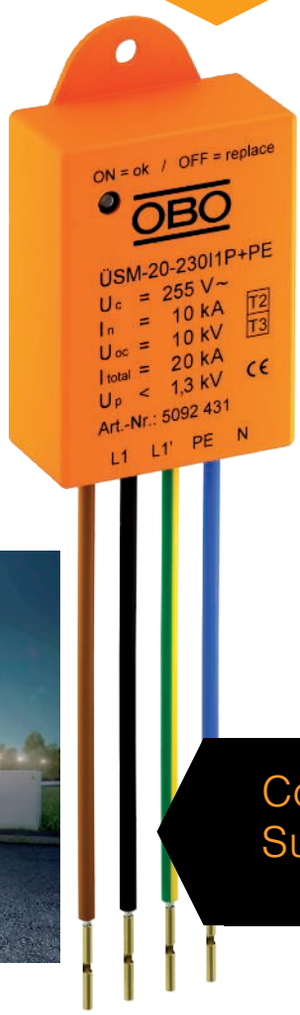
Always indicate the item number when ordering.

Surge protection energy technology, arrestor, type 2+3: The plus for LED street lighting

+ Surge arrestors with high arresting capacity
+ High arresting capacity of 10 kA to 20 kA
+ Visual status display
+ Labelled connections
+ Optional switch-off of the LED luminaires after surge protection fails



Compact Surge protection

Function and areas of use
The surge arrestor ÜSM-LED 230 meets the type 2+3 requirement class according to IEC 61643-11. This device protects lighting systems against any kind of surge voltages. The voltage-limiting, high-performance zinc oxide varistor provides several benefits. An extremely short response time, a low protection level and high current leakage capability with long service life. It can be used in the mast connection box or in LED luminaires.

Always indicate the item number when ordering.

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Surge protection for LED systems 230V

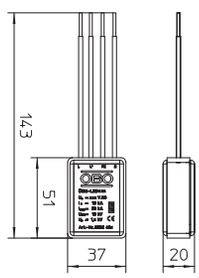
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-LED 230	255	1+NPE	1	3.500	**5092480**
ÜSM-LED 440	440	1+NPE	1	4.500	**5092482**

Surge protection module type 2+3 to DIN EN 61643-11 for 230/400 V power grids.
Appropriate for the protection of LED lighting.

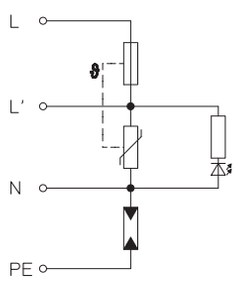
- With visual function display
- Small size for the installation in the pole or in the LED lamp head
- 1+NPE protective circuit with a maximum discharge capacity of 20 kA
- Surge limitation under 1,300 V or 1,000 V @ 5 kA
- Available with or without cut-off function of the lamp in case of malfunction

Application: Universally deployable in all lighting systems

Dimensions



Connection options



ÜSM-LED 230

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		16 A
Temperature range	ϑ	-15 - +60 °C
Protection rating		IP20
Connecting cable length		0.09 m

ÜSM-LED 440

Nominal voltage	U_N	440 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	1,8 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		16 A
Temperature range	ϑ	-15 - +60 °C
Protection rating		IP20
Connecting cable length		0.09 m

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Always indicate the item number when ordering.

Surge protection for LED systems 230 V 65

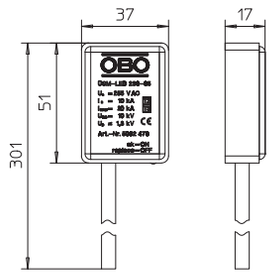
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-LED 230-65	255	1+NPE	25	7.500	**5092478**

Surge protection module type 2+3 to DIN EN 61643-11 for 230/400 V power grids.
Appropriate for the protection of LED lighting and the LED driver.

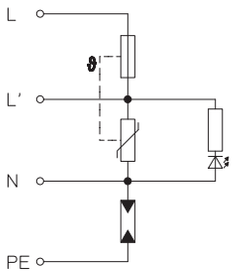
- With visual function display
- Small size for the installation in the mast connection box
- IP65 and with 25 cm connection cable
- 1+NPE protective circuit with a maximum discharge capacity of 20 kA
- Surge limitation under 1,300 V or 1,000 V @ 5 kA
- Available with or without cut-off function of the lamp in case of malfunction

Application: Universally deployable in all lighting systems

Dimensions



Connection options



ÜSM-LED 230-65

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		16 A
Temperature range	ϑ	-15 - +60 °C
Protection rating		IP65
Connecting cable length		0.25 m

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Always indicate the item number when ordering.

Surge protection for LED systems ÜSM-20-230I1P+PE

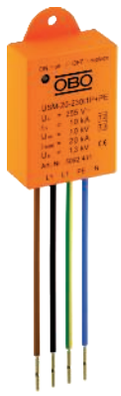
LPZ 1→3 | Type 2+3

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-20-230I1P+PE	255	1-pole + NPE for PC I	1	4.100	**5092431**

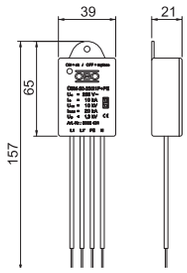
Surge protection module type 2+3 to DIN EN 61643-11 for 230/400 V power grids.
Appropriate for the protection of LED lighting.

- With function display and switch-off of the load circuit when a SPD fails
- Small size for the installation in the pole connection box or upstream of the LED driver
- 1+NPE protective circuit with a maximum discharge capacity of 20 kA
- Reduction of overvoltage to under 1,300 V or 1,000 V @ 5 kA
- With or without luminaire switch-off in case of defect

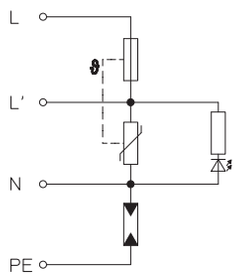
Application: In the cable transition box, junction boxes, cable duct to underfloor systems



Dimensions



Connection options



ÜSM-20-230I1P+PE

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		16 A
Temperature range	ϑ	-15 - +60 °C
Protection rating		IP20
Connecting cable length		0.09 m

Always indicate the item number when ordering.

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Surge protection for LED systems ÜSM-20-230I1PE65

LPZ 1→3 | Type 2+3

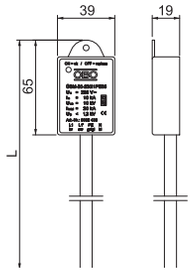
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-20-230I1PE65	255	1-pole + NPE for PC I	1	8.300	**5092433**

Surge protection module type 2+3 to DIN EN 61643-11 for 230/400 V power grids.
Appropriate for the protection of LED lighting.

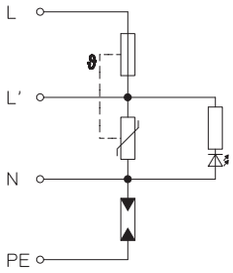
- With function display and switch-off of the load circuit when a SPD fails
- Small size for the installation in the pole connection box or upstream of the LED driver
- 1+NPE protective circuit with a maximum discharge capacity of 20 kA
- Reduction of overvoltage to under 1,300 V or 1,000 V @ 5 kA
- With or without luminaire switch-off in case of defect

Application: In the cable transition box, junction boxes, cable duct to underfloor systems

Dimensions



Connection options



ÜSM-20-230I1PE65

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	1,5 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		16 A
Temperature range	ϑ	-15 - +60 °C
Protection rating		IP65
Connecting cable length		0.25 m

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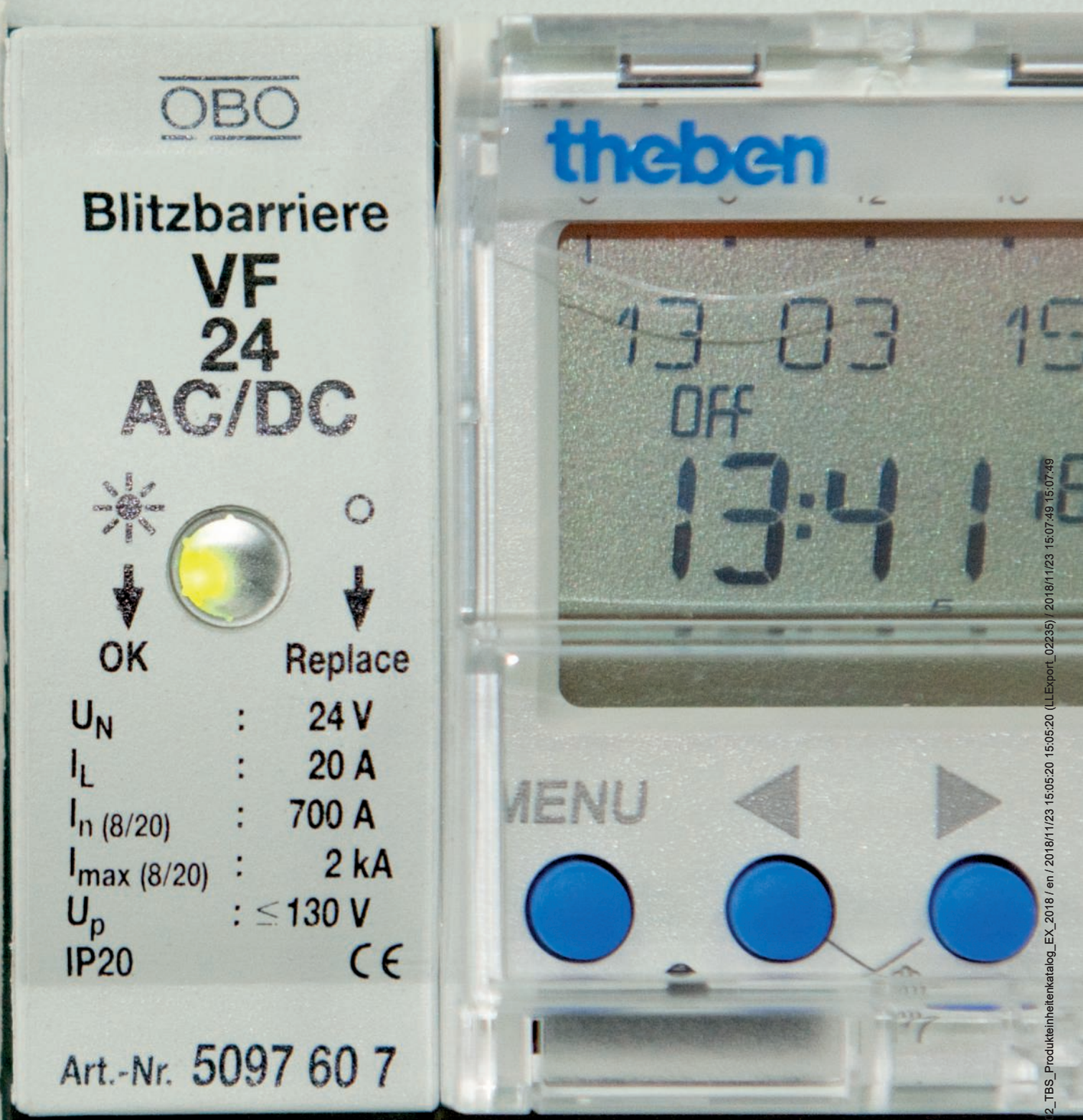
Always indicate the item number when ordering.



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Surge protection
Energy technology, type 3 arrester

Fine power protection, connectable 240

Fine power protection, fixed installation 247

Fine power protection, series installation 259

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Type 3, fine power protection FC, connectable

SchuKo

Volts	Item no.	Page
230	5092800	240

SchuKo + TV

Volts	Item no.	Page
230	5092808	241

SchuKo + SAT

Volts	Item no.	Page
230	5092816	242

SchuKo + TAE

Volts	Item no.	Page
230	5092824	243

SchuKo + ISDN

Volts	Item no.	Page
230	5092812	244

SchuKo + RJ

Volts	Item no.	Page
230	5092828	245

Socket bar

Volts	Item no.	Page
230	5092701	246

Type 3, fine power protection ÜSM, fixed installation

Direct connection

Volts	Item no.	Page
150	5092451	247
230	5092466	247

V connection

Volts	Item no.	Page
230	5092460	248

For GB2 and GB3 mounting boxes

Volts	Item no.	Page
230	5092472	249

SchuKo

Volts	Item no.	Page
230	5092441	250

Type 3, fine power protection ÜSS, Modul 45

Visual signalling

Volts	Item no.	Page
230	6117473	251

Acoustic signalling

Volts	Item no.	Page
230	6117465	252

Always indicate the item number when ordering.

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Type 3, fine power protection VF, series installation

2-pole

Volts	Item no.	Page
12	5097453	259
24	5097607	260
48	5097615	261
60	5097623	262
110	5097631	263
230	5097650	264

Type 3, fine power protection VF, series installation with remote signalling

2-pole + FS

Volts	Item no.	Page
24	5097820	265
230	5097858	266

Type 3, fine power protection VF, series installation with leakage current-free signalling

2-pole + FS leakage current-free

Volts	Item no.	Page
230	5097939	267

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Always indicate the item number when ordering.

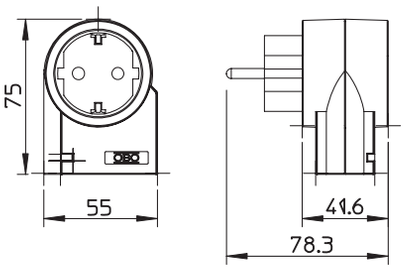
FineController FC-D for protective contact socket

Type	Country version	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
FC-D	EN	Pure white	1	11.000	**5092800**

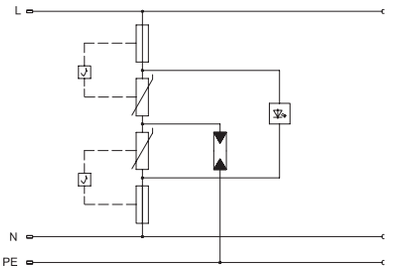
Type 3 surge protection device to EN 61643-11, intended for use in protective contact sockets.

- Adapter
- Disconnection device and function display
- Child lock through increased finger touch protection

Dimensions



Connection options



FC-D

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	275 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	3 kA
Protection level (L-N)		< 1,2 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	<25 ns

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Always indicate the item number when ordering.

FineController FC-TV for video, TV and hi-fi systems

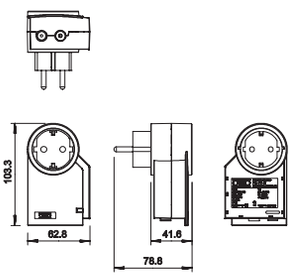
Type	Country version	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
FC-TV-D	EN	Pure white	1	17.000	**5092808**

Type 3 combined surge protection to EN 61643-11, designed for use on SchuKo sockets and video, TV and hi-fi systems with IEC adapter.

- Adapter
- Disconnection device and function display
- Child lock through increased finger contact protection
- Incl. 0.5 m connection cable in white (double screen)
- Maximum continuous voltage, TV connection 72 V DC / 1.5 A (25 °C)
- Limit frequency: 2.5 GHz (75 Ohm system)

Note: The technical data in the table below refer to the power supply.

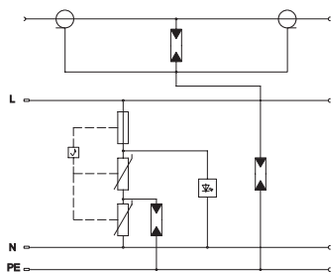
Dimensions



FC-TV-D

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	275 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	3 kA
Protection level (L-N)		< 1,2 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	<25 ns

Connection options



Always indicate the item number when ordering.

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FineController FC-SAT for SAT systems and receivers

Type 3 | LPZ 2→3 | SAT

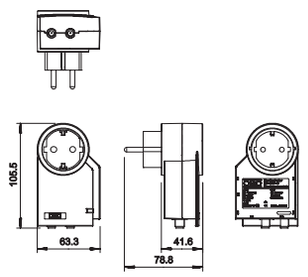
Type	Country version	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
FC-SAT-D	EN	Pure white	1	16.000	**5092816**

Type 3 combined surge protection to EN 61643-11, designed for use on satellite systems and receivers.

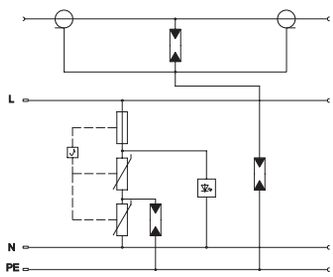
- Adapter
- Disconnection device and function display
- Child lock through increased finger contact protection
- Incl. 0.5 m connection cable in white (double screen)
- Maximum continuous voltage, TV connection 72 V DC / 1.5 A (25 °C)
- Limit frequency: 2.5 GHz (75 Ohm system)

Note: The technical data in the table below refer to the power supply.

Dimensions



Connection options



FC-SAT-D

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	275 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	3 kA
Protection level (L-N)		< 1,2 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	<25 ns

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Always indicate the item number when ordering.

FineController FC-TAE for telephone systems and terminals

Type 3 | LPZ 2→3 | Analog TK

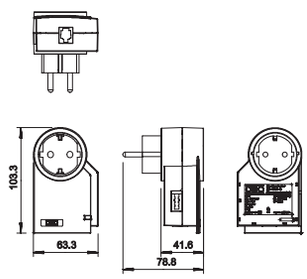
Type	Country version	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
FC-TAE-D	EN	Pure white	1	18.000	**5092824**

Type 3 combined surge protection to EN 61643-11, designed for use in telephone systems with TAE connection (telephones upstream of the NTBA/DSL splitter).

- Adapter connector
- Cut-off unit and function display
- Child lock through increased finger contact protection
- Incl. 0.5 m connection cable TAE / RJ11
- Maximum continuous voltage, TAE connection 200 V DC / 1.5 A (25 °C)
- Limit frequency: type 4 MHz / VDSL up to 46 MBit/s

Note: The technical data in the table below refers to the power supply.

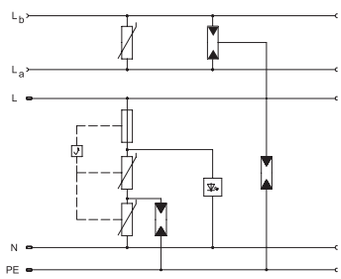
Dimensions



FC-TAE-D

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	275 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	3 kA
Protection level (L-N)		< 1,2 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	<25 ns

Connection options



Always indicate the item number when ordering.

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FineController FC-ISDN for ISDN telephone systems and terminals

Type 3 | LPZ 2→3 | ISDN | DSL

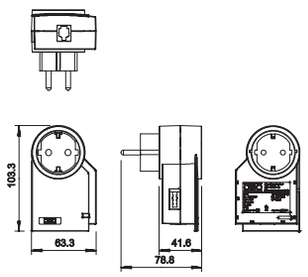
Type	Country version	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
FC-ISDN-D	EN	Pure white	1	18.000	**5092812**

Type 3 combined surge protection to EN 61643-11
designed for use in ISDN / DSS 1 telephone systems and terminals.

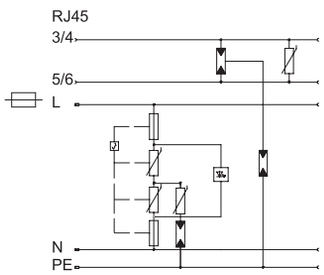
- Adapter
- Disconnection device and function display
- Child lock through increased finger contact protection
- Incl. 0.5 m connection cable RJ12
- Maximum continuous voltage, ISDN connection 6 V DC / 1.5 A (25 °C)
- Limit frequency: Type 300 kHz

Note: The technical data in the table below refer to the power supply.

Dimensions



Connection options



FC-ISDN-D

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	275 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	3 kA
Protection level (L-N)		< 1,2 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	<25 ns

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Always indicate the item number when ordering.

FineController FC-RJ-D for telephone systems with RJ12

Type 3 | LPZ 2→3 | Analog TK | ISDN | DSL

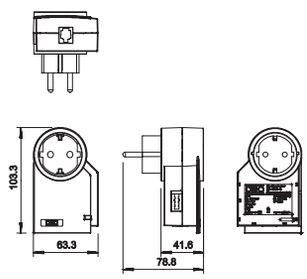
Type	Country version	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
FC-RJ-D	EN	Pure white	1	18.000	**5092828**

Type 3 combined surge protection to EN 61643-11
designed for use in telephone systems and terminals with RJ12 connection.

- Adapter
- Disconnection device and function display
- Child lock through increased finger contact protection
- Incl. 0.5 m connection cable RJ12
- Maximum continuous voltage, RJ connection 200 V DC / 1.5 A (25 °C)
- Limit frequency: Typ. 4 MHz / DSL-compatible

Note: The technical data in the table below refer to the power supply.

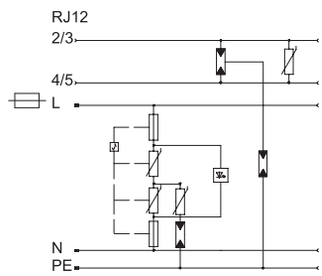
Dimensions



FC-RJ-D

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	275 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	3 kA
Protection level (L-N)		< 1,2 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	<25 ns

Connection options



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Always indicate the item number when ordering.

surge protection device CNS 3 D

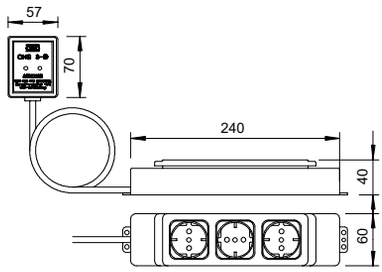
Type	Country version	Colour	Connection cable length m	Pack. pcs	Weight kg/100 pcs.	Item No.
CNS 3-D-D	EN	Black	2	1	65.000	**5092701**

CNS 3-D: Type 3 surge protection device to DIN EN 61643-11, intended for use in protective contact sockets.

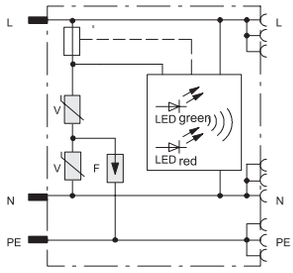
- With visual and audible signalling, function display
- 3-way socket
- Length of connection cable: 2 m
- Y circuit for high electrical safety

Application: For example, the protection of PCs, printers, copiers, fax machines, etc.

Dimensions



Connection options



CNS 3-D-D

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	255 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	2.5 kA
Protection level (L-N)		< 1,0 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	<25 ns

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Always indicate the item number when ordering.

Surge protection module 230 V

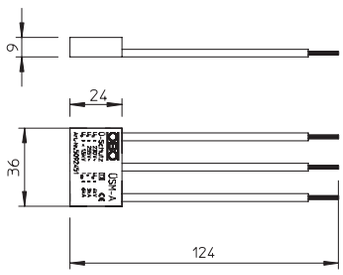
Type	Signalling on device	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-A	Audible	Acoustic function display	1	1.500	**5092451**
ÜSM-A-150	Audible	Acoustic function display	1	1.500	**5092466**

Surge protection module type 3 to DIN EN 61643-11 for 230 V power grids.

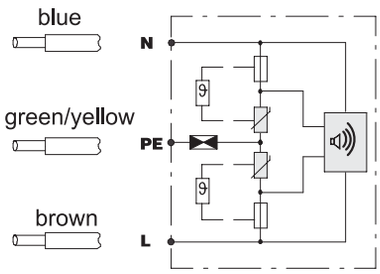
- With acoustic defect signal
- With low construction height
- Halogen-free plastic (UL 94 V-0)
- Y circuit

Application: Universally applicable for all installation systems.

Dimensions



Connection options



ÜSM-A		
Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	255 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	3 kA
Protection level (L-N)		< 1,3 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	< 25 ns
Temperature range	ϑ	-15 - +60 °C
Maximum discharge current (8/20 µs)	I_{max}	6 kA
Rated current	I_I	16 A

ÜSM-A-150		
Nominal voltage	U_N	150 V
Max. continuous operating voltage	U_C	170 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	3 kA
Protection level (L-N)		< 1,3 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	< 25 ns
Temperature range	ϑ	-15 - +60 °C
Maximum discharge current (8/20 µs)	I_{max}	6 kA
Rated current	I_I	16 A

Always indicate the item number when ordering.

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surge protection device 230 V for through wiring

Type 3 | LPZ 2→3 | AS

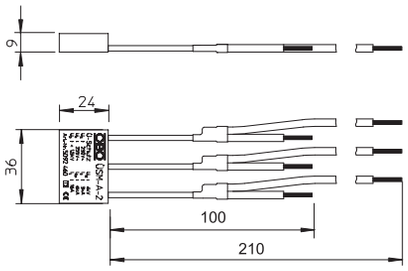
Type	Signalling on device	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-A-2	Audible	V connection	1	2.200	**5092460**

Surge protection device type 3 to DIN EN 61643-11 for 230 V networks.

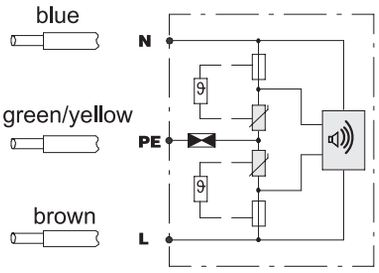
- With acoustic defect signal
- With 2 strands for continuous wiring
- With low construction height
- Halogen-free plastic (UL 94 V-0)
- Y circuit

Application: Universally applicable for all installation systems.

Dimensions



Connection options



ÜSM-A-2

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	255 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	3 kA
Protection level (L-N)		< 1,3 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	< 25 ns
Temperature range	ϑ	-15 - +60 °C
Maximum discharge current (8/20 µs)	I_{max}	6 kA
Rated current	I_L	16 A

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Always indicate the item number when ordering.

Surge protection module 230 V with holder for GB2 and GB3 mounting boxes

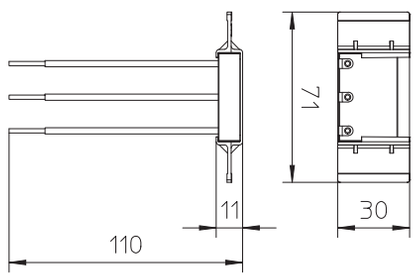
Type	Signalling on device	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-A-4	Audible	Incl. holder with partition function	1	2.000	**5092472**

Surge protection module type 3 to DIN EN 61643-11 for 230 V power grids.

- With acoustic defect signal
- With low construction height and Y circuit
- ÜSM with halogen-free plastic (UL 94 V-0)
- Holder with separating retainer function for GB2 / GB3 mounting boxes and universal supports UT3 and UT4

Application: Universally applicable for all installation systems.

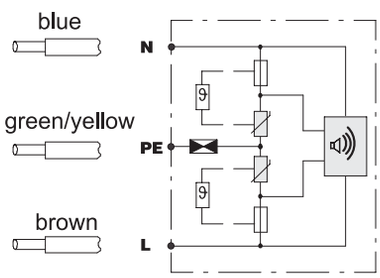
Dimensions



ÜSM-A-4

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	255 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	3 kA
Maximum discharge current (8/20 µs)	I_{max}	6 kA
Protection level (L-N)		< 1,3 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	< 25 ns
Temperature range	ϑ	-15 - +60 °C

Connection options



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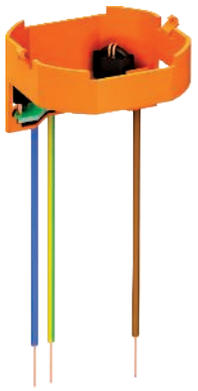
Always indicate the item number when ordering.

Fine power protection 230 V protective contact sockets



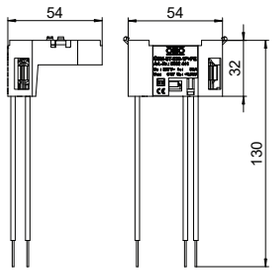
Type	Signalling on device	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-ST-230-1P+PE	Audible	Acoustic function display	1	1.770	**5092441**

Surge protection / fine power protection, type 3, to EN 61643-11 for protective contact sockets.

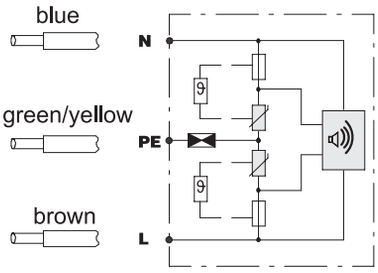
- Thermal cut-off unit with acoustic defect signalling
- Y protection circuit for increased safety
- Mounting through snapping onto the support ring of the socket
- Halogen-free plastic (UL 94 V-0)
- Labelling of the socket with supplied sign

Application: For retrofitting on standard Schuko sockets.

Dimensions



Connection options



ÜSM-ST-230-1P+PE

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	255 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	3 kA
Maximum discharge current (8/20 µs)	I_{max}	5 kA
Protection level (L-N)		< 1,5 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	25 ns
Temperature range	ϑ	-5 - +40 °C

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Always indicate the item number when ordering.

Fine power protection for Modul 45 with acoustic function display

Type 3 | LPZ 2→3

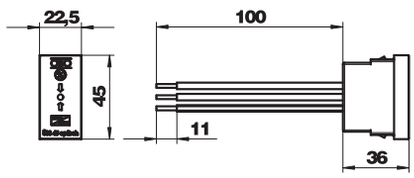
Type	Signalling on device	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSS 45-O-RW	Visual	Visual function display	1	2.411	**6117473**

Surge protection / network fine protection, type 3, according to EN 61643-11 for installation in Rapid 45 trunking, device installation trunking and underfloor systems.

- Version-O with acoustic function display
- Quick and easy mounting
- Low construction width of 22.5 mm

Application: The surge protection device secures downstream and nearby sockets.

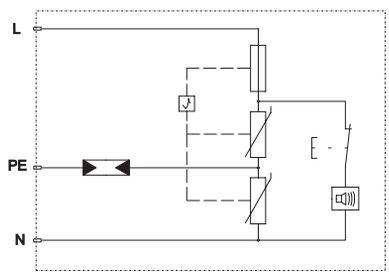
Dimensions



ÜSS 45-O-RW

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	255 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	2.5 kA
Protection level (L-N)		< 1,5 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	25 ns
Temperature range	ϑ	-25 - +45 °C

Connection options



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Always indicate the item number when ordering.

Fine power protection for Modul 45 with acoustic function display

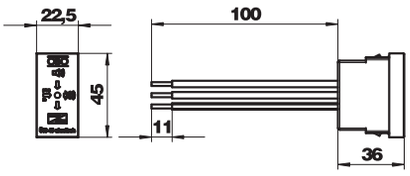
Type	Signalling on device	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSS 45-A-RW	Audible	Acoustic function display	1	2.800	**6117465**

Surge protection / network fine protection, type 3, according to EN 61643-11 for installation in Rapid 45 trunking, device installation trunking and underfloor systems.

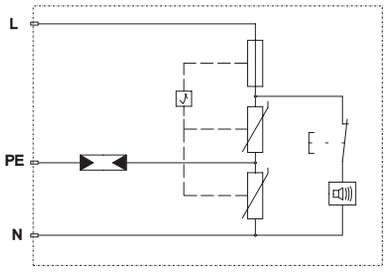
- Version-A with acoustic function display (switchable signal tone)
- Quick and easy mounting
- Low construction width of 22.5 mm

Application: The surge protection device secures downstream and nearby sockets.

Dimensions



Connection options



ÜSS 45-A-RW

Nominal voltage	U_N	230 V
Max. continuous operating voltage	U_C	255 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	2.5 kA
Protection level (L-N)		< 1,5 kV
Protection level (N-PE)		< 1,5 kV
Maximum back-up fuse		16 A
Response time	t_A	25 ns
Temperature range	ϑ	-25 - +45 °C

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Always indicate the item number when ordering.

Surge protection module ÜSM-10-230I2P+PE

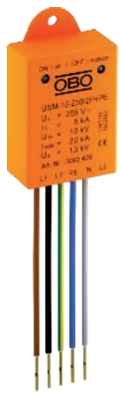
LPZ 1→3 Type 2+3

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-10-230I2P+PE	255	2-pole + NPE for PC I	1	4.400	**5092426**

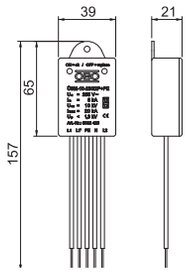
Surge protection module type 2+3 to DIN EN 61643-11 for 230/400 V power grids.
Appropriate for the protection of electronic devices and LED drivers.

- For luminaires with 2 phases (power reduction)
- With function display and switch-off of the load circuit when a SPD fails
- Small size for the installation in the pole connection box or upstream of the LED driver
- Protective circuit with a maximum arresting capacity of 10 kA
- Reduction of overvoltage to under 1,300 V (protection level)
- For LED luminaires with PE connection

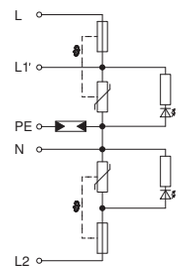
Application: In the cable transition box, junction boxes, cable duct to underfloor systems



Dimensions



Connection options



ÜSM-10-230I2P+PE

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	5 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	10 kA
Maximum discharge current (8/20 µs)	I_{max}	10 kA
Voltage protection level	U_p	1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		16 A
Temperature range	ϑ	-15 - +60 °C
Protection rating		IP20
Connecting cable length		0.09 m

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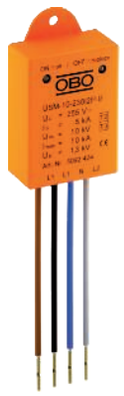
Always indicate the item number when ordering.

Surge protection module ÜSM-10-230I2P-0



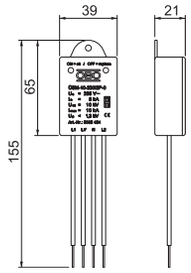
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-10-230I2P-0	255	2-pole without NPE for PC II	1	4.100	**5092424**

Surge protection module type 2+3 to DIN EN 61643-11 for 230/400 V power grids.
Appropriate for the protection of electronic devices and LED drivers.

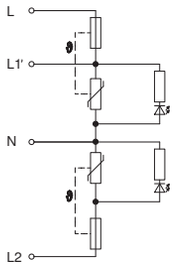
- For luminaires with 2 phases (power reduction)
- With function display and switch-off of the load circuit when a SPD fails
- Small size for the installation in the pole connection box or upstream of the LED driver
- Protective circuit with a maximum arresting capacity of 10 kA
- Reduction of overvoltage to under 1,300 V (protection level)
- For protection insulated luminaires (PC II) without PE connection

Application: In the cable transition box, junction boxes, cable duct to underfloor systems

Dimensions



Connection options



ÜSM-10-230I2P-0

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	5 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	— kA
Maximum discharge current (8/20 µs)	I_{max}	10 kA
Voltage protection level	U_p	1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		16 A
Temperature range	ϑ	-15 - +60 °C
Protection rating		IP20
Connecting cable length		0.09 m

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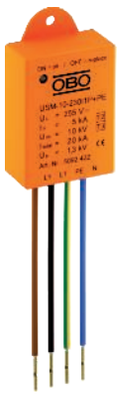
Surge protection module ÜSM-10-230I1P+PE

LPZ 1→3 | Type 2+3

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-10-230I1P+PE	255	1-pole + NPE for PC I	1	3.500	**5092422**

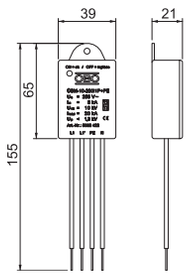


Surge protection module type 2+3 to DIN EN 61643-11 for 230/400 V power grids.
Appropriate for the protection of electronic devices and LED drivers.

- With function display and switch-off of the load circuit when a SPD fails
- Small size for the installation in the pole connection box or upstream of the LED driver
- Use in the LED luminaire head upstream of the electronic LED driver
- Protective circuit with a maximum arresting capacity of 10 kA
- Reduction of overvoltage to under 1,300 V (protection level)
- For LED luminaires with PE connection

Application: In the cable transition box, junction boxes, cable duct to underfloor systems

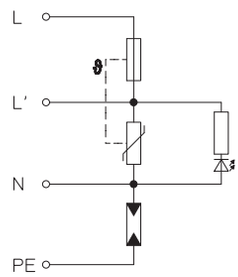
Dimensions



ÜSM-10-230I1P+PE

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	5 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	10 kA
Maximum discharge current (8/20 µs)	I_{max}	10 kA
Voltage protection level	U_p	1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		16 A
Temperature range	ϑ	-15 - +60 °C
Protection rating		IP20
Connecting cable length		0.09 m

Connection options



Always indicate the item number when ordering.

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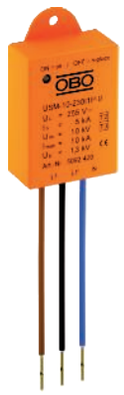
Surge protection module ÜSM-10-230I1P-0



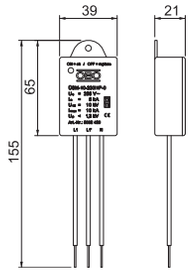
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-10-230I1P-0	255	1-pole without NPE for PC II	1	3.200	**5092420**

Surge protection module type 2+3 to DIN EN 61643-11 for 230/400 V power grids.
Appropriate for the protection of electronic devices and LED drivers.

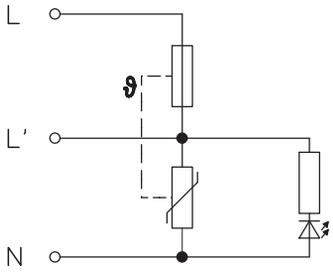
- With function display and switch-off of the load circuit when a SPD fails
- Small size for the installation in the pole connection box or upstream of the LED driver
- Protective circuit with a maximum arresting capacity of 10 kA
- Reduction of overvoltage to under 1,300 V (protection level)
- For protection insulated luminaires (PC II) without PE connection

Application: In the cable transition box, junction boxes, cable duct to underfloor systems

Dimensions



Connection options



ÜSM-10-230I1P-0

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	5 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	— kA
Maximum discharge current (8/20 µs)	I_{max}	10 kA
Voltage protection level	U_p	1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		16 A
Temperature range	ϑ	-15 - +60 °C
Protection rating		IP20
Connecting cable length		0.09 m

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Surge protection for LED systems ÜSM-20-230I1P+PE

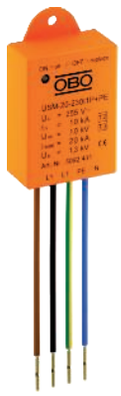
LPZ 1→3 | Type 2+3

Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-20-230I1P+PE	255	1-pole + NPE for PC I	1	4.100	**5092431**

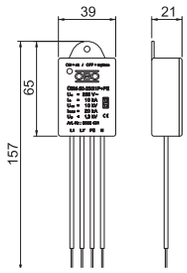
Surge protection module type 2+3 to DIN EN 61643-11 for 230/400 V power grids.
Appropriate for the protection of LED lighting.

- With function display and switch-off of the load circuit when a SPD fails
- Small size for the installation in the pole connection box or upstream of the LED driver
- 1+NPE protective circuit with a maximum discharge capacity of 20 kA
- Reduction of overvoltage to under 1,300 V or 1,000 V @ 5 kA
- With or without luminaire switch-off in case of defect

Application: In the cable transition box, junction boxes, cable duct to underfloor systems



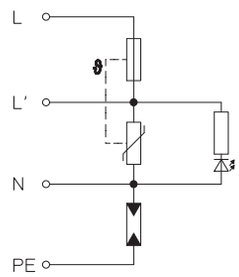
Dimensions



ÜSM-20-230I1P+PE

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		16 A
Temperature range	ϑ	-15 - +60 °C
Protection rating		IP20
Connecting cable length		0.09 m

Connection options



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Always indicate the item number when ordering.

Surge protection for LED systems ÜSM-20-230I1PE65

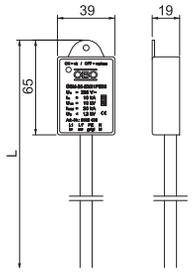
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
ÜSM-20-230I1PE65	255	1-pole + NPE for PC I	1	8.300	**5092433**

Surge protection module type 2+3 to DIN EN 61643-11 for 230/400 V power grids.
Appropriate for the protection of LED lighting.

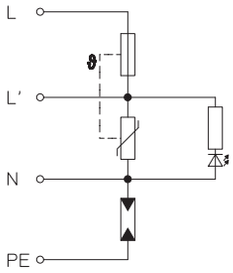
- With function display and switch-off of the load circuit when a SPD fails
- Small size for the installation in the pole connection box or upstream of the LED driver
- 1+NPE protective circuit with a maximum discharge capacity of 20 kA
- Reduction of overvoltage to under 1,300 V or 1,000 V @ 5 kA
- With or without luminaire switch-off in case of defect

Application: In the cable transition box, junction boxes, cable duct to underfloor systems

Dimensions



Connection options



ÜSM-20-230I1PE65

Nominal voltage	U_N	230 V
SPD to EN 61643-11		Type 2+3
SPD to IEC 61643-11		Class II+III
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	10 kA
Arrestor surge current (8/20) [total]	$I_{Total\ 8/20}$	20 kA
Maximum discharge current (8/20 µs)	I_{max}	20 kA
Voltage protection level	U_p	1,5 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		16 A
Temperature range	ϑ	-15 - +60 °C
Protection rating		IP65
Connecting cable length		0.25 m

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MCR protection for 2-pole power supply, 12 V

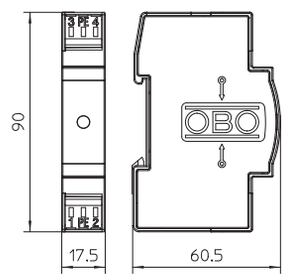
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF12-AC DC	13.5	1	9.000	**5097453**

Surge protection device / fine protection type 3 to EN 61643-11

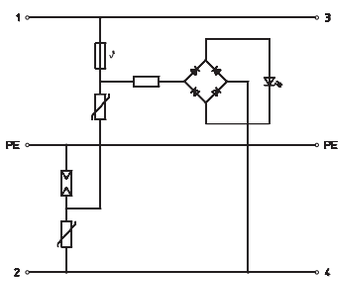
- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rail in every normal commercially available distributor housing.

Dimensions



Connection options



VF12-AC DC

U max AC	U_c AC	13.5 V
U max DC	U_c DC	18 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	0,7 kA
Maximum discharge current (8/20 µs)	I_{max}	2 kA
Rated current	I_L	20 A
Protection level wire-wire		<110 V
Protection level wire-earth		<1200 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²
Approvals		UL

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Always indicate the item number when ordering.

MCR protection for 2-pole for power supply, 24 V

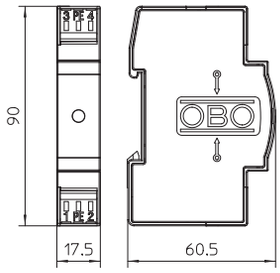
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF24-AC/DC	34	1	8.000	**5097607**

Surge protection device / fine protection type 3 to EN 61643-11

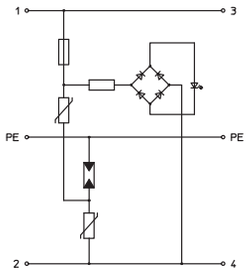
- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rail in every normal commercially available distributor housing.

Dimensions



Connection options



VF24-AC/DC

U max AC	U_c AC	34 V
U max DC	U_c DC	46 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	0,7 kA
Maximum discharge current (8/20 µs)	I_{max}	2 kA
Rated current	I_L	20 A
Protection level wire-wire		<130 V
Protection level wire-earth		<1200 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²
Approvals		UL

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Always indicate the item number when ordering.

MCR protection for 2-pole for power supply, 48 V

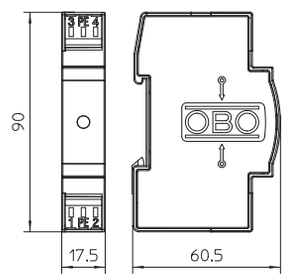
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF48-AC/DC	60	1	8.000	**5097615**

Surge protection device / fine protection type 3 to EN 61643-11

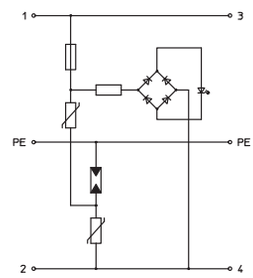
- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rail in every normal commercially available distributor housing.

Dimensions



Connection options



VF48-AC/DC

U max AC	U_c AC	60 V
U max DC	U_c DC	80 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	0,7 kA
Maximum discharge current (8/20 µs)	I_{max}	2 kA
Rated current	I_L	20 A
Protection level wire-wire		<220 V
Protection level wire-earth		<1200 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²
Approvals		UL

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Always indicate the item number when ordering.

MCR protection for 2-pole for power supply, 60 V

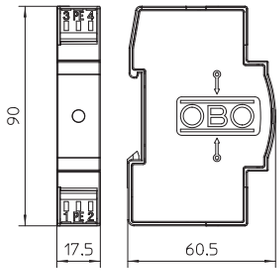
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF60-AC/DC	80	1	8.000	**5097623**

Surge protection device / fine protection type 3 to EN 61643-11

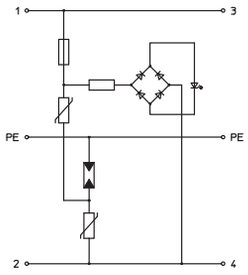
- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rail in every normal commercially available distributor housing.

Dimensions



Connection options



VF60-AC/DC

U max AC	U_c AC	80 V
U max DC	U_c DC	110 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	0,7 kA
Maximum discharge current (8/20 µs)	I_{max}	2 kA
Rated current	I_L	20 A
Protection level wire-wire		<280 V
Protection level wire-earth		<1200 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

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Always indicate the item number when ordering.

MCR protection for 2-pole for power supply, 110 V

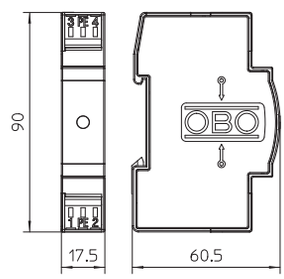
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF110-AC DC	150	1	8.000	**5097631**

Surge protection device / fine protection type 3 to EN 61643-11

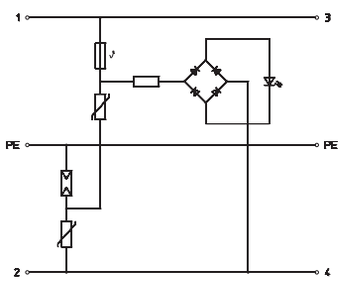
- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rail in every normal commercially available distributor housing.

Dimensions



Connection options



VF110-AC DC

U max AC	U_c AC	150 V
U max DC	U_c DC	200 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	2 kA
Maximum discharge current (8/20 µs)	I_{max}	6.5 kA
Rated current	I_L	20 A
Protection level wire-wire		<500 V
Protection level wire-earth		<1400 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

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Always indicate the item number when ordering.

MCR protection for 2-pole for power supply, 230 V

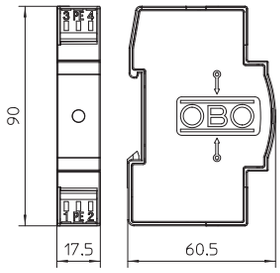
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF230-AC/DC	255	1	8.000	**5097650**

Surge protection device / fine protection type 3 to EN 61643-11

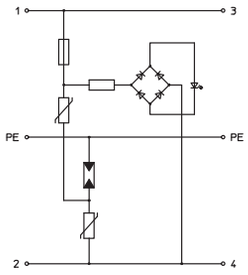
- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rail in every normal commercially available distributor housing.

Dimensions



Connection options



VF230-AC/DC

U max AC	U_c AC	255 V
U max DC	U_c DC	350 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	2.5 kA
Maximum discharge current (8/20 µs)	I_{max}	7 kA
Rated current	I_L	20 A
Protection level wire-wire		<1000 V
Protection level wire-earth		<1400 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

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Always indicate the item number when ordering.

MCR protection for 2-pole power supply with remote signalling, 24 V AC/DC

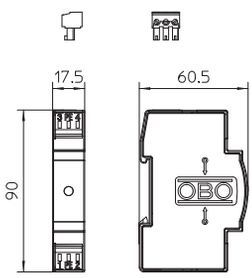
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF24-AC/DC-FS	34	1	6.620	**5097820**

Surge protection / fine power protection, type 3, to EN 61643-11 with remote signalling

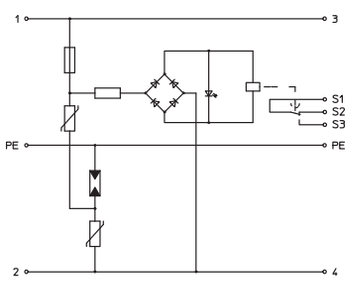
- With remote signalling, potential-free changeover contact, for function monitoring
- Suitable for DC and AC systems
- With visual function display
- With easy mounting, screwless connection terminals
- In space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rails in any standard distributor housing.

Dimensions



Connection options



VF24-AC/DC-FS

U max AC	U_c AC	34 V
U max DC	U_c DC	46 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	0,7 kA
Maximum discharge current (8/20 µs)	I_{max}	2 kA
Rated current	I_l	20 A
Protection level wire-wire		<160 V
Protection level wire-earth		<1200 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

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Always indicate the item number when ordering.

MCR protection for 2-pole power supply with remote signalling, 230 V AC

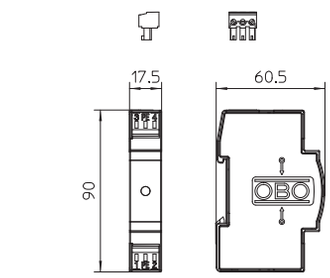
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF230-AC-FS	255	1	6.910	**5097858**

Surge protection / fine power protection, type 3, to EN 61643-11 with remote signalling

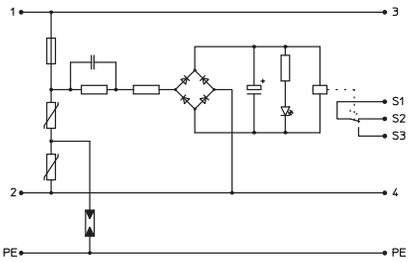
- With remote signalling, potential-free changeover contact, for function monitoring
- Suitable for AC systems
- With visual function display
- With easy mounting, screwless connection terminals
- In space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rails in any standard distributor housing.

Dimensions



Connection options



VF230-AC-FS

U max AC	U_c AC	255 V
U max DC	U_c DC	– V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	2,5 kA
Maximum discharge current (8/20 µs)	I_{max}	7 kA
Rated current	I_l	20 A
Protection level wire-wire		<1060 V
Protection level wire-earth		<1400 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

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Always indicate the item number when ordering.

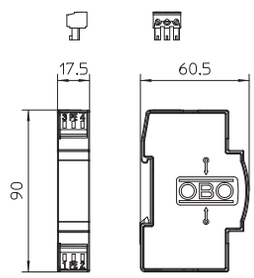
MCR protection for 2-pin for power supply with leak current-free remote signalling, 230 V AC/DC

Type	U max AC V	U max DC V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF2-230-AC/DC-FS	255	350	1	6.000	**5097939**

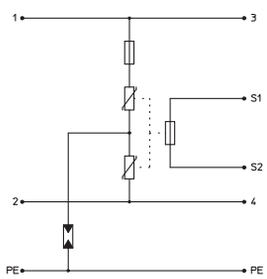
Type 3 surge protection/fine network protection to EN 61643-11 with leak current-free remote signalling
- With remote signalling: potential-free NC contact for function monitoring
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rails in any standard distributor housing.

Dimensions



Connection options



VF2-230-AC/DC-FS

U max AC	U_c AC	255 V
U max DC	U_c DC	350 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	2,5 kA
Maximum discharge current (8/20 µs)	I_{max}	7 kA
Rated current	I_L	20 A
Protection level wire-wire		< 1000 V
Protection level wire-earth		< 1400 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

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Photovoltaic systems

	Lightning current and surge arrestor, type 1+2, photovoltaic systems 1,500 V DC	272
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Type 1+2, combination arrestor, PV system

Y circuit

Volts	Item no.	Page
1,500	5094240	272
1,000	5094230	274
900	5097447	276
600	5093623	278

Type 1+2, combination arrestor with remote signalling, PV system

Y circuit + FS

Volts	Item no.	Page
1,500	5094242	273
1,000	5094232	275
900	5097448	277
600	5093625	279

Type 2, surge arrestor, PV system

Y circuit

Volts	Item no.	Page
1,500	5094210	280
1,000	5094608	282
600	5094605	284

Type 2, surge arrestor with remote signalling, PV system

Y circuit + FS

Volts	Item no.	Page
1,500	5094212	281
1,000	5094574	283
600	5094576	308

Always indicate the item number when ordering.

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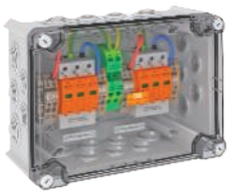
Type 1+2, PV system solution

WR with 1 MPP

Volts	Item no.	Page
900	5088591	286



WR with 2 MPPs

Volts	Item no.	Page
900	5088566	288

WR with 2 MPPs

Volts	Item no.	Page
900	5088576	292

WR with 3 MPPs

Volts	Item no.	Page
900	5088579	293

Type 2, PV system solution

WR with 1 MPP

Volts	Item no.	Page
1,000	5088593	287

WR with 2 MPPs

Volts	Item no.	Page
1,000	5088568	289

WR with 2 MPPs

Volts	Item no.	Page
1,000	5088582	290

WR with 3 MPPs

Volts	Item no.	Page
1,000	5088585	295

Type 2, PV system solution with fuse

Unequipped holder

Volts	Item no.	Page
900	5088640	298
1,000	5088654	297

PV system solution with circuit breaker

Type 1+2

Volts	Item no.	Page
900	5088635	299

Type 2

Volts	Item no.	Page
900	5088660	300

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PV complete block 1500V DC

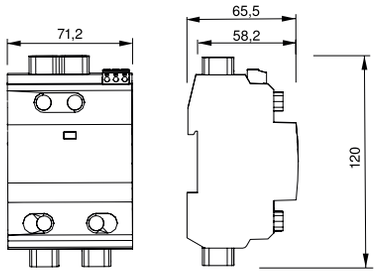
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V-PV-T1+2-1500	1500	Y configuration	1	49.200	**5094240**

Type 1+2 combination arrestor for lightning and surge protection of PV systems.

- Lightning protection equipotential bonding according to IEC 62305 (VDE 0185-305)
- Surge protection according to IEC 60364-7-712 (VDE 0100-712)
- Arresting capacity to 12.5 kA (10/350) and 40 kA (8/20)
- Error-resistant Y circuit with status display
- The FS variant possesses a potential-free changeover contact for remote signalling

Application: Lightning current and surge protection devices for PV systems.

Dimensions



Connection options

V-PV-T1+2-1500

U max DC	U_c DC	1500 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→3
Impulse discharge current (10/350)	I_{imp}	6.25 kA
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,5 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - 80 °C
Protection rating		IP20
Division unit TE (17.5 mm)		4
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 35 mm²

Always indicate the item number when ordering.

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PV complete block 1500V DC with remote signalling

LPZ 0→2 | Type 1+2

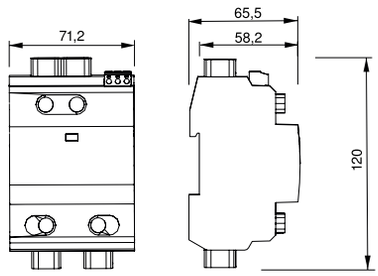
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V-PV-T1+2-1500FS	1500	Y configuration + RS	1	49.600	**5094242**

Type 1+2 combination arrestor for lightning and surge protection of PV systems.

- Lightning protection equipotential bonding according to IEC 62305 (VDE 0185-305)
- Surge protection according to IEC 60364-7-712 (VDE 0100-712)
- Arresting capacity to 12.5 kA (10/350) and 40 kA (8/20)
- Error-resistant Y circuit with status display
- The FS variant possesses a potential-free changeover contact for remote signalling

Application: Lightning current and surge protection devices for PV systems.

Dimensions



Connection options

V-PV-T1+2-1500FS

U max DC	U_c DC	1500 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→3
Impulse discharge current (10/350)	I_{imp}	6.25 kA
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,5 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - 80 °C
Protection rating		IP20
Division unit TE (17.5 mm)		4
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 35 mm²

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Always indicate the item number when ordering.

PV complete block 1000V DC

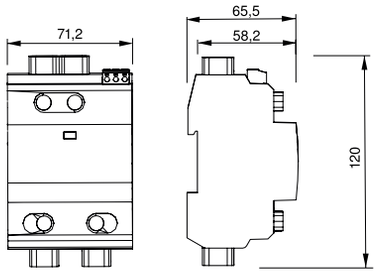
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V-PV-T1+2-1000	1000	Y configuration	1	40.700	**5094230**

Type 1+2 combination arrestor according to EN 50539-11 for lightning and surge protection of PV systems.

- Lightning protection equipotential bonding according to IEC 62305 (VDE 0185-305)
- Surge protection according to IEC 60364-7-712 (VDE 0100-712)
- Arresting capacity to 12.5 kA (10/350) and 40 kA (8/20)
- Error-resistant Y circuit with status display
- The FS variant possesses a potential-free changeover contact for remote signalling

Application: Lightning current and surge protection devices for PV systems.

Dimensions



Connection options

V-PV-T1+2-1000

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→3
Impulse discharge current (10/350)	I_{imp}	6.25 kA
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 3,3 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - 80 °C
Protection rating		IP20
Division unit TE (17.5 mm)		4
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 35 mm²

Always indicate the item number when ordering.

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PV complete block 1000V DC with remote signalling

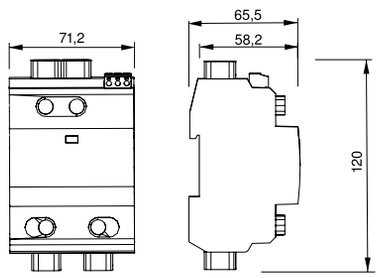
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V-PV-T1+2-1000FS	1000	Y configuration + RS	1	41.200	**5094232**

Type 1+2 combination arrestor according to EN 50539-11 for lightning and surge protection of PV systems.

- Lightning protection equipotential bonding according to IEC 62305 (VDE 0185-305)
- Surge protection according to IEC 60364-7-712 (VDE 0100-712)
- Arresting capacity to 12.5 kA (10/350) and 40 kA (8/20)
- Error-resistant Y circuit with status display
- The FS variant possesses a potential-free changeover contact for remote signalling

Application: Lightning current and surge protection devices for PV systems.

Dimensions



Connection options

V-PV-T1+2-1000FS

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→3
Impulse discharge current (10/350)	I_{imp}	6.25 kA
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 3,3 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - 80 °C
Protection rating		IP20
Division unit TE (17.5 mm)		4
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 35 mm²

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Always indicate the item number when ordering.

PV combination arrestor V25, 900 V DC

Type 1+2 | LPZ 0→2

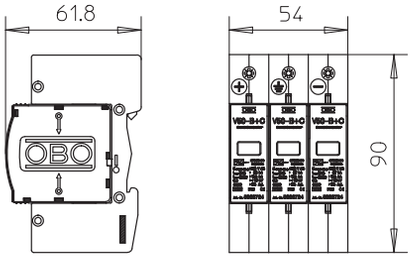
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V25-B+C 3-PH900	900	3-pole for PV systems	1	42.200	**5097447**

V25 combination arrestor, type 1+2, for photovoltaic systems

- Complete unit, consisting of plug-in varistor arrestor with cut-off unit
- Error-resistant Y circuit to VDE 0100-712 (EN 50539-12)
- Surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity up to 7 kA (10/350) and 50 kA (8/20) per pole
- Low DC protection level: < 3.0 kV and Voc max = 900 V DC
- With visual function display for use in distributor housings

Application: PV systems with lightning protection system

Dimensions



Connection options

V25-B+C 3-PH900

U max DC	U_c DC	900 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	7 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Voltage protection level	U_p	< 3,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		3
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Always indicate the item number when ordering.

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PV combination arrestor V25, 900 V DC with remote signalling

Type 1+2 | LPZ 0→2

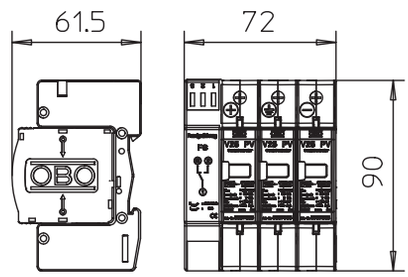
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V25-B+C 3PHFS900	900	3-pole for PV systems with RS	1	53.500	**5097448**

V25 combination arrestor, type 1+2, for photovoltaic systems

- Complete unit, consisting of plug-in varistor arrestor with cut-off unit
- Error-resistant Y circuit to VDE 0100-712 (EN 50539-12)
- Surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity up to 7 kA (10/350) and 50 kA (8/20) per pole
- Low DC protection level: < 3.0 kV and Voc max = 900 V DC
- With visual function display for use in distributor housings

Application: PV systems with lightning protection system

Dimensions



Connection options

V25-B+C 3PHFS900

U max DC	U_c DC	900 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	7 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Voltage protection level	U_p	< 3,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		4
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

PV combination arrestor V50, 600 V DC

Type 1+2 | LPZ 0→2

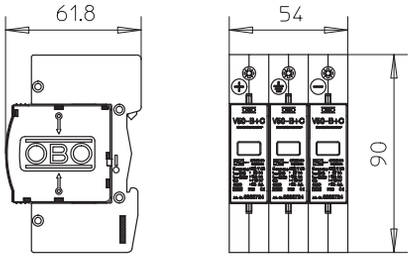
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-B+C 3-PH600	600	3-pole for PV systems	1	41.000	**5093623**

V50 combination arrestor, type 1+2, for photovoltaic systems

- Complete unit, consisting of plug-in varistor arrestor with cut-off unit
- Error-resistant Y circuit to VDE 0100-712 (EN 50539-12)
- Surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity up to 12.5 kA (10/350) and 50 kA (8/20) per pole
- Low DC protection level: < 2.6 kV and Voc max = 600 V DC
- With visual function display for use in distributor housings

Application: PV systems with lightning protection system

Dimensions



Connection options

V50-B+C 3-PH600

U max DC	U_c DC	600 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	12.5 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Voltage protection level	U_p	< 2,6 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		3
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Always indicate the item number when ordering.

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PV combination arrestor V50, 600 V DC with remote signalling

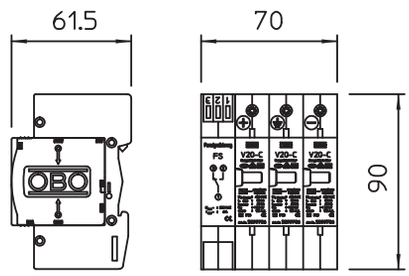
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-B+C 3PHFS600	600	3-pole for PV systems with FS	1	49.600	**5093625**

V50 combination arrestor, type 1+2, for photovoltaic systems

- Complete unit, consisting of plug-in varistor arrestor with cut-off unit
- Error-resistant Y circuit to VDE 0100-712 (EN 50539-12)
- Surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity up to 12.5 kA (10/350) and 50 kA (8/20) per pole
- Low DC protection level: < 2.6 kV and Voc max = 600 V DC
- With visual function display for use in distributor housings

Application: PV systems with lightning protection system

Dimensions



Connection options

V50-B+C 3PHFS600

U max DC	U_c DC	600 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	12.5 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Voltage protection level	U_p	< 2,6 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		4
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

PV complete block 1500V DC

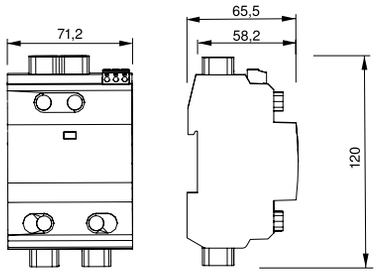
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V-PV-T2-1500	1500	Y configuration	1	33.800	**5094210**

Type 2 surge protection for PV plants.

- Surge protection according to IEC 60364-7-712 (VDE 0100-712)
- Arresting capacity of 20 kA per pole and up to 40 kA (8/20)
- Error-resistant Y circuit with status display
- The FS variant possesses a potential-free changeover contact for remote signalling

Application: Surge protection devices for PV systems.

Dimensions



Connection options

V-PV-T2-1500

U max DC	U_c DC	1500 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,5 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - 80 °C
Protection rating		IP20
Division unit TE (17.5 mm)		4
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 35 mm²

Always indicate the item number when ordering.

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PV complete block 1500V DC with remote signalling

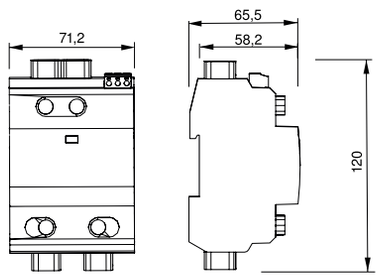
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V-PV-T2-1500+FS	1500	Y configuration + RS	1	34.400	**5094212**

Type 2 surge protection for PV plants.

- Surge protection according to IEC 60364-7-712 (VDE 0100-712)
- Arresting capacity of 20 kA per pole and up to 40 kA (8/20)
- Error-resistant Y circuit with status display
- The FS variant possesses a potential-free changeover contact for remote signalling

Application: Surge protection devices for PV systems.

Dimensions



Connection options

V-PV-T2-1500+FS

U max DC	U_c DC	1500 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→3
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,5 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - 80 °C
Protection rating		IP20
Division unit TE (17.5 mm)		4
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 35 mm²

Always indicate the item number when ordering.

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PV surge protection V20, 1,000 V DC

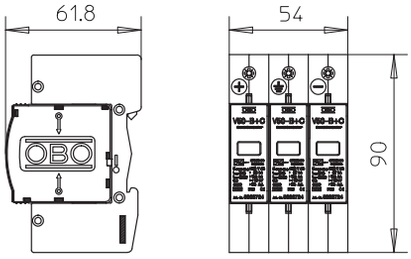
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3-PH-1000	1000	3-pole for PV systems	1	36.500	**5094608**

V20 surge arrestor, type 2, for photovoltaic systems

- Complete unit, consisting of plug-in varistor arrestor with cut-off unit
- Error-resistant Y circuit to VDE 0100-712 (EN 50539-12)
- Surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- V20-C 3-PH-1000 tested to EN 50539-11 (VDE / KEMA)
- Arresting capacity to 40 kA (8/20) per pole
- Low DC protection level: < 4.0 kV and Voc max = 1,000 V DC
- With visual function display for use in distributor housings

Application: PV systems with or without separate lightning protection system

Dimensions



Connection options

V20-C 3-PH-1000

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		3
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

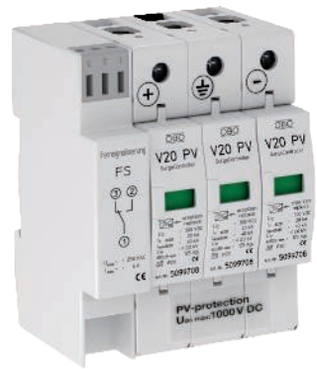
Always indicate the item number when ordering.

02_TBS_Produkteinheitenkatalog_EX_2018 / en / 2018/11/23 15:05:20 15:05:20 (LLExport_02235) / 2018/11/23 15:07:49 15:07:49

PV surge protection V20, 1,000 V DC with remote signalling

Type 2 | LPZ 1→2

Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3PHFS-1000	1000	3-pole for PV systems with FS	1	44.500	**5094574**

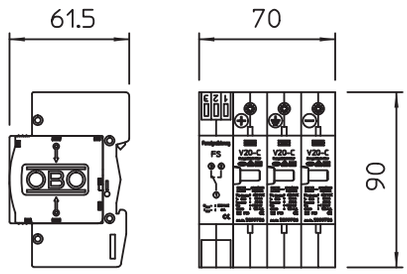


V20 surge arrestor, type 2, for photovoltaic systems

- Complete unit, consisting of plug-in varistor arrestor with cut-off unit
- Error-resistant Y circuit to VDE 0100-712 (EN 50539-12)
- Surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- V20-C 3-PH-1000 tested to EN 50539-11 (VDE / KEMA)
- Arresting capacity to 40 kA (8/20) per pole
- Low DC protection level: < 4.0 kV and Voc max = 1,000 V DC
- With visual function display for use in distributor housings

Application: PV systems with or without separate lightning protection system

Dimensions



Connection options

V20-C 3PHFS-1000

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		4
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

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Always indicate the item number when ordering.

PV surge protection V20, 600 V DC

Type 2 | LPZ 1→2

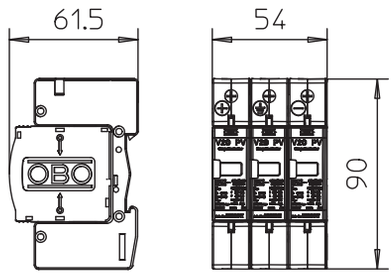
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3PH-600	600	3-pole for PV systems	1	33.500	**5094605**

V20 surge arrestor, type 2, for PV systems

- Complete unit, consisting of plug-in varistor arrestor with cut-off unit
- Error-resistant Y circuit for use according to VDE 0100-712 (EN 50539-12)
- For surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pole
- Low DC protection level: < 2.6 kV (Voc max = 600 V DC)
- Arrestor, connectable with thermodynamic cut-off unit and visual function display
- Encapsulated, zinc oxide varistor arrestor for use in distributor housings

Application: PV systems with or without separate lightning protection system

Dimensions



Connection options

V20-C 3PH-600

U max DC	U_c DC	600 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 2,6 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		3
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Always indicate the item number when ordering.

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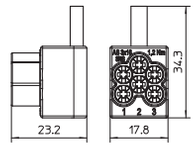
Connection terminal for through-wiring

Type	Colour	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
AS 3x16	Light grey	3 x 16 mm²	5	2.474	**5012010**



Connection terminal type: AS 3 x 16

Connection cross-section: 3 x 1.5 - 16 sq mm rigid/ multiple strands
3 x 1.5 - 10 sq mm fine-wire/with wire end sleeve
Stripping length: 16 mm
Rec. tightening torque: 1.2 Nm
Nominal current: 50 A
Width: 17.5 mm (1 TE)

For EMC-optimised V through-wiring to IEC 60364-5-53 (VDE 0100-534).

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Always indicate the item number when ordering.

PV system solution, type 1+2, for inverter with 1 MPP trackers, 900 V DC

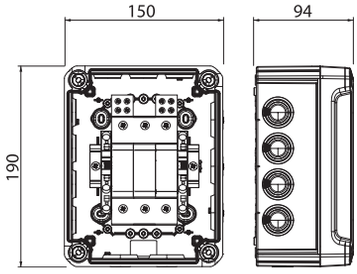
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-V25-BC3-PH900	900	Type 1+2 in housing with terminals	1	93.000	**5088591**

System solution for photovoltaic inverter with 1 MPP tracker

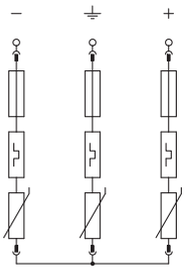
- Varistor arrestor, connectable with cut-off unit in error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 2.6 kV (Voc max = 600 V DC with V50-B+C/0-300PV / V20-C/0-300PV)
- Low DC protection level: < 3.0 kV (Voc max = 900 V DC with V25-B+C/0-450PV)
- Low DC protection level: < 4.0 kV (Voc max = 1,000 V DC with V20-C/0-500PV)
- For each protection device, there are 10 terminals up to 6 mm² pre-mounted in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP65), UV-resistant for use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



Connection options



VG-V25-BC3-PH900

U max DC	U_c DC	900 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	7 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Voltage protection level	U_p	< 3,0 kV
Response time	t_A	< 25 ns
Connection cross-section rigid		1.5 - 16 mm²
Connection cross-section, flexible		1.5 - 10 mm²
Temperature range	ϑ	-40-+80 °C
Protection rating		IP66

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Always indicate the item number when ordering.

PV system solution, type 2, for inverter with 1 MPP trackers, 1,000 V DC

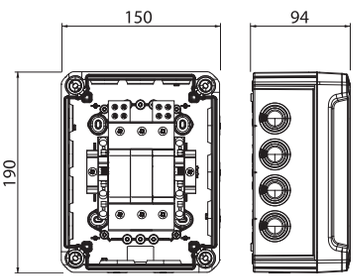
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-V20-C3-PH1000	1000	Type 1+2 in housing with terminals	1	87.000	**5088593**

System solution for photovoltaic inverter with 1 separate MPP tracker

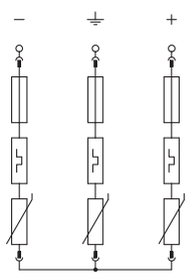
- Varistor arrestor, connectable with cut-off unit in error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 4.0 kV (Uoc max = 1,000 V DC with V20-C/0-500PV)
- Low DC protection level: < 3.0 kV (Uoc max = 900 V DC with V25-B+C/0-450PV)
- Per protection device, there are 8 terminals up to 6 mm² pre-mounted in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP65), UV-resistant for the use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



Connection options



VG-V20-C3-PH1000

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,0 kV
Response time	t_A	< 25 ns
Connection cross-section rigid		1.5 - 16 mm²
Connection cross-section, flexible		1.5 - 10 mm²
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP66

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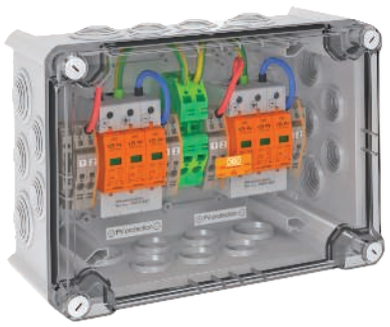
Always indicate the item number when ordering.

PV system solution, type 1+2, for inverter with 2 MPP trackers, 900 V DC



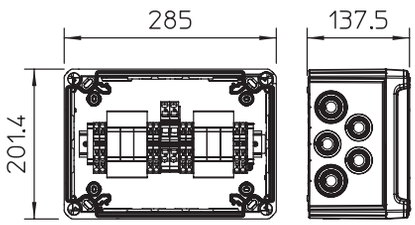
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-BCPV900K 22	900	For two MPP and with terminal connection	1	220.000	**5088566**

System solution for photovoltaic inverter with 2 separate MPP trackers

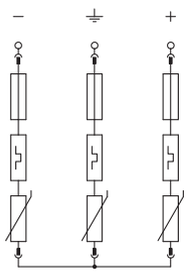
- Varistor arrestor, connectable with disconnecting device in error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 4.0 kV (Uoc max = 1,000 V DC with V20-C/0-500PV)
- Low DC protection level: < 3.0 kV (Uoc max = 900 V DC with V25-B+C/0-450PV)
- Per protection device, there are 4 terminals up to 6 mm² pre-mounted in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP66), UV-resistant for the use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



Connection options



VG-BCPV900K 22

U max DC	U_c DC	900 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→2
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	60 kA
Voltage protection level	U_p	< 3,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-30 - 90 °C
Protection rating		IP66

Always indicate the item number when ordering.

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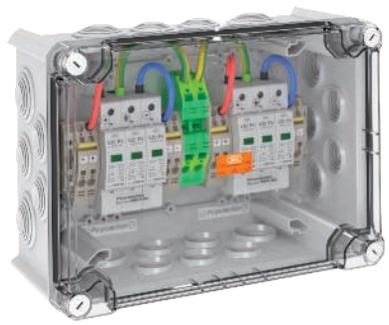
PV system solution, type 2, for inverter with 2 MPP trackers, 1,000 V DC

Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-CPV1000K 22	1000	For two MPP and with terminal connection	1	216.600	**5088568**

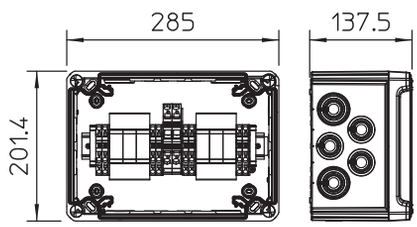
System solution for photovoltaic inverter with 2 separate MPP trackers

- Varistor arrestor, connectable with disconnecting device in error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 4.0 kV (Uoc max = 1,000 V DC with V20-C/0-500PV)
- Low DC protection level: < 3.0 kV (Uoc max = 900 V DC with V25-B+C/0-450PV)
- Per protection device, there are 4 terminals up to 6 mm² pre-mounted in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP66), UV-resistant for the use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!



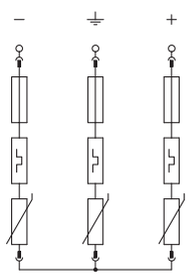
Dimensions



VG-CPV1000K 22

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP65

Connection options



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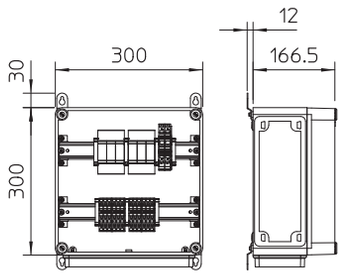
Always indicate the item number when ordering.

PV system solution, type 2, for inverter with 2 MPP trackers, 1,000 V DC

Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-CPV 1000K 330	1000	For two MPP and with terminal connection	1	468.000	**5088582**

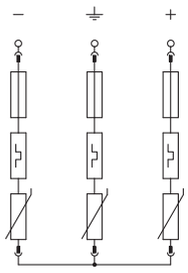
System solution for photovoltaic inverter with 2 separate MPP trackers
- Varistor arrestor, connectable with disconnecting device in error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 3.0 kV (Uoc max = 900 V DC with V25-B+C/0-450PV)
- Per protection device there are 6 terminals up to 6 mm² pre-mounted in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP65), UV-resistant for the use outside, including cable gland kit

Dimensions



For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Connection options



VG-CPV 1000K 330

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP65

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Always indicate the item number when ordering.

PV housing for inverter with 3 MPP trackers, type 1+2, 900 V DC

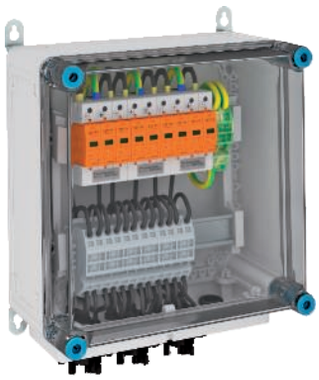
Type 1+2 | LPZ 0→2

Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-BC DCPH900-31	900	For three MPP and with MC4 connection	1	542.000	**5088629**

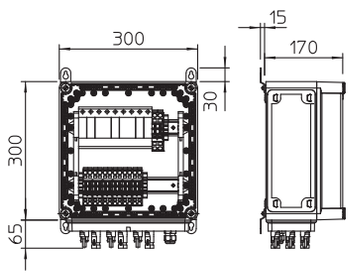
System solution with MC4 connector for photovoltaic inverter with 3 separate MPP trackers

- Varistor arrestor, connectable with cut-off unit in error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 4.0 kV (Voc max = 1,000 V DC with V20-C/0-500PV)
- Low DC protection level: < 3.0 kV (Voc max = 900 V DC with V25-B+C/0-450PV)
- Two PV string inputs (MC4 plug connector) at one MPP inverter input, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP65), UV-resistant for use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!



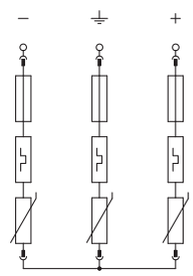
Dimensions



VG-BC DCPH900-31

U max DC	U_c DC	900 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	7 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	60 kA
Voltage protection level	U_p	< 3,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP65

Connection options



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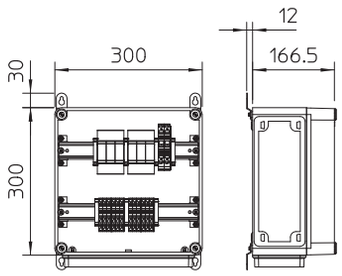
Always indicate the item number when ordering.

PV system solution, type 1+2, for inverter with 2 MPP trackers, 900 V DC

Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-BCPV 900K 330	900	For two MPP and with terminal connection	1	478.000	**5088576**

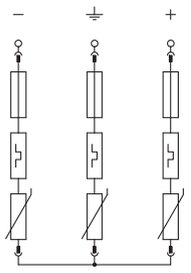
System solution for photovoltaic inverter with 2 separate MPP trackers
- Varistor arrestor, connectable with disconnecting device in error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 3.0 kV (Uoc max = 900 V DC with V25-B+C/0-450PV)
- Per protection device there are 6 terminals up to 6 mm² pre-mounted in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP65), UV-resistant for the use outside, including cable gland kit

Dimensions



For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Connection options



VG-BCPV 900K 330

U max DC	U_c DC	900 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	7 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	60 kA
Voltage protection level	U_p	< 3,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP65

Always indicate the item number when ordering.

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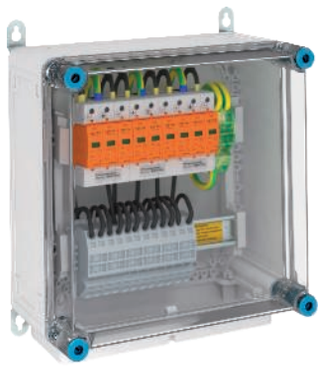
PV system solution, type 1+2, for inverter with 3 MPP trackers, 900 V DC

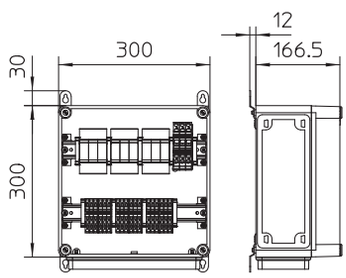


Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-BCPV 900K 333	900	For three MPP and with terminal connection	1	546.000	**5088579**

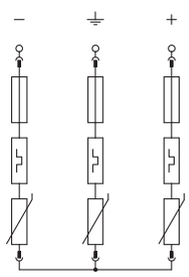
System solution for photovoltaic inverter with 3 separate MPP trackers
- Varistor arrestor, connectable with cut-off unit in error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 3.0 kV (Voc max = 900 V DC with V25-B+C/0-450PV)
- Per protection device there are 6 terminals up to 6 mm² pre-mounted in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP65), UV-resistant for use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



Connection options



VG-BCPV 900K 333

U max DC	U_c DC	900 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	7 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	60 kA
Voltage protection level	U_p	< 3,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP65

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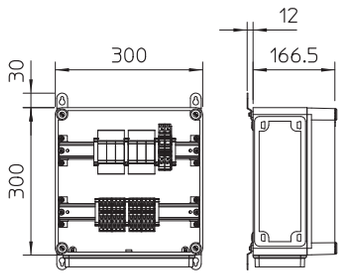
Always indicate the item number when ordering.

PV system solution, type 2, for inverter with 2 MPP trackers, 1,000 V DC

Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-CPV 1000K 330	1000	For two MPP and with terminal connection	1	468.000	**5088582**

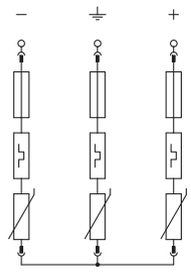
System solution for photovoltaic inverter with 2 separate MPP trackers
• Varistor arrestor, connectable with disconnecting device in error-resistant Y circuit to VDE 0100-712 (50539-12)
• Low DC protection level: < 3.0 kV (Uoc max = 900 V DC with V25-B+C/0-450PV)
• Per protection device there are 6 terminals up to 6 mm² pre-mounted in the housing, up to 30 A DC per terminal
• Pre-mounted in polycarbonate housing (IP65), UV-resistant for the use outside, including cable gland kit

Dimensions



For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Connection options



VG-CPV 1000K 330

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP65

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Always indicate the item number when ordering.

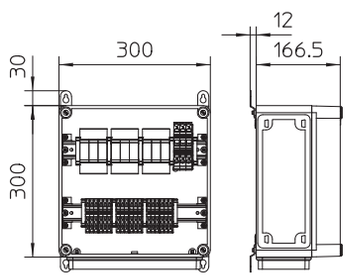
PV system solution, type 2, for inverter with 3 MPP trackers, 1,000 V DC

Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-CPV 1000K 333	1000	For three MPP and with terminal connection	1	528.000	**5088585**

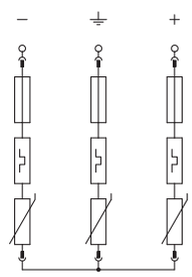
System solution for photovoltaic inverter with 3 separate MPP trackers
- Varistor arrestor, connectable with cut-off unit in error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 3.0 kV (Voc max = 900 V DC with V25-B+C/0-450PV)
- Per protection device there are 6 terminals up to 6 mm² pre-mounted in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP65), UV-resistant for use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



Connection options



VG-CPV 1000K 333

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP65

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Always indicate the item number when ordering.

Photovoltaic housing with 4 fuses 10 A

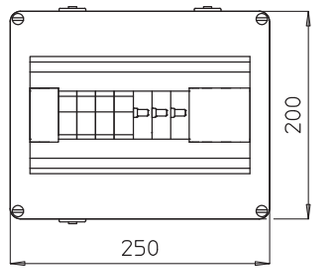
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-C DCPH1000-4S	1000	Type 2 in housing with 4 PV fuses (10 A)	1	200.000	**5088651**

System solution for photovoltaic fuses for photovoltaic inverters with 1 MPP tracker

- Error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 4.0 kV (Voc max = 1,000 V DC with V20-C/0-500PV)
- Item no.: 5088651: (+) poles protected via 4 photovoltaic fuses 10 x 38 mm 10 A, 1,000 V DC protected
- Item no.: 5088654: (+) poles protected via 4 photovoltaic fuses 10 x 38 mm (unequipped), 1,000 V DC protected
- 4 (-) poles via terminal up 6 mm² switched in parallel in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP65), weather-resistant for use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



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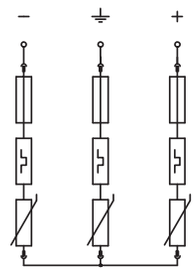

VG-C DCPH1000-4S

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,0 kV
Response time	t_A	< 25 ns
Connection cross-section rigid		0.5 - 6 mm²
Connection cross-section, flexible		0.5 - 6 mm²
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 65

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Always indicate the item number when ordering.

Photovoltaic housing with 4 fuse holders, unequipped

Type 2 | LPZ 1→2 | Type 1+2 | LPZ 0→2

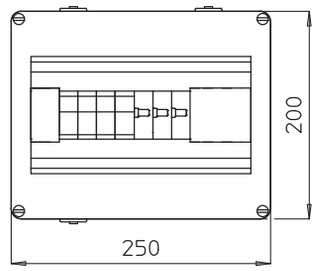
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-C PV1000KS4	1000	Type 2 in housing with fuse holder (unequipped)	1	190.000	**5088654**

System solution for photovoltaic fuses for photovoltaic inverters with 1 MPP tracker

- Error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 4.0 kV (Voc max = 1,000 V DC with V20-C/0-500PV)
- Item no.: 5088651: (+) poles protected via 4 photovoltaic fuses 10 x 38 mm 10 A, 1,000 V DC protected
- Item no.: 5088654: (+) poles protected via 4 photovoltaic fuses 10 x 38 mm (unequipped), 1,000 V DC protected
- 4 (-) poles via terminal up 6 mm² switched in parallel in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP65), weather-resistant for use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



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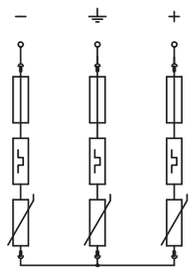

VG-C PV1000KS4

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,0 kV
Response time	t_A	< 25 ns
Connection cross-section rigid		0.5 - 6 mm²
Connection cross-section, flexible		0.5 - 6 mm²
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 65

Always indicate the item number when ordering.

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Photovoltaic housing with 4 fuse holders, V25, 900 V

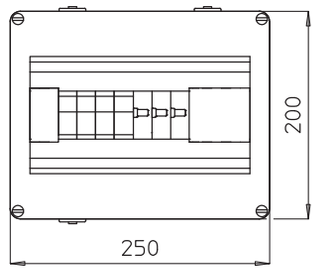
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-BC PV900KS4	900	Type 1+2 in housing with fuse holder (unequipped)	1	205.000	**5088640**

System solution for photovoltaic fuses for photovoltaic inverters with 1 MPP tracker

- Error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 4.0 kV (Voc max = 1,000 V DC with V20-C/0-500PV)
- Item no.: 5088654: (+) poles protected via 4 photovoltaic fuses 10 x 38 mm (unequipped), 1,000 V DC protected
- Item no.: 5088640: (+) poles protected via 4 photovoltaic fuses 10 x 38 mm (unequipped), 900 V DC protected
- 4 (-) poles via terminal up 6 mm² switched in parallel in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP65), UV-resistant for use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



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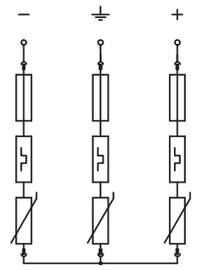

VG-BC PV900KS4

U max DC	U_c DC	900 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		1→2
Impulse discharge current (10/350)	I_{imp}	7 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	60 kA
Voltage protection level	U_p	< 3,0 kV
Response time	t_A	< 25 ns
Connection cross-section rigid		0.5 - 6 mm²
Connection cross-section, flexible		0.5 - 6 mm²
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 65

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Always indicate the item number when ordering.

PV system solution, type 1+2, to 900 V DC with circuit breaker (32 A)

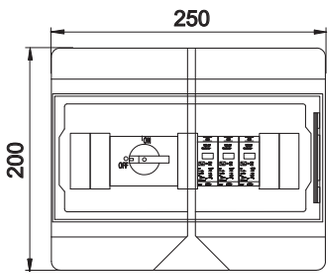
Type 1+2 | LPZ 0→2

Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-BC DC-TS900	900	Type 1+2 and Benedikt LS32-SMA-A4 DC isolator	1	182.500	**5088635**

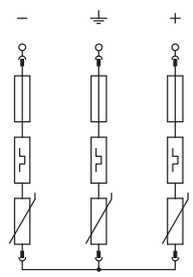
System solution for circuit breaker photovoltaic inverter with 1 MPP tracker
- Varistor arrestor, connectable with cut-off unit in error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 3.0 kV (Voc max = 900 V DC with V25-B+C/0-450PV)
- Circuit breaker (1,000 V; 32 A) for secure switch-off of the DC string cable
- Per protection device there is 1 terminal up to 6 mm² pre-mounted in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP65), UV-resistant for use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



Connection options



VG-BC DC-TS900

U max DC	U_c DC	900 V
SPD to EN 61643-11		Type 1+2
Lightning protection zone LPZ		0→2
Impulse discharge current (10/350)	I_{imp}	7 kA
Nominal discharge current (8/20)	I_n	30 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Voltage protection level	U_p	< 3,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP65
Connection cross-section String		0.5 - 10
Connection cross-section PE		0.5 - 10

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Always indicate the item number when ordering.

PV system solution, type 2, to 1,000 V DC with circuit breaker (32 A)

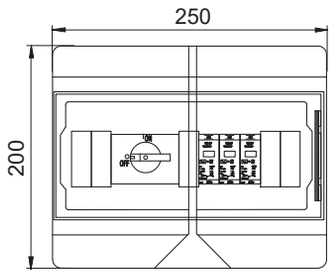
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-C DC-TS1000	1000	Type 2 and Benedikt LS32-SMA-A4 DC isolator	1	182.500	**5088660**

System solution for circuit breaker photovoltaic inverter with 1 MPP tracker

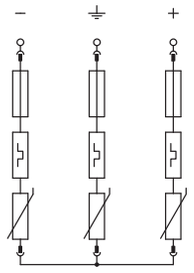
- Varistor arrestor, connectable with cut-off unit in error-resistant Y circuit to VDE 0100-712 (50539-12)
- Low DC protection level: < 4.0 kV (Voc max = 1,000 V DC with V20-B+C/0-500PV)
- Circuit breaker (1,000 V; 32 A) for secure switch-off of the DC string cable
- Per protection device, there is 1 terminal up to 6 mm² pre-mounted in the housing, up to 30 A DC per terminal
- Pre-mounted in polycarbonate housing (IP65), UV-resistant for use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



Connection options



VG-C DC-TS1000

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP65
Connection cross-section String		0.5 - 10
Connection cross-section PE		2.5 - 35

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Always indicate the item number when ordering.

Photovoltaic housing, type 1+2, with MC connector 900 V DC

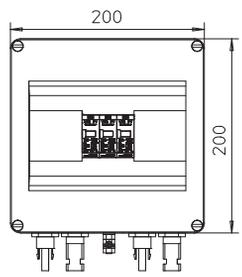
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-C DCPH-Y1000	1000	Equipped in housing with MC4 connector	1	169.500	**5088672**

System solution with MC4 connector for photovoltaic inverter with 1 MPP tracker

• Varistor arrestor, connectable with cut-off unit in error-resistant Y circuit to VDE 0100-712 (50539-12)
• Low DC protection level: < 2.6 kV (Voc max = 600 V DC with V50-B+C/0-300PV / V20-C/0-300PV)
• Low DC protection level: < 3.0 kV (Voc max = 900 V DC with V25-B+C/0-450PV)
• Low DC protection level: < 4.0 kV (Voc max = 1,000 V DC with V20-C/0-500PV)
• One PV string input (MC4 plug connector) at one MPP inverter input, up to 15 A DC MC4 connector
• Pre-mounted in polycarbonate housing (IP65), weather-resistant for use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

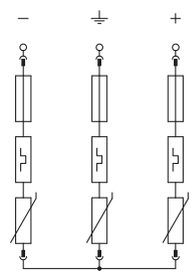
Dimensions



VG-C DCPH-Y1000

U max DC	U_c DC	1000 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 4,0 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP65

Connection options



Always indicate the item number when ordering.

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Photovoltaic housing with connection terminals, unequipped

Type 2 | LPZ 1→2 | Type 1+2 | LPZ 0→1

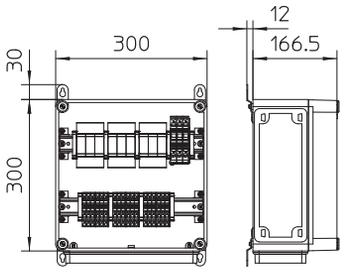
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VG-BCPV U K 333	1000	For 3 MPPs, unequipped	1	478.000	**5088573**

System solution for photovoltaic inverter with 3 separate MPP trackers, unequipped

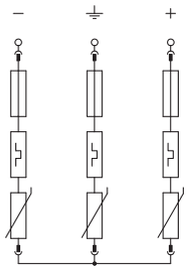
- Varistor arrestor, connectable with cut-off unit in error-resistant Y circuit to VDE 0100-712 (50539-12)
- 5088609: Two PV string inputs (MC4 plug connector) at an MPP inverter input, IN up to 15 A DC per MC4 connector
- 5088573: Per protection device there are 6 terminals up to 6 mm² pre-mounted in the housing, IN up to 30 A DC per terminal
- Unequipped, order covers separately
- Pre-mounted in polycarbonate housing (IP65), UV-resistant for use outside, including cable gland kit

For DC protection of the inverter in photovoltaic systems.
If there is a danger of condensation forming through wind, ice, temperature or sunlight, further measures may be necessary!

Dimensions



Connection options



VG-BCPV U K 333

U max DC	U_c DC	1000 V
Connection cross-section rigid		0.5 - 10 mm²
Connection cross-section, flexible		0.5 - 6 mm²
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP65

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Always indicate the item number when ordering.

PV cover - lightning and surge arrestor, type 1+2

Type 1+2 | LPZ 0→2

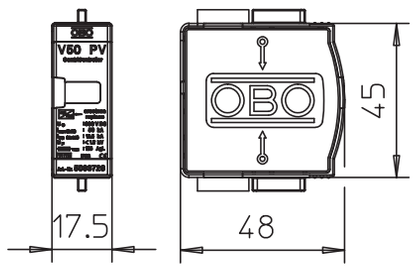
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V50-B+C 0-300PV	300	1-pole, PV upper part with Y base to 600 V DC	1	8.200	**5093726**

V50-B+C/...PV: CombiController upper part, type 1+2, combination arrestor for photovoltaic systems

- For surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 12.5 kA (10/350) and 50 kA (8/20) per pole
- Low DC protection level: < 1.3 kV per pole (Y circuit: 2.6 kV and Voc max = 600 V DC)
- Arrestor, connectable with thermodynamic cut-off unit and visual function display
- Encapsulated, zinc oxide varistor arrestor for use in distributor housings
- High current carrying capacity with long lifespan

Application: PV systems with or without separated insulated lightning protection system

Dimensions



V50-B+C 0-300PV

U max DC	U_c DC	300 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Nominal discharge current (8/20)	I_n	30 kA
Impulse discharge current (10/350)	I_{imp}	12.5 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	<25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1

Connection options

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Always indicate the item number when ordering.

PV cover - lightning and surge arrestor, type 1+2

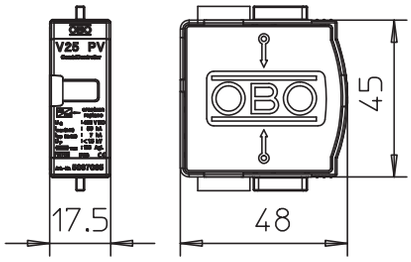
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V25-B+C 0-450PV	450	1-pole, PV upper part with Y base to 900 V DC	1	9.500	**5097065**

V25-B+C/...PV: CombiController upper part, type 1+2, combination arrestor for photovoltaic systems

- For surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 7 kA (10/350) and 50 kA (8/20) per pole
- Low DC protection level: < 1.5 kV per pole (Y circuit: 3.0 kV and Voc max = 900 V DC)
- Arrestor, connectable with thermodynamic cut-off unit and visual function display
- Encapsulated, zinc oxide varistor arrestor for use in distributor housings
- High current carrying capacity with long lifespan

Application: PV systems with or without separated insulated lightning protection system

Dimensions



Connection options

V25-B+C 0-450PV

U max DC	U_c DC	450 V
SPD to EN 61643-11		Type 1+2
SPD to IEC 61643-11		Class I+II
Lightning protection zone LPZ		0→2
Nominal discharge current (8/20)	I_n	30 kA
Impulse discharge current (10/350)	I_{imp}	7 kA
Maximum discharge current (8/20 µs)	I_{max}	50 kA
Voltage protection level	U_p	< 1,5 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		160 A
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1

Always indicate the item number when ordering.

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PV cover - surge arrestor, type 2

Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 0-300PV	300	1-pole, PV upper part with Y base to 600 V DC	1	5.500	**5099611**

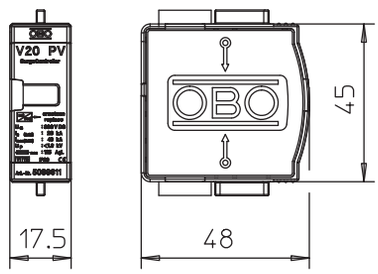
V20-C/...PV: SurgeController upper part, type 2, surge arrestor for photovoltaic systems

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin

- Low DC protection level: < 1.3 kV per pole (Y circuit: 2.6 kV and Voc max = 600 V DC)
- Arrestor, connectable with thermodynamic cut-off unit and visual function display
- Encapsulated, non-extinguishing zinc oxide varistor arrestor for use in distributor housings
- High current carrying capacity with long lifespan

Application example: PV systems with or without separated insulated lightning protection system

Dimensions



V20-C 0-300PV

U max DC	U_c DC	300 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 1,3 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1

Connection options

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Always indicate the item number when ordering.

PV cover - surge arrestor, type 2

Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 0-500PV	500	1-pole, PV upper part with Y base to 1,000 V DC	1	6.500	**5099708**

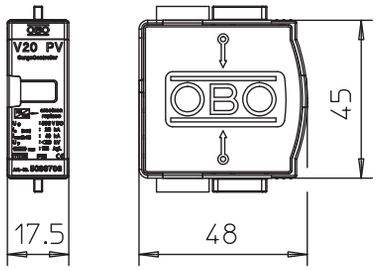
V20-C/...PV: SurgeController upper part, type 2, surge arrestor for photovoltaic systems

- For surge voltage protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pin

- Low DC protection level: < 1.3 kV per pole (Y circuit: 2.6 kV and Voc max = 600 V DC)
- Arrestor, connectable with thermodynamic cut-off unit and visual function display
- Encapsulated, non-extinguishing zinc oxide varistor arrestor for use in distributor housings
- High current carrying capacity with long lifespan

Application example: PV systems with or without separated insulated lightning protection system

Dimensions



Connection options

V20-C 0-500PV

U max DC	U_c DC	500 V
SPD to EN 61643-11		Type 2
SPD to IEC 61643-11		Class II
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 2,0 kV
Response time	t_A	< 25 ns
Maximum back-up fuse		125 A
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1

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Always indicate the item number when ordering.

PV base, 3-pole in Y circuit

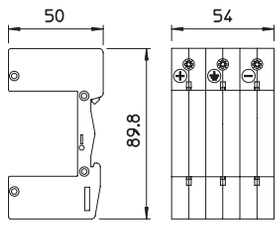
Type 1+2 | Type 2 | LPZ 0→1 | LPZ 1→2 | FS

Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C U-3PH-Y	3-pole Y circuit for PV	1	17.000	**5096647**

V 20-C/3-PH-Y: Bottom part for photovoltaic systems up to Uoc = 1,000 V (Y-circuit)

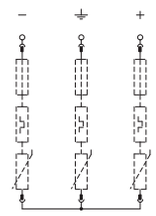
- Suitable for V 25-B+C upper parts type 1+2 combination arrestor
- Suitable for V 20-C upper parts type 2 surge arrestor
- Protection circuit against transverse and longitudinal voltages
- Y-protection circuit
- Low protection level < 4.0 kV (Uoc max = 1,000 V DC with V20-C/0-440)
- Low protection level < 3.0 kV (Uoc max = 900 V DC with V25-B+C/0-385)
- Low protection level < 2.6 kV (Uoc max = 600 V DC with V50-C/0-280)

Indicated connectors
Application: In photovoltaic systems between PH modules and inverters.



V20-C U-3PH-Y

Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		3
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²



PV base, 3-pole in Y circuit with remote signalling

Type 1+2 | Type 2 | LPZ 0→1 | LPZ 1→2 | FS

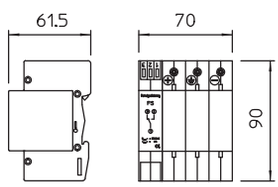
Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C U-3PH-Y-FS	3-pole Y circuit for photovoltaic systems with FS	1	25.000	**5096646**

V 20-C/U-3-PH-Y-FS: Base for photovoltaic systems up to Voc=1,000 V (Y circuit)

- Suitable for V 50-B+C and V25-B+C upper parts, type 1+2 combination arrestor
- Suitable for V 20-C upper parts, type 2, surge arrestor
- Protection circuit against transverse and longitudinal voltages
- Y circuit
- Low protection level < 4.0 kV (Voc max = 1,000 V DC with V20-C/0-440)
- Low protection level < 3.0 kV (Voc max = 900 V DC with V25-B+C/0-385)

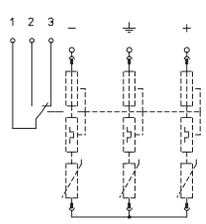
Low protection level < 2.6 kV (Voc max = 600 V DC with V50-C/0-280)
- -FS with remote signalling, potential-free changeover contact, for function monitoring
- Labelled connections

Application: In photovoltaic systems between PH modules and inverters.



V20-C U-3PH-Y-FS

Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		4
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²



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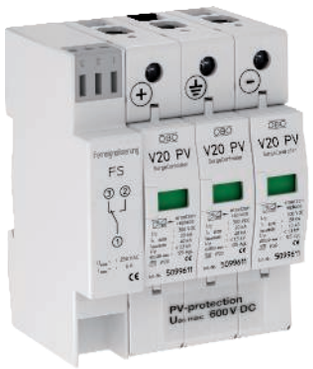
Always indicate the item number when ordering.

PV surge protection V20, 600 V DC with remote signalling



Type 2 | LPZ 1→2

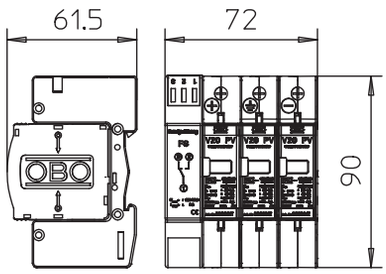
Type	U max DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
V20-C 3PHFS-600	600	3-pole for PV systems; Y circuit with FS	1	41.500	**5094576**

V20 surge arrestor, type 2, for PV systems

- Complete unit, consisting of plug-in varistor arrestor with cut-off unit
- Error-resistant Y circuit for use according to VDE 0100-712 (EN 50539-12)
- For surge protection equipotential bonding to VDE 0100-443 (IEC 60364-4-44)
- Arresting capacity to 40 kA (8/20) per pole
- Low DC protection level: < 2.6 kV (Voc max = 600 V DC)
- Arrestor, connectable with thermodynamic cut-off unit and visual function display
- Encapsulated, zinc oxide varistor arrestor for use in distributor housings

Application: PV systems with or without separate lightning protection system

Dimensions



Connection options

V20-C 3PHFS-600

U max DC	U_c DC	600 V
SPD to EN 61643-11		Type 2
Lightning protection zone LPZ		1→2
Nominal discharge current (8/20)	I_n	20 kA
Maximum discharge current (8/20 µs)	I_{max}	40 kA
Voltage protection level	U_p	< 2,6 kV
Response time	t_A	< 25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		4
Connection cross-section rigid		2.5 - 35 mm²
Connection cross-section, multi-wire		2.5 - 35 mm²
Connection cross-section, flexible		2.5 - 25 mm²

Always indicate the item number when ordering.

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NET DEFENDER
ND-CAT 6A/EA
LINE
FINE PROTECTION
PROTECTED
-22F1
-22F2
ETHERNET
LNK ACT 1
LNK ACT 2
MS
NS
I/O
USR
13
E0
0V
750-881
-14S1
-14S2
-22B1
-14S4
X24
23535
47110306
030315
bleiter

Surge protection, data and information technology

	Surge protection for telecommunication systems	315
	Surge protection for LSA-Plus systems	327
	Coaxial protection devices for high-frequency applications	333
	Surge protection for network technology and CCTV camera systems	348
	MCR protection 2-pole power supply	363
	MCR protection FRD/FLD/TKS-B lightning protection barriers	375
	MCR protection MDP, in series terminal format	393

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Data technology, network technology and CCTV camera systems

Eth. RJ45

Type	Item no.	Page
CAT6A/EA	5081800	348
ND-CAT6/E-F	5081802	354
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BNC/CCTV

Type	Item no.	Page
Combination	5082430	350
Fine	5082432	351
Fine	5082434	352

RJ45/4-pole

Type	Item no.	Page
RJ11	5081975	321
RJ11	5081977	322
RJ45	5081982	323
RJ45	5081984	324

PND combined protection device

Type	Item no.	Page
PND-2in1-C-RS	5081064	408
PND-3in1-C-RS	5081066	409

Measurement and control technology

FRD

Volts	Item no.	Page
24	5098514	380
48	5098522	381
110	5098557	382
48	5098522	381
110	5098557	382

FRD-2

Volts	Item no.	Page
24	5098727	388

FLD

Volts	Item no.	Page
5	5098600	384
12	5098603	385
24	5098611	386
48	5098630	387
110	5098646	388
110	5098646	388

MDP 2-pole

Volts	Item no.	Page
5	5098404	393
24	5098422	396
48	5098442	399

MDP 3-pole

Volts	Item no.	Page
5	5098407	394
24	5098427	397
48	5098446	400

MDP 4-pole

Volts	Item no.	Page
5	5098411	395
24	5098431	398
48	5098450	401

MDP, 10 A, 2-pole

Volts	Item no.	Page
12	5098415	403
24	5098425	405

MDP, 10 A, 4-pole

Volts	Item no.	Page
5	5098413	402
12	5098419	404
24	5098433	406

MDP EX 4-pole

Volts	Item no.	Page
5	5098412	413
24	5098432	414
48	5098452	415

FDB 2-pole 24 V

Type	Item no.	Page
Metric	5098380	417
NPT	5098390	419

FDB 3-pole 24 V

Type	Item no.	Page
Metric	5098382	418
NPT	5098392	420

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Always indicate the item number when ordering.

Telecommunications, fixed mounting

VDSL

MHz	Item no.	Page
0–225	5081698	315

ISDN + Analogue

MHz	Item no.	Page
0–100	5081690	316

TAE

MHz	Item no.	Page
0–100	5081692	317

DIN rail

MHz	Item no.	Page
0–75	5081694	318

Telecommunications, cable adapter

LSA basic protection

Volts	Item no.	Page
180	5084020	327

LSA basic + fine protection

Volts	Item no.	Page
24	5084028	329
180	5084024	328

High-frequency technology, coaxial arrestors

S-UHF

Type	Item no.	Page
M/F	5093023	333
W/W	5093015	334

BNC

Type	Item no.	Page
M/F	5093252	335
W/W	5093236	336
M/M	5093260	337

N

Type	Item no.	Page
M/F	5093998	340
M/F	5093996	338
W/W	5093988	339

TNC

Type	Item no.	Page
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7/16

Type	Item no.	Page
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F

Type	Item no.	Page
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W/W	5093272	344

SMA

Type	Item no.	Page
W/W	5093277	345

F/SAT

Type	Item no.	Page
W/W	5083400	346

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Always indicate the item number when ordering.

Surge protection devices for telecommunications applications: The plus of the combination protection devices

+ Simple installation
+ Low protection level
+ High arresting capability
+ High bandwidth
+ Wide range of uses

Combined protection device for VDSL, ISDN and DSL systems

The data cable protection devices for telecommunications applications are available as combination protection and fine protection. Depending on the application, from DSL through to analogue communication, the devices are used for direct intermediate switching into the data cable, meaning that they can easily be retrofitted in existing installations. The devices differ in their connection technology and transmission cable and are thus optimised for their appropriate applications, in order to cause the lowest attenuation level possible.

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Always indicate the item number when ordering.

Combination protection device for VDSL systems

IP 54 | LPZ 0→3 | ISDN | DSL | Analog TK

Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
TD-2D-V	125	180	2	Terminal	1	9.500	**5081698**

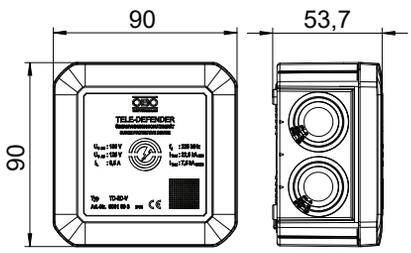
Plastic

Data cable protection device for telecommunications equipment

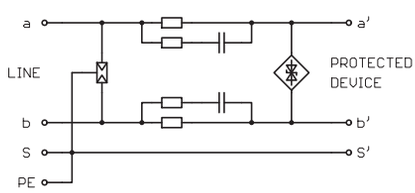
- Low protection level at a high current load
- "Push-in" clamps for quick installation
- Bandwidth-optimised for secure transmission up to 225 MHz
- Surface mounting

Application: Ideal for all DSL systems, IP connections, ISDN or analogue telecommunications

Dimensions



Connection options



TD-2D-V

Maximum continuous voltage AC	U_C	125 V
Maximum continuous voltage DC	U_C	180 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_l	0.5 A
Capacity (wire-wire)		<10 pF
Capacity (wire-earth)		<20 pF
Series resistance per wire		2,2 Ω ± 5 %
Impulse durability wire-wire		C2: 15 kV / 7,5 kA (8/20µs)
Impulse durability wire-earth		C2: 15 kV / 7,5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		22,5 kA
Total discharge current (10/350)		D1: 7,5 kA
Protection level wire-wire		<350 V
Protection level wire-earth		<600 V
Protection level shield-earth (S-PE)		— V
Frequency range		0 - 225 MHz
Insertion loss	S_{21}	≤3 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Surface-mounted
Connection system		Terminal
Protection rating		IP54
Shielding connection available		Yes
Connection cross-section, flexible		0.14 - 1 mm²
Connection cross-section, multi-wire		0.14 - 1 mm²
Connection cross-section rigid		0.08 - 1.5 mm²
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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Combination protection device TD-4/I for ISDN and DSL systems

Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
TD-4/I	120	170	4	Terminal	1	11.000	**5081690**

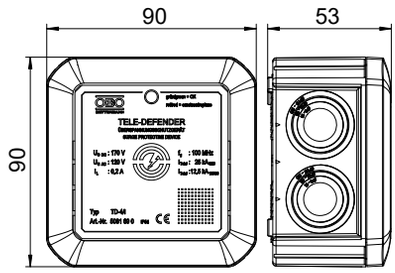
Plastic

Data cable protection device for telecommunications equipment

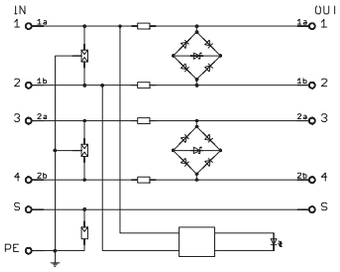
- Low protection level at a high current load
- "Push-in" terminals for quick installation
- Bandwidth-optimised for secure transmission
- Surface mounting
- Visual function display

Application: DSL systems, IP connections, ISDN or analogue telecommunications

Dimensions



Connection options



TD-4/I

Maximum continuous voltage AC	U_C	120 V
Maximum continuous voltage DC	U_C	170 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Rated current	I_L	0.2 A
Capacity (wire-wire)		<50 pF
Capacity (wire-earth)		<10 pF
Series resistance per wire		9 Ω ± 10 %
Impulse durability wire-wire		C2: 18 kV / 9 kA (8/20µs)
Impulse durability wire-earth		C2: 18 kV / 9 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		25 kA
Total discharge current (10/350)		D1: 12,5 kA
Protection level wire-wire		<300 V
Protection level wire-earth		<650 V
Protection level shield-earth (S-PE)		850 V
Frequency range		0 - 100 MHz
Insertion loss	S_{21}	≤3 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Surface-mounted
Connection system		Terminal
Protection rating		IP54
Shielding connection available		Yes
Connection cross-section, flexible		0.14 - 0.75 mm²
Connection cross-section, multi-wire		0.14 - 0.75 mm²
Connection cross-section rigid		0.14 - 0.75 mm²
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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Combination protection device for ISDN and DSL systems

IP 20 | LPZ 0→3 | ISDN | DSL | Analog TK

Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
TD-4/I-TAE-F	120	170	4	Terminal	1	12.300	**5081692**

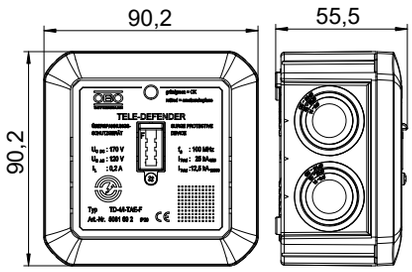
Plastic

Data cable protection device for telecommunications equipment

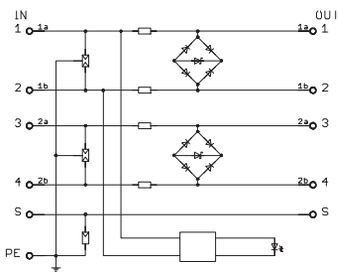
- Low protection level at a high current load
- "Push-in" terminals for quick installation
- Bandwidth-optimised for secure transmission
- Preinstalled TAE socket for Plug & Play
- Surface mounting
- Visual function display

Application: DSL systems, IP connections, ISDN or analogue telecommunications

Dimensions



Connection options



TD-4/I-TAE-F

Maximum continuous voltage AC	U_C	120 V
Maximum continuous voltage DC	U_C	170 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Rated current	I_l	0.2 A
Capacity (wire-wire)		<50 pF
Capacity (wire-earth)		<10 pF
Series resistance per wire		9 Ω ± 10 %
Impulse durability wire-wire		C2: 18 kV / 9 kA (8/20µs)
Impulse durability wire-earth		C2: 18 kV / 9 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		25 kA
Total discharge current (10/350)		D1: 12,5 kA
Protection level wire-wire		<300 V
Protection level wire-earth		<650 V
Protection level shield-earth (S-PE)		850 V
Frequency range		0 - 100 MHz
Insertion loss	S_{21}	≤3 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Surface-mounted
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Connection cross-section, flexible		0.14 - 0.75 mm²
Connection cross-section, multi-wire		0.14 - 0.75 mm²
Connection cross-section rigid		0.14 - 0.75 mm²
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Combination protection device TD-2/D-HS for ISDN and DSL systems

Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
TD-2/D-HS	120	170	2	Terminal	1	4.800	**5081694**

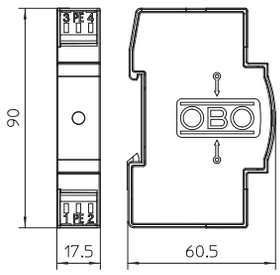
Plastic

Data cable protection devices for telecommunication systems

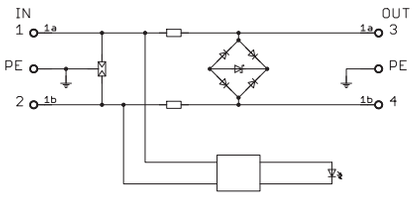
- Low protection level at high current load
- Screwless terminals or connectable
- Bandwidth-optimised for secure transmission
- Quick mounting onto DIN rail for a telephone line
- Visual function display

Application: DSL systems, ISDN or analogue telecommunication

Dimensions



Connection options



TD-2/D-HS

Maximum continuous voltage AC	U_C	120 V
Maximum continuous voltage DC	U_C	170 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	0.2 A
Capacity (wire-wire)		<50 pF
Capacity (wire-earth)		<50 pF
Series resistance per wire		9 Ω ± 10 %
Impulse durability wire-wire		C2: 18 kV / 9 kA (8/20µs)
Impulse durability wire-earth		C2: 18 kV / 9 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 5 kA kA
Protection level wire-wire		<300 V
Protection level wire-earth		<650 V
Protection level shield-earth (S-PE)		– V
Frequency range		0 - 75 MHz
Insertion loss	S_{21}	≤3 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Protection rating		IP20
Shielding connection available		No
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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Surge protection devices for telecommunications applications: The plus of the fine protection devices RJ11-Tele and RJ45 Tele

+ Simple installation
+ Low protection level
+ High arresting capability
+ High bandwidth
+ Wide range of uses

Combination and fine protection device for analogue cables

Function and applications
The data cable protection devices for telecommunications applications are available as combination protection and fine protection.
Depending on the application, from DSL through to analogue communication, the devices are used for direct intermediate switching into the data cable, meaning that they can easily be retrofitted in existing installations.
The devices differ in their connection technology and transmission cable and are thus optimised for their appropriate applications, in order to cause the lowest attenuation level possible.

Always indicate the item number when ordering.

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Combination protection device TELE 4-C for ISDN RJ11

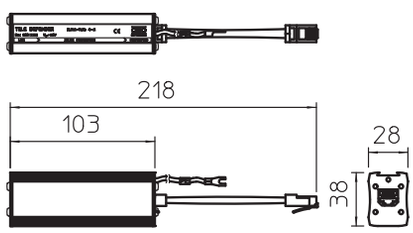
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
RJ11-TELE 4-C	Combi protection, 4 wires	RJ11	1	14.000	**5081975**

Data line protection device for analogue telecommunications systems

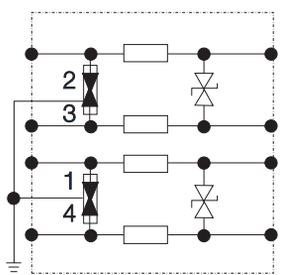
- In aluminium housing
- With 2-stage protection circuit
- Simple mounting
- Incl. 150 mm connection cable with RJ11 and/or RJ45 connectors
- Optimised bandwidth for TC systems
- DIN rail mounting with DLS-BS accessories (5082 38 2)

Application: For analogue telecommunication systems

Dimensions



Connection options



RJ11-TELE 4-C

Maximum continuous voltage AC	U_C	120 V
Maximum continuous voltage DC	U_C	170 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Series resistance per wire		8,2 Ω ± 10 %
Total discharge current (8/20)		4 kA
Total discharge current (10/350)		1,5 kA
Protection level wire-wire		<300 V
Protection level wire-earth		<600 V
Protection level, wire-earth at 1 kV/µs (C3)	U_p	<245 V
Frequency range		0 - 12 MHz
Insertion loss	S_{21}	≤3 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		RJ11
Protection rating		IP40
Earthing via:		Connection cable
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Fine protection device TELE 4-F for ISDN RJ11

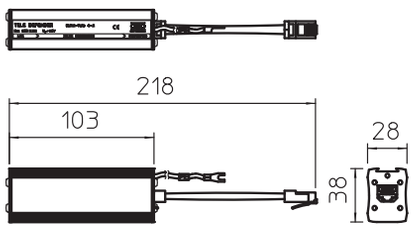
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
RJ11-TELE 4-F	Fine protection, 4 wires	RJ11	1	14.000	**5081977**

Data line protection device for analogue telecommunications systems

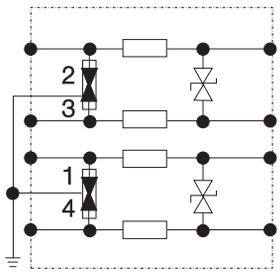
- In aluminium housing
- With 2-stage protection circuit
- Simple mounting
- Incl. 150 mm connection cable with RJ11 and/or RJ45 connectors
- Optimised bandwidth for TC systems
- DIN rail mounting with DLS-BS accessories (5082 38 2)

Application: For analogue telecommunication systems

Dimensions



Connection options



RJ11-TELE 4-F

Maximum continuous voltage AC	U_C	120 V
Maximum continuous voltage DC	U_C	170 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		4
Series resistance per wire		2,2 Ω ± 10 %
Total discharge current (8/20)		4 kA
Total discharge current (10/350)		— kA
Protection level wire-wire		<300 V
Protection level wire-earth		<600 V
Protection level, wire-earth at 1 kV/µs (C3)	U_p	<245 V
Frequency range		0 - 18 MHz
Insertion loss	S_{21}	≤3 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		RJ11
Protection rating		IP40
Earthing via:		Connection cable
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Combination protection device TELE 4-C for ISDN RJ45

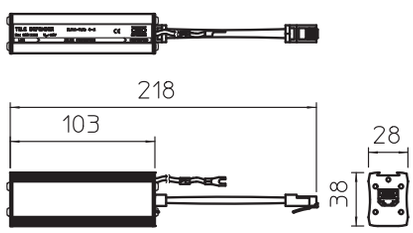
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
RJ45-TELE 4-C	Combi protection, 4 wires	RJ45	1	14.000	**5081982**

Data line protection device for analogue telecommunications systems

- In aluminium housing
- With 2-stage protection circuit
- Simple mounting
- Incl. 150 mm connection cable with RJ11 and/or RJ45 connectors
- Optimised bandwidth for TC systems
- DIN rail mounting with DLS-BS accessories (5082 38 2)

Application: For analogue telecommunication systems

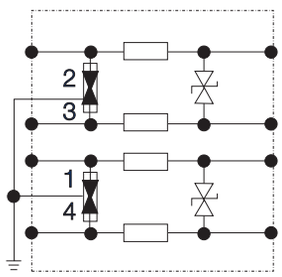
Dimensions



RJ45-TELE 4-C

Maximum continuous voltage AC	U_C	120 V
Maximum continuous voltage DC	U_C	170 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Series resistance per wire		8,2 Ω ± 10 %
Total discharge current (8/20)		4 kA
Total discharge current (10/350)		1,5 kA
Protection level wire-wire		<300 V
Protection level wire-earth		<600 V
Protection level, wire-earth at 1 kV/µs (C3)	U_p	<245 V
Frequency range		0 - 12 MHz
Insertion loss	S_{21}	≤3 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		RJ45
Protection rating		IP40
Earthing via:		Connection cable
Testing standard		IEC 61643-21

Connection options



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Always indicate the item number when ordering.

Fine protection device TELE 4-F for ISDN RJ45

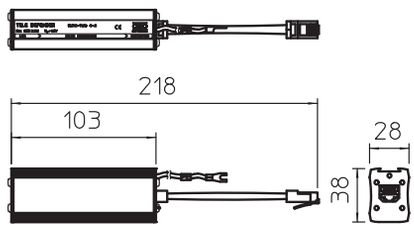
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
RJ45-TELE 4-F	Fine protection, 4 wires	RJ45	1	14.000	**5081984**

Data line protection device for analogue telecommunications systems

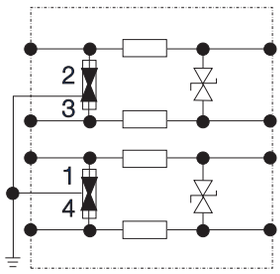
- In aluminium housing
- With 2-stage protection circuit
- Simple mounting
- Incl. 150 mm connection cable with RJ11 and/or RJ45 connectors
- Optimised bandwidth for TC systems
- DIN rail mounting with DLS-BS accessories (5082 38 2)

Application: For analogue telecommunication systems

Dimensions



Connection options



RJ45-TELE 4-F

Maximum continuous voltage AC	U_C	120 V
Maximum continuous voltage DC	U_C	170 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		4
Series resistance per wire		2,2 Ω ± 10 %
Total discharge current (8/20)		4 kA
Total discharge current (10/350)		— kA
Protection level wire-wire		<300 V
Protection level wire-earth		<600 V
Protection level, wire-earth at 1 kV/µs (C3)	U_p	<245 V
Frequency range		0 - 18 MHz
Insertion loss	S_{21}	≤3 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		RJ45
Protection rating		IP40
Earthing via:		Connection cable
Testing standard		IEC 61643-21

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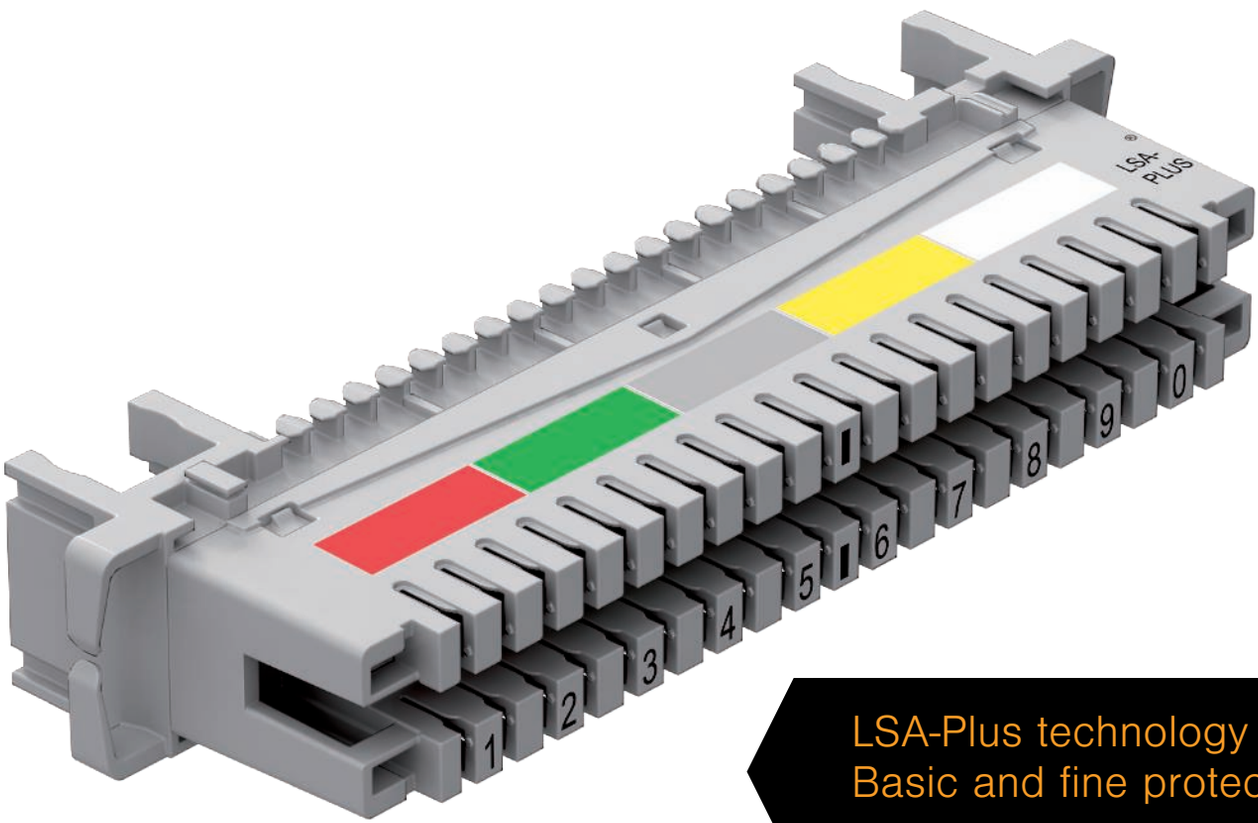
Always indicate the item number when ordering.

Surge protection devices for industrial telecommunications applications

- Simple installation
- Protection up to ten two-core wires
- Low protection level
- High arresting capacity
- High broadband in basic protection
- Wide range of uses



LSA-Plus technology
Basic and fine protection

In particular with multi-wire cable systems, such as telecommunications distribution systems, the LSA surge voltage components offer rapid, adequate protection. The LSA system offers both basic protection modules and fine protection modules to protect up to ten two-core wires per connection strip. These are split up into separating and connection strips and must be selected according to the application.

Always indicate the item number when ordering.

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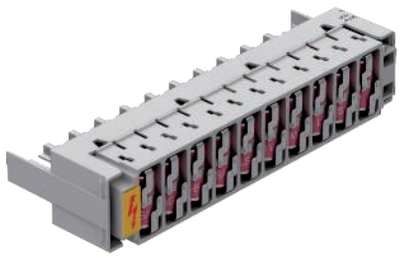
LSA basic protection magazine

Type	Installation type	Number of poles	Pack. pcs	Weight kg/100 pcs.	Item No.
LSA-B-MAG	LSA-Plus, connectable	20	1	8.600	**5084020**

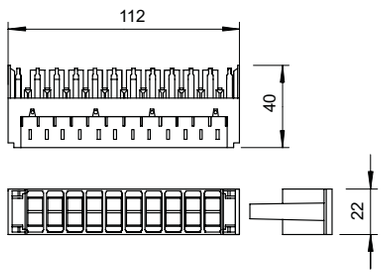
LSA-B-MAG: LSA basic protection magazine for use in multi-core data cable systems, MCR systems and telephone switchboards.

- Basic protection
- Equipped with 20 gas charge tubes
- Max. voltage: 180 V

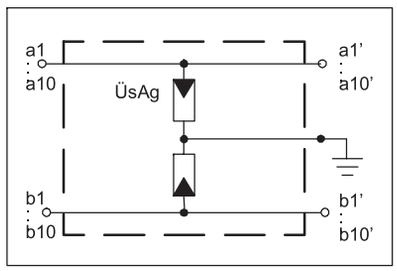
Application: Directly on LSA-Plus separating strips or connection strips (e.g. OBO LSA-A-LEI (5084 00 8) or OBO LSA-T-LEI (5084 01 2).



Dimensions



Connection options



LSA-B-MAG

Maximum continuous voltage AC	U_C	120 V
Maximum continuous voltage DC	U_C	180 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		20
Rated current	I_L	1 A
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		1 kA
Protection level @ C1		<750 V
Temperature range	ϑ	-40 - +80 °C
Installation type		LSA-Plus, connectable
Connection system		Other
Protection rating		IP20
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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Combination protection device LSA BF 180

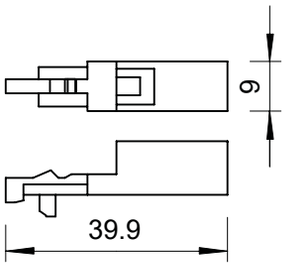
Type	Installation type	Number of poles	Pack. pcs	Weight kg/100 pcs.	Item No.
LSA-BF-180	LSA-Plus, connectable	2	1	0.500	**5084024**

LSA-BF 24: LSA basic and fine protection, for application in MCR systems

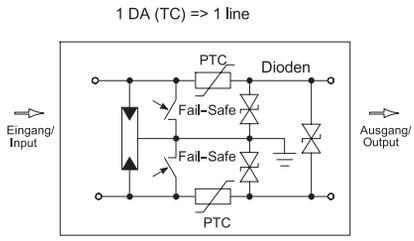
- Basic and fine protection
- Rough protection using fail-safe technology.
- With PTC protection components against overcurrent.
- Max. voltage: 24 V

Application: Directly on LSA-Plus barrier strip or connection rails with earthing rail (e.g. OBO LSA-A-LEI (5084 00 8) or OBO LSA-T-LEI (5084 01 2), and OBO LSA-E (5084 03 2))

Dimensions



Connection options



LSA-BF-180

Maximum continuous voltage AC	U_C	120 V
Maximum continuous voltage DC	U_C	180 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	0.12 A
Impulse durability wire-wire		C2: 5 kV / 2,5 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		5 kA
Total discharge current (10/350)		0,5 kA
Protection level wire-wire		<300 V
Protection level wire-earth		<300 V
Temperature range	ϑ	-40 - +80 °C
Installation type		LSA-Plus, connectable
Connection system		Other
Protection rating		IP20
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Combination protection device LSA BF 24

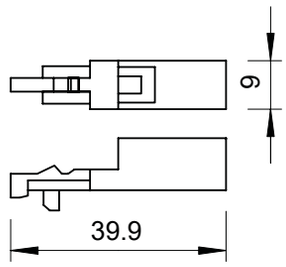
Type	Installation type	Number of poles	Pack. pcs	Weight kg/100 pcs.	Item No.
LSA-BF-24	LSA-Plus, connectable	2	1	0.500	**5084028**

LSA-BF 24: LSA basic and fine protection, for application in MCR systems

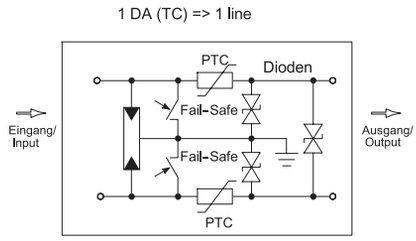
- Basic and fine protection
- Rough protection using fail-safe technology.
- With PTC protection components against overcurrent.
- Max. voltage: 24 V

Application: Directly on LSA-Plus barrier strip or connection rails with earthing rail (e.g. OBO LSA-A-LEI (5084 00 8) or OBO LSA-T-LEI (5084 01 2), and OBO LSA-E (5084 03 2))

Dimensions



Connection options



LSA-BF-24	
Maximum continuous voltage AC U_C	15 V
Maximum continuous voltage DC U_C	24 V
Category	Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ	0→3
Number of poles	2
Rated current I_L	0.12 A
Impulse durability wire-wire	C2: 5 kV / 2,5 kA (8/20µs)
Impulse durability wire-earth	C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)	5 kA
Total discharge current (10/350)	0,5 kA
Protection level wire-wire	<70 V
Protection level wire-earth	<70 V
Temperature range ϑ	-40 - +80 °C
Installation type	LSA-Plus, connectable
Connection system	Other
Protection rating	IP20
Testing standard	IEC 61643-21

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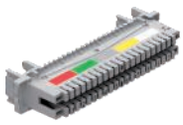
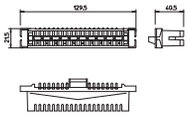
Always indicate the item number when ordering.

LSA connection strip





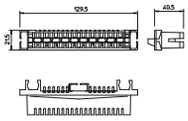
LPZ 0→3 | ISDN | DSL | Analog TK

Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
LSA-A-LEI	Grey	1	5.100	**5084008**

LSA-A-LEI: LSA attaching strip 2/10 for attaching ten double-cores.

- For use with protection element LSA-B-MAG
- Fastening to mounting trough LSA-M
- Colour: grey
- Clampable cross-sections 0.14-0.5 (AWG 26 to 20)

LSA separating strip



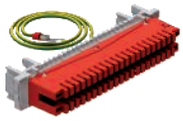
LPZ 0→3 | ISDN | DSL | Analog TK

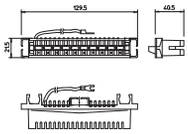
Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
LSA-T-LEI	White	1	5.400	**5084012**

LSA-T-LEI: LSA separating strip 2/10 for attaching up to ten double-cores.

- For use with protection element LSA-BF-180, LSA-BF-24, LSA-B-MAG
- Fastening to mounting trough LSA-M
- Colour: white
- Clampable cross-sections 0.14-0.5 (AWG 26 to 20)

LSA earthing strip





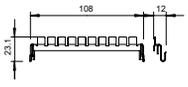
LPZ 0→3 | ISDN | DSL | Analog TK

Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
LSA-E-LEI	Red	1	6.500	**5084016**

LSA-E-LEI: LSA earthing strip, 40-pin for attaching earth lines or screens to the earth connection.

- Complete with connection line, green-yellow, 1.5 mm²
- Colour: red

LSA earthing rail

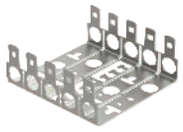


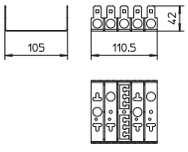
LPZ 0→3 | ISDN | DSL | Analog TK

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
LSA-E	1	1.000	**5084032**

LSA-E: Earth rail as earth connection between overvoltage protectors LFS-BF… (1 DA) and distributor connector LSA-...-LEI.

LSA installation trough





LPZ 0→3 | ISDN | DSL | Analog TK

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
LSA-M	1	7.800	**5084036**

St Steel

LSA-M: Installation trough for 5 connection or separating strips. Grid 22.5 mm.
Depth: 22 mm; 30 mm; 50 mm

Always indicate the item number when ordering.

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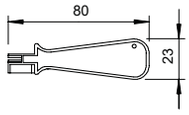
LSA simple tool

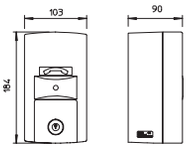
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
LSA-TOOL	1	0.600	**5084040**



LSA-TOOL: Simple tool for soldering, bolting and stripping-free connection of cores, without cutter.

LSA protective housing

Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
LSA-G	Light grey	1	57.500	**5084048**



PA Polyamide

Protective housing for a LSA 10 DA bar

- Protective housing for 10 wire pairs
- Housing can be locked
- Incl. key
- 4x cable fixing
- Light grey

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Always indicate the item number when ordering.

Surge protection for high frequency applications: the plus of the DS family

- Coaxial protection devices
- Optimum protection for sensitive systems
- Low insertion attenuation and low return loss at different wave resistances
- High bandwidth

Coaxial protection devices for S-UHF, BNC, N, TNC, F and SMA connection

The coaxial protection devices of type DS offer optimum protection of sensitive systems, based on coaxial plug connections. The low insertion attenuation and low return attenuation at different wave resistances offer ideal protection for any application. In accordance with their structure, the protection devices are switched into the application in series, and are connected to the local equipotential bonding. The direct shield earthing avoids reducing of the shield performance.

Always indicate the item number when ordering.

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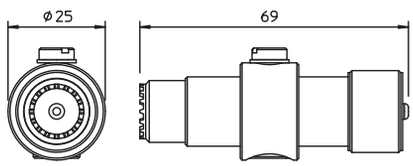
Coaxial protection devices for S-UHF connection: male/female

Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
S-UHF M/W	UHF	0 - 1,3 GHz	1	7.000	**5093023**

Coaxial data cable protection devices

- Basic protection
- High pulsed current carrying capacity 2 x 2.5 kA (10/350 µs)
- Simple installation (adapter plug), m = male/f = female connector
- Various plug combinations
- With UHF connector
- Optimised transmission behaviour
- Including OBO M25 Quick clip for simple installation

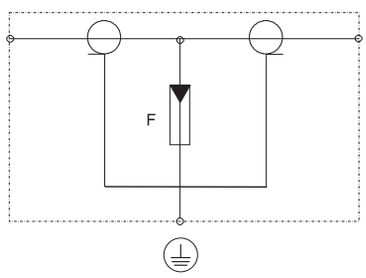
Dimensions



S-UHF M/W

Maximum continuous voltage AC	U_C	130 V
Maximum continuous voltage DC	U_C	185 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	10 A
Wave resistance	Z_L	50 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		5 kA
Protection level		<800 V
Frequency range		0 - 1,3 GHz
Insertion loss	S_{21}	≤0,2 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		UHF
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Connection options



Always indicate the item number when ordering.

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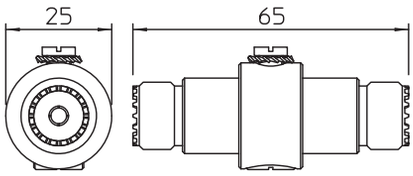
Coaxial protection devices for S-UHF connection: female/female

Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
S-UHF W/W	UHF	0 - 1,3 GHz	1	7.000	**5093015**

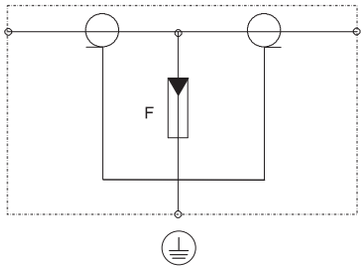
Coaxial data cable protection devices

- Basic protection
- High pulsed current carrying capacity 2 x 2.5 kA (10/350 µs)
- Simple installation (adapter plug), m = male/f = female connector
- Various plug combinations
- With UHF connector
- Optimised transmission behaviour
- Including OBO M25 Quick clip for simple installation

Dimensions



Connection options



S-UHF W/W

Maximum continuous voltage AC	U_C	130 V
Maximum continuous voltage DC	U_C	185 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	10 A
Wave resistance	Z_L	50 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		5 kA
Protection level		<800 V
Frequency range		0 - 1,3 GHz
Insertion loss	S_{21}	≤0,2 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		UHF
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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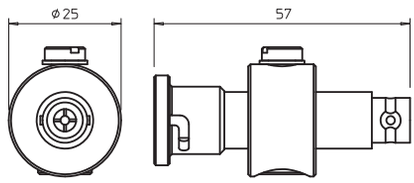
Coaxial protection device for BNC connection: male/female

Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
DS-BNC M/W	BNC	0 - 2,2 GHz	1	6.500	**5093252**

Coaxial data cable protection devices

- Basic protection
- High pulsed current carrying capacity 2 x 2.5 kA (10/350 µs)
- Simple installation (adapter plug), m = plug/f = female connector
- Various plug combinations
- With BNC connector
- Optimised transmission behaviour
- Including OBO M25 Quick clip for simple installation

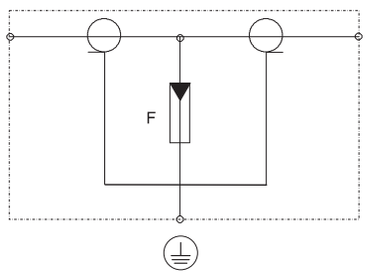
Dimensions



DS-BNC M/W

Maximum continuous voltage AC	U_C	130 V
Maximum continuous voltage DC	U_C	185 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	10 A
Wave resistance	Z_L	50 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		5 kA
Protection level		<800 V
Frequency range		0 - 2,2 GHz
Insertion loss	S_{21}	≤0,95 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		BNC
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Connection options



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Always indicate the item number when ordering.

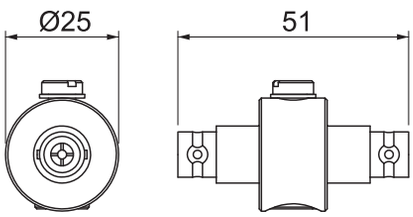
Coaxial protection device for BNC connection: female/female

Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
DS-BNC W/W	BNC	0 - 2,2 GHz	1	6.000	**5093236**

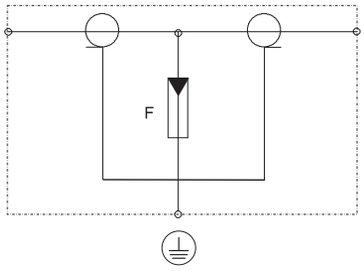
Coaxial data cable protection devices

- Basic protection
- High pulsed current carrying capacity 2 x 2.5 kA (10/350 µs)
- Simple installation (adapter plug), m = plug/f = female connector
- Various plug combinations
- With BNC connector
- Optimised transmission behaviour
- Including OBO M25 Quick clip for simple installation

Dimensions



Connection options



DS-BNC W/W

Maximum continuous voltage AC	U_C	130 V
Maximum continuous voltage DC	U_C	185 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	10 A
Wave resistance	Z_L	50 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		5 kA
Protection level		<800 V
Frequency range		0 - 2,2 GHz
Insertion loss	S_{21}	≤0,95 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		BNC
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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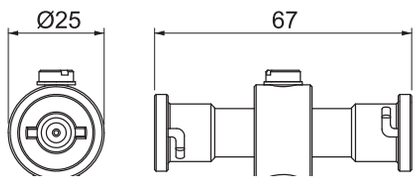
Coaxial protection device for BNC connection: male/male

Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
DS-BNC M/M	BNC	0 - 2,2 GHz	1	7.000	**5093260**

Coaxial data cable protection devices

- Basic protection
- High pulsed current carrying capacity 2 x 2.5 kA (10/350 µs)
- Simple installation (adapter plug), m = plug/f = female connector
- Various plug combinations
- With BNC connector
- Optimised transmission behaviour
- Including OBO M25 Quick clip for simple installation

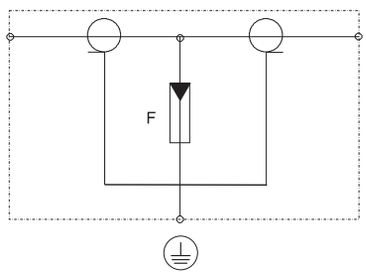
Dimensions



DS-BNC M/M

Maximum continuous voltage AC	U_C	130 V
Maximum continuous voltage DC	U_C	185 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	10 A
Wave resistance	Z_L	50 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		5 kA
Protection level		<800 V
Frequency range		0 - 2,2 GHz
Insertion loss	S_{21}	≤0,95 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		BNC
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Connection options



Always indicate the item number when ordering.

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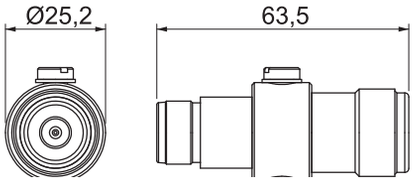
Coaxial protection device for N connection: male/female

Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
DS-N M/W	N	0 - 3 GHz	1	12.200	**5093996**

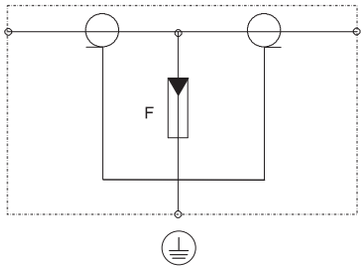
Coaxial data cable protection devices

- High pulsed current carrying capacity 2 x 2.5 kA (10/350)
- Simple mounting (adapter plug), m = plug/f = female connector
- Optimised transmission behaviour
- 5-year guarantee
- With N connector
- Including OBO M25 Quick clip for simple installation

Dimensions



Connection options



DS-N M/W

Maximum continuous voltage AC	U_C	130 V
Maximum continuous voltage DC	U_C	185 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	10 A
Wave resistance	Z_L	50 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		5 kA
Protection level		<800 V
Frequency range		0 - 3 GHz
Insertion loss	S_{21}	≤0,62 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		N
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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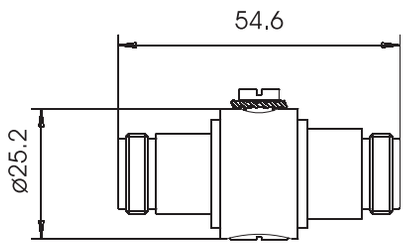
Coaxial protection device for N connection: female/female

Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
DS-N W/W	N	0 - 3 GHz	1	11.500	**5093988**

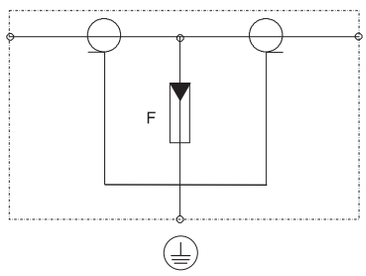
Coaxial data cable protection devices

- High pulsed current carrying capacity 2 x 2.5 kA (10/350)
- Simple mounting (adapter plug), m = plug/f = female connector
- Optimised transmission behaviour
- 5-year guarantee
- With N connector
- Including OBO M25 Quick clip for simple installation

Dimensions



Connection options



DS-N W/W

Maximum continuous voltage AC	U_C	130 V
Maximum continuous voltage DC	U_C	185 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	10 A
Wave resistance	Z_L	50 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		5 kA
Protection level		<800 V
Frequency range		0 - 3 GHz
Insertion loss	S_{21}	≤0,62 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		N
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

02_TBS_Produkteinheitenkatalog_EX_2018 / en / 2018/11/23 15:05:20 15:05:20 (LLExport_02235) / 2018/11/23 15:07:49 15:07:49

Coaxial protection device for N connection up to 6 GHz: Male/female

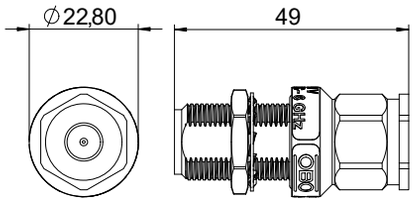
LPZ 0→2 | TV | SAT

Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
DS-N-6 M/W	N	0 - 6 GHz	1	7.830	**5093998**

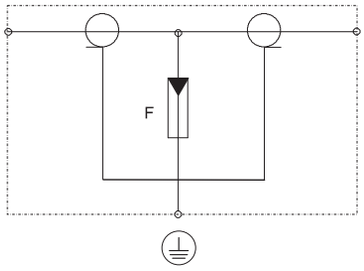
Coaxial data cable protection devices for transmission and reception technology
- With N-Connector, male/female
- High impulse current load capacity: 2.5 kA (10/350)
- Simple mounting (adapter), m = connector, w = socket
- Low protection level at high current loads
- Optimum transmission behaviour:
  - Low reflection behaviour
  - Bandwidth-optimised for secure transmission up to 6 GHz
- Available in 50 Ω technology

Application: For example: SAT-TV C band, WiMAX, WLAN applications, DVB-T2

Dimensions



Connection options



DS-N-6 M/W

Maximum continuous voltage AC	U_C	50 V
Maximum continuous voltage DC	U_C	70 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	10 A
Wave resistance	Z_L	50 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Protection level		<750 V
Frequency range		0 - 6 GHz
Insertion loss	S_{21}	≤0,1 dB
Return loss	S_{11}	≥22 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		N
Protection rating		IP65/67
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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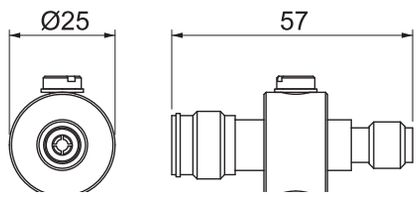
Coaxial protection device for TNC connection: male/female

Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
DS-TNC M/W	TNC	0 - 4 GHz	1	9.000	**5093270**

Coaxial data cable protection devices

- Basic protection
- High pulsed current carrying capacity 2 x 2.5 kA (10/350 µs)
- Simple installation (adapter plug), m = plug/f = female connector
- Various plug combinations
- With TNC connector
- Optimised transmission behaviour
- Including OBO M25 Quick clip for simple installation

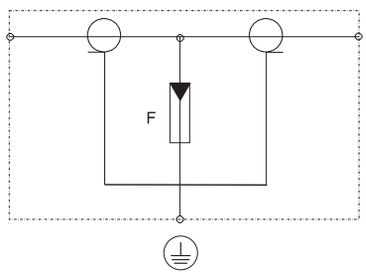
Dimensions



DS-TNC M/W

Maximum continuous voltage AC	U_C	130 V
Maximum continuous voltage DC	U_C	185 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	10 A
Wave resistance	Z_L	50 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		5 kA
Protection level		<800 V
Frequency range		0 - 4 GHz
Insertion loss	S_{21}	≤0,5 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		TNC
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Connection options



Always indicate the item number when ordering.

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Coaxial protection device for 7/16 connection: male/female

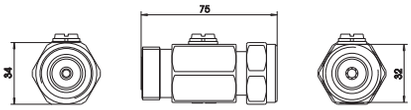
Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
DS-7 16 M/W	7/16	0 - 3 GHz	1	35.500	**5093171**

Coaxial data protection device

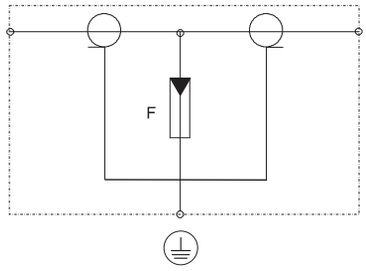
- Basic protection
- Simple mounting (adapter)
- Optimum transmission
- High pulse load capacity
- With 7/16 connector

Application: to protect mobile telephony applications.

Dimensions



Connection options



DS-7 16 M/W

Maximum continuous voltage AC	U_C	130 V
Maximum continuous voltage DC	U_C	185 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	10 A
Wave resistance	Z_L	50 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		5 kA
Protection level		<800 V
Frequency range		0 - 3 GHz
Insertion loss	S_{21}	≤0,95 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		7/16
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Coaxial protection device for F connection: male/female

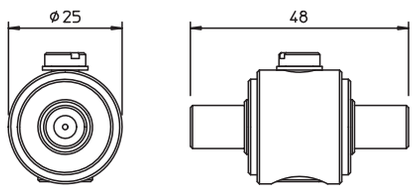
Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
DS-F M/W	F	0 - 3,4 GHz	1	9.000	**5093275**

Coaxial data cable protection devices

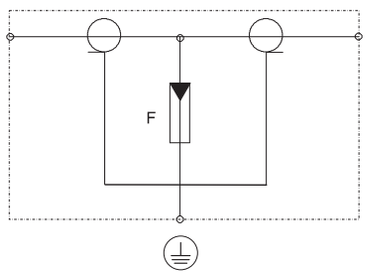
- Basic protection
- High pulsed current carrying capacity 2 x 2.5 kA (10/350 µs)
- Simple installation (adapter plug), m = plug/f = female connector
- Various plug combinations
- With F connector
- Optimised transmission behaviour
- Including OBO M25 Quick clip for simple installation

Application: Protection of TV and SAT systems, multi-switches, receivers and DVB-T(2)

Dimensions



Connection options



DS-F M/W

Maximum continuous voltage AC	U_C	130 V
Maximum continuous voltage DC	U_C	185 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	5 A
Wave resistance	Z_L	75 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	1 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		2 kA
Protection level		<800 V
Frequency range		0 - 3,4 GHz
Insertion loss	S_{21}	≤0,9 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		F
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Coaxial protection device for F connection: female/female

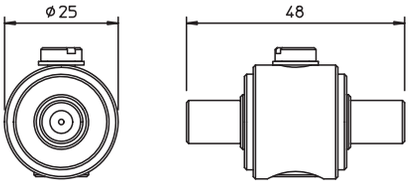
Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
DS-F W/W	F	0 - 3,4 GHz	1	9.000	**5093272**

Coaxial data cable protection devices

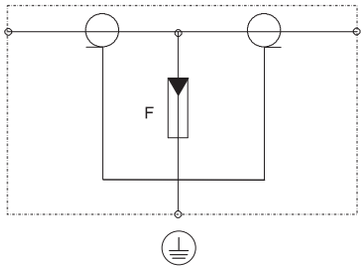
- Basic protection
- High pulsed current carrying capacity 2 x 2.5 kA (10/350 µs)
- Simple installation (adapter plug), m = plug/f = female connector
- Various plug combinations
- With F connector
- Optimised transmission behaviour
- Including OBO M25 Quick clip for simple installation

Application: Protection of TV and SAT systems, multi-switches, receivers and DVB-T(2)

Dimensions



Connection options



DS-F W/W

Maximum continuous voltage AC	U_C	130 V
Maximum continuous voltage DC	U_C	185 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	5 A
Wave resistance	Z_L	75 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	1 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		2 kA
Protection level		<800 V
Frequency range		0 - 3,4 GHz
Insertion loss	S_{21}	≤0,9 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		F
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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Coaxial protection device for SMA connection: female/female

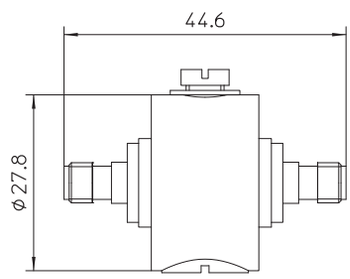
Type	Connection system	Frequency range	Pack. pcs	Weight kg/100 pcs.	Item No.
DS-SMA W/W	SMA	0 - 3,7 GHz	1	7.500	**5093277**

Coaxial data cable protection devices

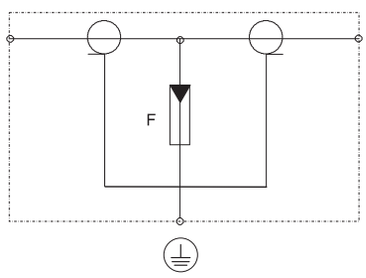
- High pulsed current carrying capacity 2 x 2.5 kA (10/350)
- Simple mounting (adapter plug), m = plug/f = female connector
- Optimised transmission behaviour
- 5-year guarantee
- With SMA connector
- Including OBO M25 Quick clip for simple installation
- 50 Ω technology

Application: Radio and data technology with SMA connector

Dimensions



Connection options



DS-SMA W/W

Maximum continuous voltage AC	U_C	130 V
Maximum continuous voltage DC	U_C	185 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		1
Rated current	I_L	10 A
Wave resistance	Z_L	50 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	2.5 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		5 kA
Protection level		<800 V
Frequency range		0 - 3,7 GHz
Insertion loss	S_{21}	≤0,2 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		SMA
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Coaxial protection device for SAT and cable multiswitch

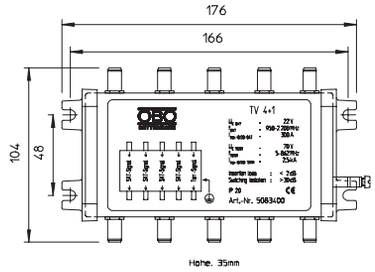
Type	Connection system	Frequency range	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
TV 4+1	F	0,5 - 2,8 GHz	F	1	37.000	**5083400**

Coaxial data line protection for TV reception systems

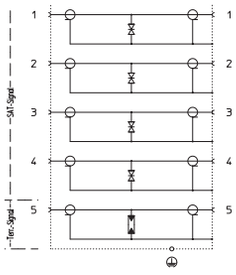
- Protects up to four SAT lines
- Protects one terrestrial line, e.g. DVB-T.
- Simple mounting using screws and holder
- With F-connector
- Optimum transmission behaviour with 75 Ohm technology.

Application: Protection of TV and SAT systems, multi-switches, receivers and DVB-T receivers

Dimensions



Connection options



TV 4+1

Maximum continuous voltage Vc | SAT inputs	U_C	22 V
Maximum continuous voltage Vc | terrestrial input	U_C	70 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		5
Rated current	I_L	2 A
Wave resistance	Z_L	75 Ω
Nominal discharge current | SAT inputs	I_n	300 A
Lightning impulse current | terrestrial input	I_{imp}	1 kA
Protection level | SAT inputs at In	U_p	<45 V
Protection level | terrestrial input at In		<500 V
Frequency range		0,5 - 2,8 GHz
Insertion loss	S_{21}	≤3 dB
Return loss	S_{11}	>30 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Surface-mounted
Connection system		F
Protection rating		IP10
Shielding connection available		Yes
Shield connection		Direct
Earthing via:		Connection cable
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Surge protection devices for network technology and CCTV camera systems

- Connectable protection device
- High-performance surge protection
- Usable in the "Channel Link" up to 10 GBit
- Supports Power over Ethernet to 1 A
- Testing protocol available

Surge protection for data and network technology

The "Net Defender" permits the use of Power over Ethernet with nominal currents of up to 1 A and optimised surge protection in the channel up to 10 GBit/s. This corresponds to a Channel Performance according to ISO/IEC 11801 Amd. 2 of Class EA or CAT 6A to TIA/ANSI. Of course, reverse compatibility is also guaranteed. To ensure easy installation, the "Net Defender" can be snapped directly onto the DIN rail and uses it to create the necessary equipotential bonding. Alternatively, terminal protection using a separately connectable earthing line is possible.

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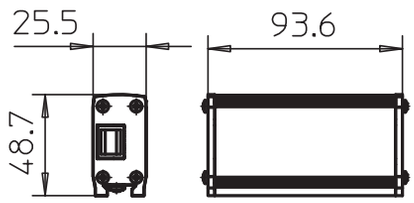
Surge protection for high-speed networks up to 10 GBit (Class EA/CAT6A)

Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
ND-CAT6A/EA	Fine protection, 8 wires + shield	RJ45 8(8)	1	16.600	**5081800**

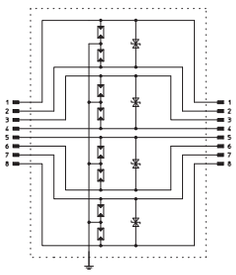
Data cable protection device for high-speed networks
- High-quality RJ45 sockets
- Low protection level at high current load
- Earthing via DIN rail or connection cable
- Support of Power over Ethernet + to 1 A
- Tested transmission quality in networks up to 10 GBit (Class EA) or CAT6A
- Rapid installation through plug-in version
- Incl. DIN rail fastening set and earthing cable

Application example: 10 GBit Ethernet, 10/100 MBit Ethernet, PoE applications, IP camera systems, ISDN S0 interfaces

Dimensions



Connection options



ND-CAT6A/EA

Maximum continuous voltage AC	U_C	41 V
Maximum continuous voltage DC	U_C	58 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Channel performance ISO/IEC		Class EA
Channel performance Ansi/EA		CAT 6A
Number of poles		8
Rated current	I_I	1 A
Impulse durability wire-wire		C1: 0,3 kV / 0,15 kA (8/20µs)
Impulse durability wire-earth		C2: 2 kV / 1 kA (8/20µs)
Total discharge current (8/20)		7 kA
Protection level wire-wire		<120 V
Protection level wire-earth		<700 V
Frequency range		>500 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		RJ45 8(8)
Protection rating		IP10
Shielding connection available		Yes
Shield connection		Direct
Earthing via:		Connection cable / DIN rail
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Fine protection 8-F for Ethernet networks (Class D/CAT 5)

LPZ 1→3 | Cat 5

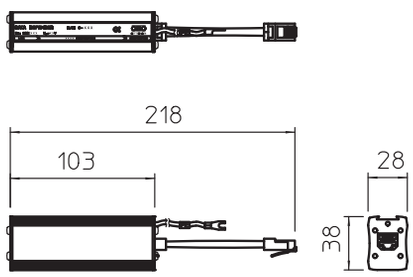
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
RJ45 S-ATM 8-F	Fine protection, 8 wires + shield	RJ45 8(8)	1	14.000	**5081990**

Universal data cable protection device for network technology and telecommunication systems

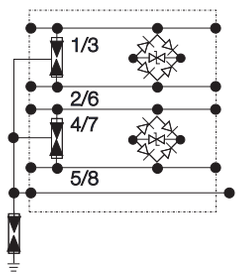
- In aluminium housing
- Protection for 8 cores
- With two-stage protective circuit
- Simple mounting
- With RJ45 Western connector
- Incl. 150 mm connection cable with RJ45 connectors
- Cat 5e network technology, 10BaseT, 100BaseT, 1000BaseT
- DIN rail mounting with accessories DLS-BS (5082 38 2)

Application: For analogue, ISDN, DSL systems, Ethernet Twisted Pair.

Dimensions



Connection options



RJ45 S-ATM 8-F

Maximum continuous voltage AC	U_C	4.2 V
Maximum continuous voltage DC	U_C	6.2 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Channel performance ISO/IEC		Class D
Channel performance Ansi/EA		CAT 5e
Number of poles		8
Rated current	I_L	1 A
Impulse durability wire-wire		C2: 3 kV / 1,5 kA (8/20µs)
Impulse durability wire-earth		C2: 3 kV / 1,5 kA (8/20µs)
Total discharge current (8/20)		7,5 kA
Protection level wire-wire		<40 V
Protection level wire-earth		<900 V
Frequency range		>155 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		RJ45 8(8)
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Earthing via:		Connection cable
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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Combination arrestor for 10Base2-/10Base5 networks

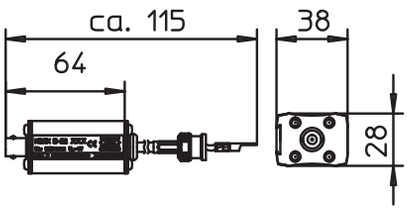
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
KOAX B-E2 MF-C	Combi protection	BNC	1	10.300	**5082430**

Data line protection device for coaxial Ethernet network systems

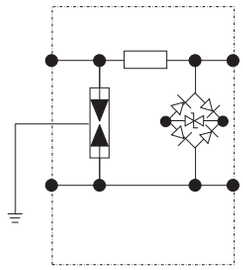
- In aluminium housing
- BNC connector m/f
- Simple mounting with adapter plug
- Two-stage protection circuit
- DIN rail mounting with DLS-BS accessories (5082 38 2)

Application: Protecting video signals; cameras and/or CCTV units, Cheapernet, 10BASE2, 10BASE5

Dimensions



Connection options



KOAX B-E2 MF-C

Maximum continuous voltage AC	U_C	4.2 V
Maximum continuous voltage DC	U_C	6.2 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		1
Rated current	I_L	0.3 A
Series resistance per wire		4,7 Ω ± 10%
Wave resistance	Z_L	75 Ω
Impulse durability wire-wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	1 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		2 kA
Protection level wire-wire		<75 V
Protection level wire-earth		<600 V
Frequency range		0 - 68 MHz
Insertion loss	S_{21}	≤1,7 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-20 - +80 °C
Installation type		Connector/cable adapter
Connection system		BNC
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Earthing via:		Connection cable
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Fine protection for 10Base2-/10Base5 networks

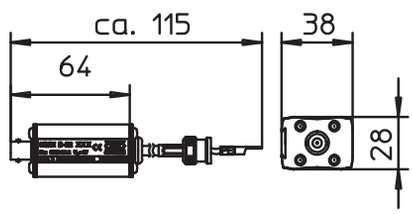
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
KOAX B-E2 MF-F	Fine protection	BNC	1	9.800	**5082432**

Data line protection device for coaxial Ethernet network systems

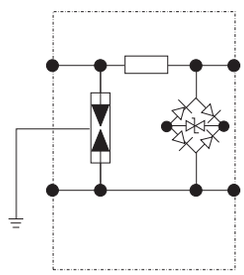
- In aluminium housing
- BNC connector m/f
- Simple mounting with adapter plug
- Two-stage protection circuit
- DIN rail mounting with DLS-BS accessories (5082 38 2)

Application: Protecting video signals; cameras and/or CCTV units, Cheapernet, 10BASE2, 10BASE5

Dimensions



Connection options



KOAX B-E2 MF-F

Maximum continuous voltage AC	U_C	4.2 V
Maximum continuous voltage DC	U_C	6.2 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		1
Rated current	I_L	1 A
Series resistance per wire		—
Wave resistance	Z_L	75 Ω
Impulse durability wire-wire		C1: 1 kV / 0,5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	— kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		— kA
Protection level wire-wire		<40 V
Protection level wire-earth		<600 V
Frequency range		0 - 70 MHz
Insertion loss	S_{21}	≤1 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-20 - +80 °C
Installation type		Connector/cable adapter
Connection system		BNC
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Earthing via:		Connection cable
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Data cable protection device for coaxial TV / camera systems

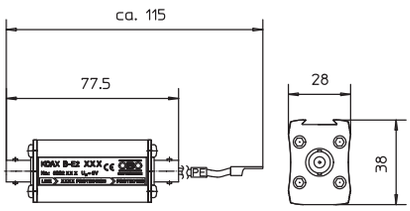
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
KOAX B-E2 FF-F	Fine protection	BNC	1	14.400	**5082434**

Data cable protection device for coaxial TV / camera systems

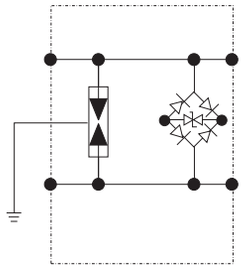
- In aluminium housing
- BNC connector socket/socket
- Simple mounting with adapter plug
- Two-stage protection circuit
- DIN rail mounting with DLS-BS accessories (5082 38 2)

Application: Protection of CCTV, video signals; cameras and/or TV systems

Dimensions



Connection options



KOAX B-E2 FF-F

Maximum continuous voltage AC	U_C	4.2 V
Maximum continuous voltage DC	U_C	6.2 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		1
Rated current	I_L	1 A
Series resistance per wire		–
Wave resistance	Z_L	75 Ω
Impulse durability wire-wire		C1: 1 kV / 0,5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	– kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		– kA
Protection level wire-wire		<40 V
Protection level wire-earth		<600 V
Frequency range		0 - 160 MHz
Insertion loss	S_{21}	≤1,7 dB
Return loss	S_{11}	≥14 dB
Temperature range	ϑ	-20 - +80 °C
Installation type		Connector/cable adapter
Connection system		BNC
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Earthing via:		–
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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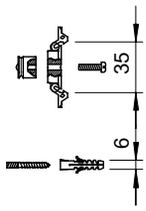
Fastening set for DIN profile rail

Cat 5 | PoE | LPZ 0→3 | LPZ 1→3 | Cat 6A | Class EA



Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
DLS-BS	For mounting: • Coax B-E2/... • Coax N-E5/... • RJ 11-Tele/4... • RJ 45 S-...	1	5.000	**5082382**

DLS-BS: The attachment set is designed for DIN profile rail and wall mounting and can be used for the data cable protection devices listed below:

- Coax B-E2/...
- RJ 11-Tele/4...
- RJ 45 S-...

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Always indicate the item number when ordering.

Surge protection for high-speed networks up to 1 GBit (Class ND-CAT6/E-F)

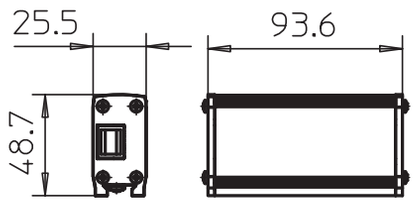
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
ND-CAT6/E-F	Fine protection, 8 wires + shield	RJ45 8(8)	1	16.380	**5081802**
ND-CAT6/E-B	Basic protection, 8 wires + shield	RJ45 8(8)	1	16.220	**5081804**

Alu Aluminium

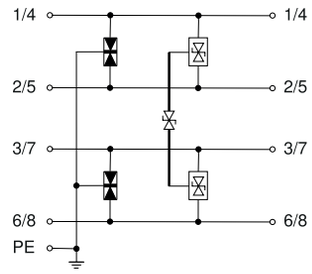
Data cable protection device for high-speed networks
- High-quality RJ45 sockets
- Low protection level at high current load
- Earthing via DIN rail or connection cable
- Support of Power over Ethernet + to 1 A
- Tested transmission quality in networks up to 10 GBit (Class EA) or CAT6A
- Rapid installation through plug-in version
- Incl. DIN rail fastening set and earthing cable

Application example: 10 GBit Ethernet, 10/100 MBit Ethernet, PoE applications, IP camera systems, ISDN S0 interfaces

Dimensions



Connection options



ND-CAT6/E-F	
Maximum continuous voltage AC U_C	41 V
Maximum continuous voltage DC U_C	58 V
Category	Type 2+3 / C2+C1
Lightning protection zone LPZ	1→3
Channel performance ISO/IEC	Class E
Channel performance Ansi/EA	CAT 6
Number of poles	8
Rated current I_L	1 A
Impulse durability wire-wire	C1: 0,3 kV / 0,15 kA (8/20µs)
Impulse durability wire-earth	C2: 3 kV / 1,5 kA (8/20µs)
Total discharge current (8/20)	5 kA
Protection level wire-wire	<40 V
Protection level wire-earth	<900 V
Frequency range	>250 MHz
Temperature range ϑ	-40 - +80 °C
Installation type	Connector/cable adapter
Connection system	RJ45 8(8)
Protection rating	IP10
Shielding connection available	Yes
Shield connection	Direct
Earthing via:	Connection cable / DIN rail
Testing standard	IEC 61643-21

ND-CAT6/E-B	
Maximum continuous voltage AC U_C	46 V
Maximum continuous voltage DC U_C	65 V
Category	Type 1 / D1
Lightning protection zone LPZ	0→1
Channel performance ISO/IEC	Class E
Channel performance Ansi/EA	CAT 6
Number of poles	8
Rated current I_L	1 A
Impulse durability wire-wire	C2: 3 kV / 1,5 kA (8/20µs)
Impulse durability wire-earth	C2: 3 kV / 1,5 kA (8/20µs)
Total discharge current (8/20)	10 kA
Protection level wire-wire	<1100 V
Protection level wire-earth	<900 V
Frequency range	>250 MHz
Temperature range ϑ	-40 - +80 °C
Installation type	Connector/cable adapter
Connection system	RJ45 8(8)
Protection rating	IP10
Shielding connection available	Yes
Shield connection	Direct
Earthing via:	Connection cable / DIN rail
Testing standard	IEC 61643-21

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Always indicate the item number when ordering.

Basic protection for 4-wire information technology systems with RJ45

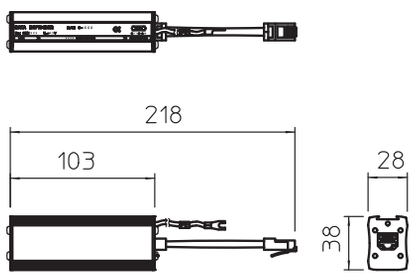
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
RJ45 S-E100 4-B	Basic protection, 4 wires + shield	RJ45	1	14.000	**5081001**

Data line protection device for IT systems

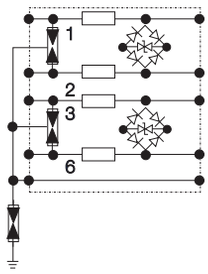
- In aluminium housing
- RJ45 connector
- Incl. 150 mm connection cable with RJ45 connectors
- Simple mounting using adapter
- 2-stage protection circuit
- DIN rail mounting with DLS-BS accessories (5082 38 2)

Application: Twisted Pair, control circuits, RJ45 communication cables

Dimensions



Connection options



RJ45 S-E100 4-B

Maximum continuous voltage AC	U_C	120 V
Maximum continuous voltage DC	U_C	170 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		4
Rated current	I_L	1 A
Series resistance per wire		–
Impulse durability wire-wire		C2: 3 kV / 1,5 kA (8/20µs)
Impulse durability wire-earth		C2: 3 kV / 1,5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	0.5 kA
Total discharge current (8/20)		7,5 kA
Total discharge current (10/350)		2,5 kA
Protection level wire-wire		<700 V
Protection level wire-earth		<850 V
Frequency range		0 - 463 MHz
Insertion loss	S_{21}	≤3 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		RJ45
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Indirect
Earthing via:		Connection cable
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Combination arrestor for 4-wire information technology systems with RJ45

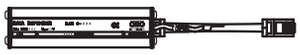
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
RJ45 S-E100 4-C	Combined protection, 4 wires + shield	RJ45	1	14.000	**5081003**

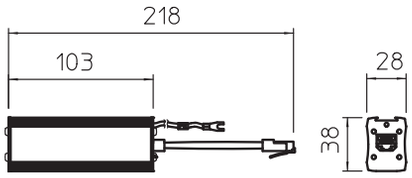
Data line protection device for IT systems

- In aluminium housing
- RJ45 connector
- Incl. 150 mm connection cable with RJ45 connectors
- Simple mounting using adapter
- 2-stage protection circuit
- DIN rail mounting with DLS-BS accessories (5082 38 2)

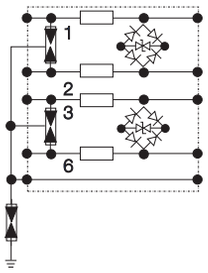
Application: Twisted Pair, control circuits, RJ45 communication cables

Dimensions





Connection options



RJ45 S-E100 4-C

Maximum continuous voltage AC	U_C	4.2 V
Maximum continuous voltage DC	U_C	6.2 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→2
Number of poles		4
Rated current	I_L	0.3 A
Series resistance per wire		4,7 Ω ± 10%
Impulse durability wire-wire		C2: 3 kV / 1,5 kA (8/20µs)
Impulse durability wire-earth		C2: 3 kV / 1,5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	1.5 kA
Total discharge current (8/20)		7,5 kA
Total discharge current (10/350)		2,5 kA
Protection level wire-wire		<70 V
Protection level wire-earth		<850 V
Frequency range		0 - 109 MHz
Insertion loss	S_{21}	≤3 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		RJ45
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Indirect
Earthing via:		Connection cable
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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Fine protection for 4-wire information technology systems with RJ45

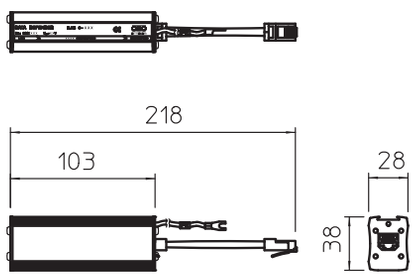
Type	Version	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
RJ45 S-E100 4-F	Fine protection, 4 wires + shield	RJ45	1	14.000	**5081005**

Data line protection device for IT systems

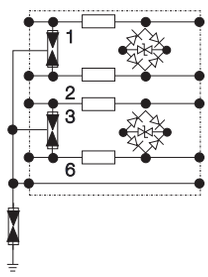
- In aluminium housing
- RJ45 connector
- Incl. 150 mm connection cable with RJ45 connectors
- Simple mounting using adapter
- 2-stage protection circuit
- DIN rail mounting with DLS-BS accessories (5082 38 2)

Application: Twisted Pair, control circuits, RJ45 communication cables

Dimensions



Connection options



RJ45 S-E100 4-F

Maximum continuous voltage AC	U_C	4.2 V
Maximum continuous voltage DC	U_C	6.2 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		2→3
Number of poles		4
Rated current	I_L	1 A
Series resistance per wire		—
Impulse durability wire-wire		C1: 1 kV / 0,5 kA (8/20µs)
Impulse durability wire-earth		C1: 1 kV / 0,5 kA (8/20µs)
Impulse discharge current (10/350)	I_{imp}	— kA
Total discharge current (8/20)		2,5 kA
Total discharge current (10/350)		— kA
Protection level wire-wire		<40 V
Protection level wire-earth		<750 V
Frequency range		0 - 100 MHz
Insertion loss	S_{21}	≤3 dB
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		RJ45
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Indirect
Earthing via:		Connection cable
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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Fine protection for 9-pole RS232 interface

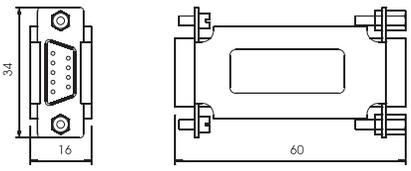
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
SD09-V24 9	18	SUB-D-9; V24 RS232	1	6.000	**5080053**

Data cable protection devices, serial interfaces

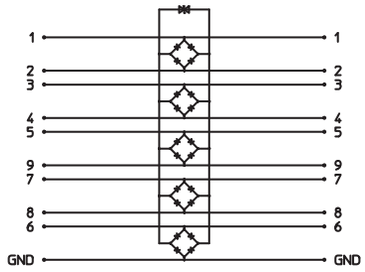
- Various connection technologies available
- Low protection level

Application: PLC, alarm systems, controllers

Dimensions



Connection options



SD09-V24 9

Max. continuous operating voltage	U_C	18 V
Category		Type 3 / C1
Lightning protection zone LPZ		2→3
Number of poles		9
Impulse durability wire-wire		0,34 kA (8/20µs)
Impulse durability wire-earth		0,34 kA (8/20µs)
Protection level wire-wire		<50 V
Protection level wire-earth		<50 V
Protection level, wire-earth at 1 kV/µs (C3)	U_p	<25 V
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		D-Sub 9 pole
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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Fine protection for 15-pole RS232 interface

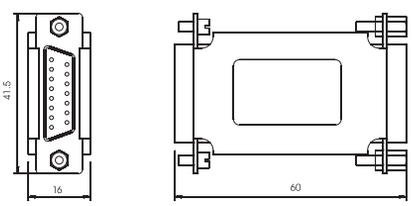
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
SD15-V24 15	18	SUB-D-15; V24 RS232	1	7.000	**5080150**

Data cable protection devices, serial interfaces

- Various connection technologies available
- Low protection level

Application: PLC, alarm systems, controllers

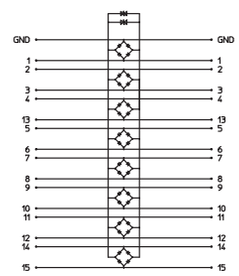
Dimensions



SD15-V24 15

Max. continuous operating voltage	U_C	18 V
Category		Type 3 / C1
Lightning protection zone LPZ		2→3
Number of poles		15
Impulse durability wire-wire		0,34 kA (8/20µs)
Impulse durability wire-earth		0,34 kA (8/20µs)
Protection level wire-wire		<50 V
Protection level wire-earth		<50 V
Protection level, wire-earth at 1 kV/µs (C3)	U_p	<25 V
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		D-Sub 15 pole
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Connection options



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Always indicate the item number when ordering.

Fine protection for 9-pole RS485 interface

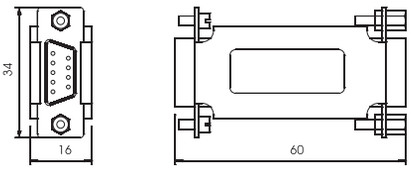
Type	Highest continuous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
SD09-V11 9	7.5	SUB-D-9; V11 RS485	1	6.000	**5080061**

Data cable protection devices, serial interfaces

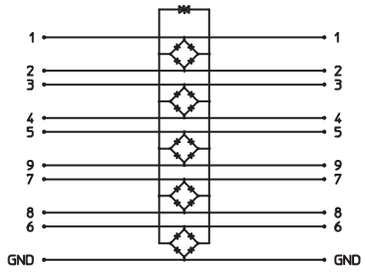
- Various connection technologies available
- Low protection level

Application: PLC, alarm systems, controllers

Dimensions



Connection options



SD09-V11 9

Max. continuous operating voltage	U_C	7.5 V
Category		Type 3 / C1
Lightning protection zone LPZ		2→3
Number of poles		9
Impulse durability wire-wire		0,75 kA (8/20µs)
Impulse durability wire-earth		0,75 kA (8/20µs)
Protection level wire-wire		<100 V
Protection level wire-earth		<100 V
Protection level, wire-earth at 1 kV/µs (C3)	U_p	<10 V
Temperature range	ϑ	-40 - +80 °C
Installation type		Connector/cable adapter
Connection system		D-Sub 9 pole
Protection rating		IP40
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Fine protection for energy systems, series installation: the plus of the VF family

- High arresting capacity
- Low protection level
- Usable in AC/DC applications
- Simple mounting using screwless terminals
- UL-listed

Protection for 2-pole power supplies

The lightning barriers of type VF are fine protection devices, used for single-phase energy technology systems. Besides the low protection level, these devices also have a visual display, which will indicate defective surge protection. If required, remote signalling is also available using a changeover contact and an NC contact.

Always indicate the item number when ordering.

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MCR protection for 2-pole power supply, 12 V

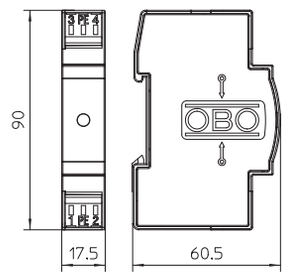
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF12-AC DC	13.5	1	9.000	**5097453**

Surge protection device / fine protection type 3 to EN 61643-11

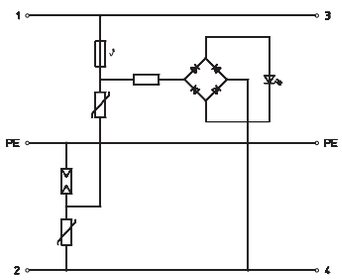
- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rail in every normal commercially available distributor housing.

Dimensions



Connection options



VF12-AC DC

U max AC	U_c AC	13.5 V
U max DC	U_c DC	18 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	0,7 kA
Maximum discharge current (8/20 µs)	I_{max}	2 kA
Rated current	I_L	20 A
Protection level wire-wire		<110 V
Protection level wire-earth		<1200 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²
Approvals		UL

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Always indicate the item number when ordering.

MCR protection for 2-pole for power supply, 24 V

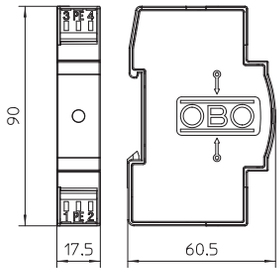
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF24-AC/DC	34	1	8.000	**5097607**

Surge protection device / fine protection type 3 to EN 61643-11

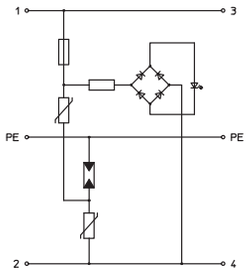
- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rail in every normal commercially available distributor housing.

Dimensions



Connection options



VF24-AC/DC

U max AC	U_c AC	34 V
U max DC	U_c DC	46 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	0,7 kA
Maximum discharge current (8/20 µs)	I_{max}	2 kA
Rated current	I_L	20 A
Protection level wire-wire		<130 V
Protection level wire-earth		<1200 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²
Approvals		UL

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Always indicate the item number when ordering.

MCR protection for 2-pole for power supply, 48 V

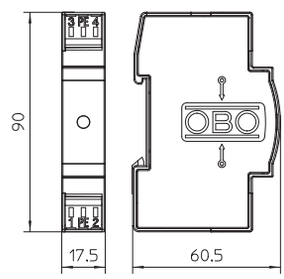
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF48-AC/DC	60	1	8.000	**5097615**

Surge protection device / fine protection type 3 to EN 61643-11

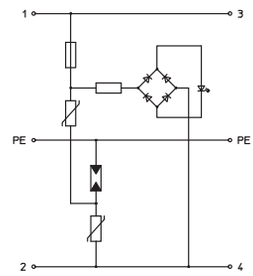
- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rail in every normal commercially available distributor housing.

Dimensions



Connection options



VF48-AC/DC

U max AC	U_c AC	60 V
U max DC	U_c DC	80 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	0,7 kA
Maximum discharge current (8/20 µs)	I_{max}	2 kA
Rated current	I_L	20 A
Protection level wire-wire		<220 V
Protection level wire-earth		<1200 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²
Approvals		UL

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Always indicate the item number when ordering.

MCR protection for 2-pole for power supply, 60 V

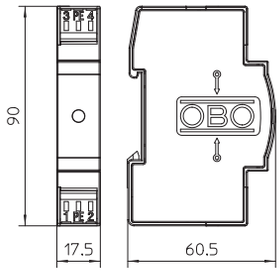
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF60-AC/DC	80	1	8.000	**5097623**

Surge protection device / fine protection type 3 to EN 61643-11

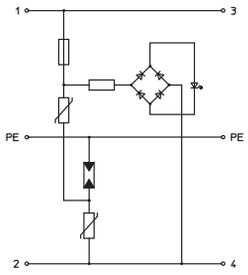
- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rail in every normal commercially available distributor housing.

Dimensions



Connection options



VF60-AC/DC

U max AC	U_c AC	80 V
U max DC	U_c DC	110 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	0,7 kA
Maximum discharge current (8/20 µs)	I_{max}	2 kA
Rated current	I_L	20 A
Protection level wire-wire		<280 V
Protection level wire-earth		<1200 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

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Always indicate the item number when ordering.

MCR protection for 2-pole for power supply, 110 V

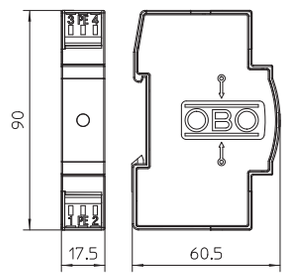
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF110-AC DC	150	1	8.000	**5097631**

Surge protection device / fine protection type 3 to EN 61643-11

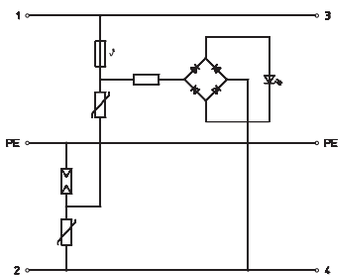
- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rail in every normal commercially available distributor housing.

Dimensions



Connection options



VF110-AC DC

U max AC	U_c AC	150 V
U max DC	U_c DC	200 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	2 kA
Maximum discharge current (8/20 µs)	I_{max}	6.5 kA
Rated current	I_L	20 A
Protection level wire-wire		<500 V
Protection level wire-earth		<1400 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

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Always indicate the item number when ordering.

MCR protection for 2-pole for power supply, 230 V

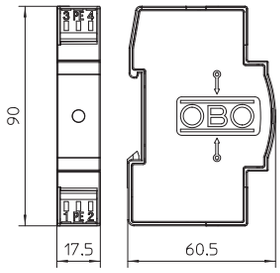
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF230-AC/DC	255	1	8.000	**5097650**

Surge protection device / fine protection type 3 to EN 61643-11

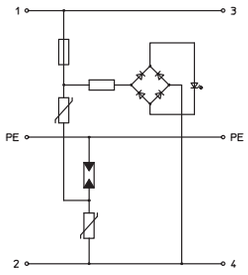
- Suitable for DC and AC voltage systems
- With visual function display
- With installation-friendly, screwless connection terminals
- In a space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rail in every normal commercially available distributor housing.

Dimensions



Connection options



VF230-AC/DC

U max AC	U_c AC	255 V
U max DC	U_c DC	350 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	2.5 kA
Maximum discharge current (8/20 µs)	I_{max}	7 kA
Rated current	I_L	20 A
Protection level wire-wire		<1000 V
Protection level wire-earth		<1400 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

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Always indicate the item number when ordering.

MCR protection for 2-pole for power supply with remote signalling, 12 V AC/DC

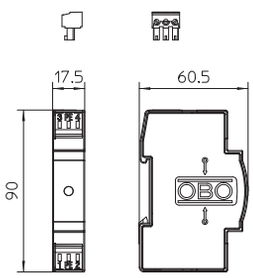
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF12-AC/DC-FS	13.5	1	6.400	**5097454**

Surge protection / fine power protection, type 3, to EN 61643-11 with remote signalling

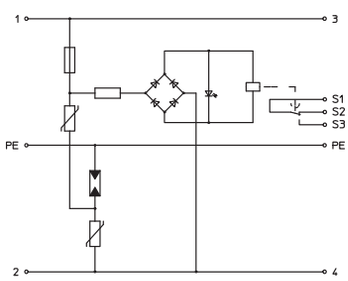
- With remote signalling, potential-free changeover contact, for function monitoring
- Suitable for DC and AC systems
- With visual function display
- With easy mounting, screwless connection terminals
- In space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rails in any standard distributor housing.

Dimensions



Connection options



VF12-AC/DC-FS

U max AC	U_c AC	13.5 V
U max DC	U_c DC	18 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	0,7 kA
Maximum discharge current (8/20 µs)	I_{max}	2 kA
Rated current	I_l	20 A
Protection level wire-wire		<110 V
Protection level wire-earth		<1200 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

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Always indicate the item number when ordering.

MCR protection for 2-pole power supply with remote signalling, 24 V AC/DC

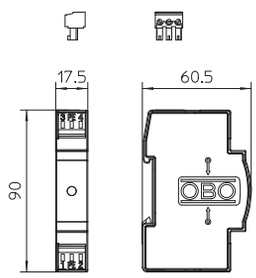
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF24-AC/DC-FS	34	1	6.620	**5097820**

Surge protection / fine power protection, type 3, to EN 61643-11 with remote signalling

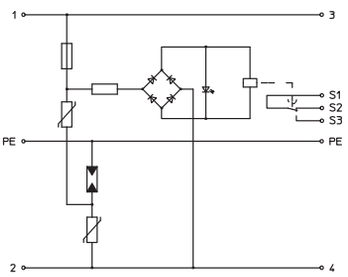
- With remote signalling, potential-free changeover contact, for function monitoring
- Suitable for DC and AC systems
- With visual function display
- With easy mounting, screwless connection terminals
- In space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rails in any standard distributor housing.

Dimensions



Connection options



VF24-AC/DC-FS

U max AC	U_c AC	34 V
U max DC	U_c DC	46 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	0,7 kA
Maximum discharge current (8/20 µs)	I_{max}	2 kA
Rated current	I_l	20 A
Protection level wire-wire		<160 V
Protection level wire-earth		<1200 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

02_TBS_Produkteinheitenkatalog_EX_2018 / en / 2018/11/23 15:05:20 15:05:20 (LLExport_02235) / 2018/11/23 15:07:49 15:07:49

Always indicate the item number when ordering.

MCR protection for 2-pole for power supply with remote signalling, 12 V AC/DC

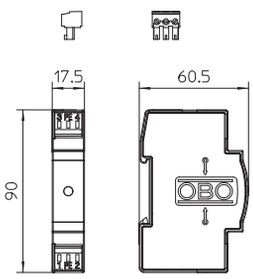
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF48-AC/DC-FS	60	1	6.630	**5097822**

Surge protection / fine power protection, type 3, to EN 61643-11 with remote signalling

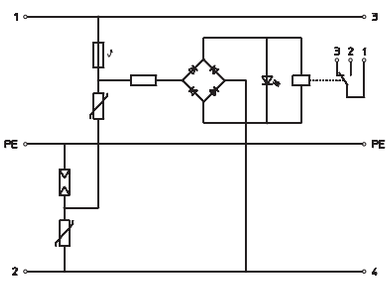
- With remote signalling, potential-free changeover contact, for function monitoring
- Suitable for DC and AC systems
- With visual function display
- With easy mounting, screwless connection terminals
- In space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rails in any standard distributor housing.

Dimensions



Connection options



VF48-AC/DC-FS

U max AC	U_c AC	60 V
U max DC	U_c DC	80 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	0,7 kA
Maximum discharge current (8/20 µs)	I_{max}	2 kA
Rated current	I_l	20 A
Protection level wire-wire		<220 V
Protection level wire-earth		<1200 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

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Always indicate the item number when ordering.

MCR protection for 2-pole power supply with remote signalling, 230 V AC

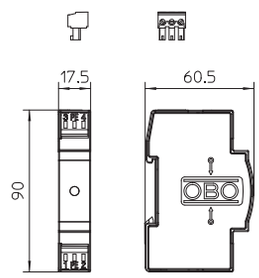
Type	Highest continuous voltage V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF230-AC-FS	255	1	6.910	**5097858**

Surge protection / fine power protection, type 3, to EN 61643-11 with remote signalling

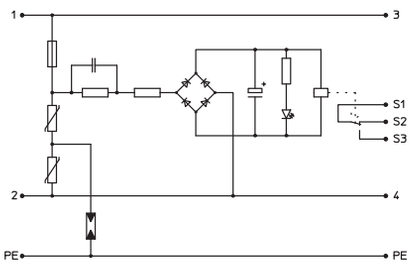
- With remote signalling, potential-free changeover contact, for function monitoring
- Suitable for AC systems
- With visual function display
- With easy mounting, screwless connection terminals
- In space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rails in any standard distributor housing.

Dimensions



Connection options



VF230-AC-FS

U max AC	U_c AC	255 V
U max DC	U_c DC	— V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	2,5 kA
Maximum discharge current (8/20 µs)	I_{max}	7 kA
Rated current	I_l	20 A
Protection level wire-wire		<1060 V
Protection level wire-earth		<1400 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

Always indicate the item number when ordering.

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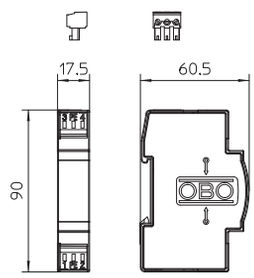
MCR protection for 2-pin for power supply with leak current-free remote signalling, 230 V AC/DC

Type	U max AC V	U max DC V	Pack. pcs	Weight kg/100 pcs.	Item No.
VF2-230-AC/DC-FS	255	350	1	6.000	**5097939**

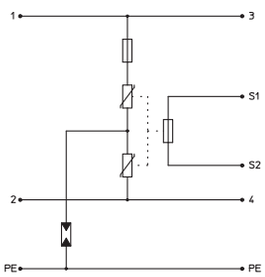
Type 3 surge protection/fine network protection to EN 61643-11 with leak current-free remote signalling
- With remote signalling: potential-free NC contact for function monitoring
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- Y circuit

Application: Universal use on 35 mm DIN profile rails in any standard distributor housing.

Dimensions



Connection options



VF2-230-AC/DC-FS

U max AC	U_c AC	255 V
U max DC	U_c DC	350 V
SPD to EN 61643-11		Type 3
SPD to IEC 61643-11		Class III
Lightning protection zone LPZ		2→3
Nominal discharge current (8/20)	I_n	2,5 kA
Maximum discharge current (8/20 µs)	I_{max}	7 kA
Rated current	I_l	20 A
Protection level wire-wire		< 1000 V
Protection level wire-earth		< 1400 V
Response time	t_A	<25 ns
Temperature range	ϑ	-40 - +80 °C
Protection rating		IP 20
Division unit TE (17.5 mm)		1
Connection cross-section rigid		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section, flexible		0.14 - 2.5 mm²

Always indicate the item number when ordering.

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MCR protection for two-core systems: the plus of the FRD/FLD family

- High arresting capacity
- Low noise
- Universal application
- Simple mounting using screwless terminals
- High bandwidth
- UL-listed

Basic and combination protection for two-core systems

The use of lightning barriers in two-core wire systems is commonplace. These surge protection devices are used from telecommunication cables through bus systems up to measurement and control technology. Surge protection technology allows flexible protection for all kinds of applications. All the devices have both a low protection level and a high arresting capacity.

Always indicate the item number when ordering.

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Basic protection for two-core systems with HF applications 120 V

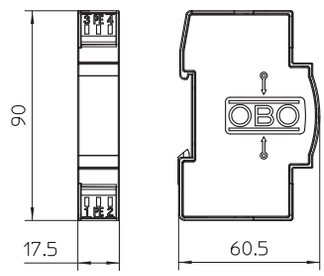
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
TKS-B	120	170	2	Terminal	1	4.400	**5097976**

Basic protection for measuring, control and regulation technology and telecommunication systems.

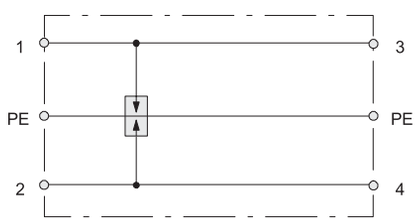
- Basic protection for lightning protection equipotential bonding
- High impulse arresting capacity 6 kA (10/350)
- With easy-to-mount, screwless connection terminals
- In a space-saving 17.5 mm grid

Application: Universal use on 35 mm DIN rails in standard distributor housings.

Dimensions



Connection options



TKS-B

Maximum continuous voltage AC	U_C	120 V
Maximum continuous voltage DC	U_C	170 V
Category		Type 1+2 / D1+C2
Lightning protection zone LPZ		0→2
Number of poles		2
Rated current	I_L	20 A
Series resistance per wire		–
Impulse durability wire-wire		C2: 18 kV / 9 kA
Impulse durability wire-earth		C2: 18 kV / 9 kA
Total discharge current (8/20)		18 kA
Total discharge current (10/350)		D1: 6 kA
Protection level wire-wire		<950 V
Protection level wire-earth		<600 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Connection cable
Testing standard		IEC 61643-21

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Always indicate the item number when ordering.

Combination protection for two-core systems with HF applications 5 V

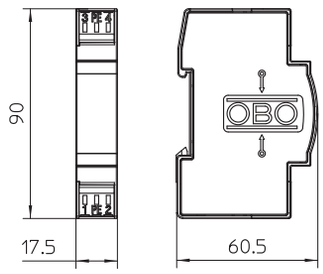
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FRD 5 HF	4	6	2	Terminal	1	4.400	**5098571**

Surge protection for use in measuring, control and regulation systems.

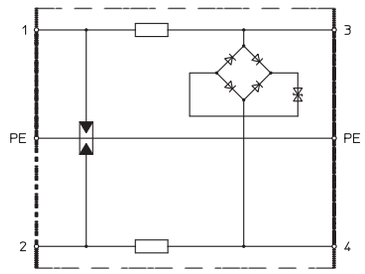
- Basic, medium and fine protection
- Two-stage protection circuit with high lightning current carrying capacity
- High transmission frequency up to 100 MHz
- Suitable for all bus systems (e.g. Profibus)
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid

Application: Multipurpose use on any 35 mm DIN profile rail in every commercially available distribution housing.

Dimensions



Connection options



FRD 5 HF

Maximum continuous voltage AC	U_C	4 V
Maximum continuous voltage DC	U_C	6 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	0.45 A
Series resistance per wire		2,2 Ω ± 10 %
Impulse durability wire-wire		C2: 18 kV / 9 kA (8/20µs)
Impulse durability wire-earth		C2: 18 kV / 9 kA (8/20µs)
Total discharge current (8/20)		18 kA
Total discharge current (10/350)		D1: 6 kA
Protection level wire-wire		<90 V
Protection level wire-earth		<650 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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Combination protection for two-core systems with HF applications 24 V

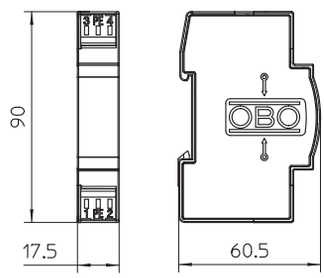
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FRD 24 HF	19	28	2	Terminal	1	4.400	**5098575**

Surge protection for use in measuring, control and regulation systems.

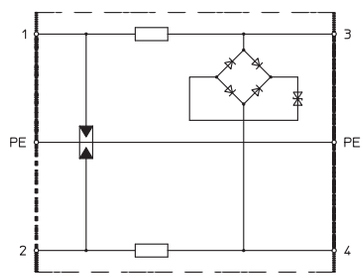
- Basic, medium and fine protection
- Two-stage protection circuit with high lightning current carrying capacity
- High transmission frequency up to 100 MHz
- Suitable for all bus systems (e.g. Profibus)
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid

Application: Multipurpose use on any 35 mm DIN profile rail in every commercially available distribution housing.

Dimensions



Connection options



FRD 24 HF

Maximum continuous voltage AC	U_C	19 V
Maximum continuous voltage DC	U_C	28 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	0.45 A
Series resistance per wire		2,2 Ω ± 10 %
Impulse durability wire-wire		C2: 18 kV / 9 kA (8/20µs)
Impulse durability wire-earth		C2: 18 kV / 9 kA (8/20µs)
Total discharge current (8/20)		18 kA
Total discharge current (10/350)		D1: 6 kA
Protection level wire-wire		<120 V
Protection level wire-earth		<650 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Medium and fine protection FRD for two-core systems 5 V

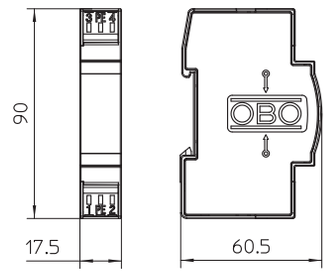
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FRD 5	5	8	2	Terminal	1	5.100	**5098492**

Surge protection for use in measurement and control technology

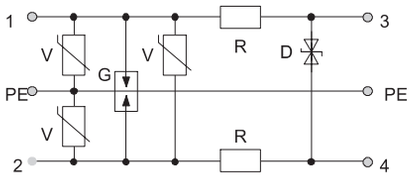
- Medium and fine protection
- Standard design for double core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With ohmic decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FRD 5

Maximum continuous voltage AC	U_C	5 V
Maximum continuous voltage DC	U_C	8 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	0.2 A
Series resistance per wire		15 Ω ± 10 %
Impulse durability wire-wire		C1: 1 kV / 0,5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 3 kA
Protection level wire-wire		<15 V
Protection level wire-earth		<600 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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Medium and fine protection FRD for two-core systems 12 V

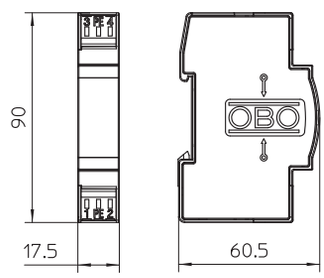
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FRD 12	9	13	2	Terminal	1	5.100	**5098506**

Surge protection for use in measurement and control technology

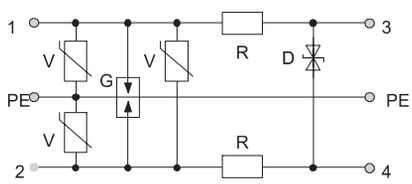
- Medium and fine protection
- Standard design for double core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With ohmic decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FRD 12

Maximum continuous voltage AC	U_C	9 V
Maximum continuous voltage DC	U_C	13 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	0.2 A
Series resistance per wire		15 Ω ± 10 %
Impulse durability wire-wire		C1: 1 kV / 0,5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 3 kA
Protection level wire-wire		<30 V
Protection level wire-earth		<600 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Medium and fine protection FRD for two-core systems 24 V

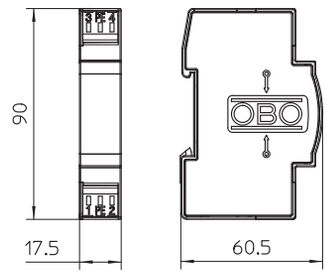
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FRD 24	19	28	2	Terminal	1	5.100	**5098514**

Surge protection for use in measurement and control technology

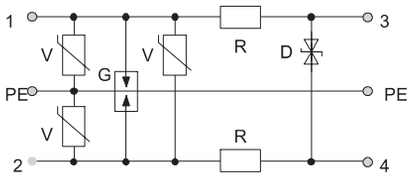
- Medium and fine protection
- Standard design for double core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With ohmic decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FRD 24

Maximum continuous voltage AC	U_C	19 V
Maximum continuous voltage DC	U_C	28 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	0.2 A
Series resistance per wire		15 Ω ± 10 %
Impulse durability wire-wire		C2: 5 kV / 2,5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 3 kA
Protection level wire-wire		<60 V
Protection level wire-earth		<600 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Medium and fine protection FRD for two-core systems 48 V

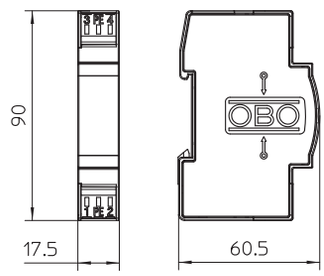
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FRD 48	37	53	2	Terminal	1	5.100	**5098522**

Surge protection for use in measurement and control technology

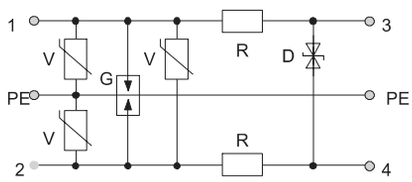
- Medium and fine protection
- Standard design for double core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With ohmic decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FRD 48

Maximum continuous voltage AC	U_C	37 V
Maximum continuous voltage DC	U_C	53 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	0.2 A
Series resistance per wire		15 Ω ± 10 %
Impulse durability wire-wire		C2: 5 kV / 2,5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 3 kA
Protection level wire-wire		<140 V
Protection level wire-earth		<600 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Medium and fine protection FRD for two-core systems 110 V

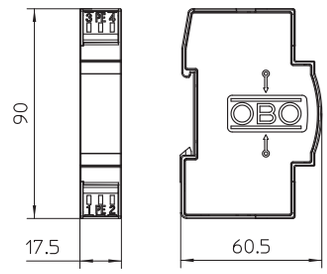
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FRD 110	86	122	2	Terminal	1	5.100	**5098557**

Surge protection for use in measurement and control technology

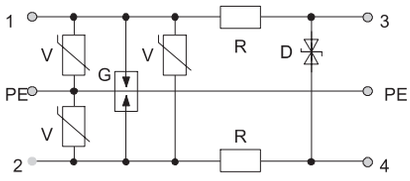
- Medium and fine protection
- Standard design for double core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With ohmic decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FRD 110

Maximum continuous voltage AC	U_C	86 V
Maximum continuous voltage DC	U_C	122 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	0.2 A
Series resistance per wire		15 Ω ± 10 %
Impulse durability wire-wire		C2: 5 kV / 2,5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 3 kA
Protection level wire-wire		<300 V
Protection level wire-earth		<600 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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Medium and fine protection FRD 2 for two-core systems 24 V

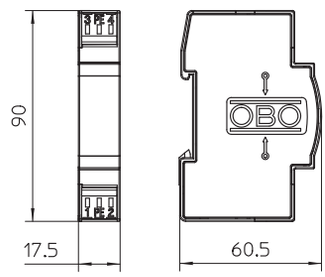
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FRD 2-24	19	28	2	Terminal	1	5.100	**5098727**

Surge protection for use in measurement and control technology

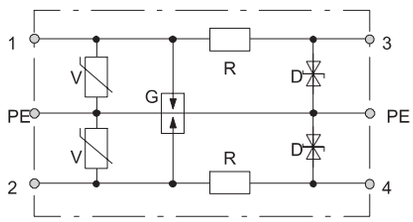
- Medium and fine protection
- Standard design for double core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With ohmic decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FRD 2-24

Maximum continuous voltage AC	U_C	19 V
Maximum continuous voltage DC	U_C	28 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		2
Rated current	I_L	0.2 A
Series resistance per wire		15 Ω ± 10 %
Impulse durability wire-wire		C2: 5 kV / 2,5 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		5 kA
Total discharge current (10/350)		– kA
Protection level wire-wire		<120 V
Protection level wire-earth		<60 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		–

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Always indicate the item number when ordering.

Medium and fine protection FLD for two-core systems 5 V

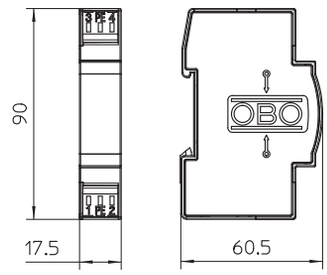
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FLD 5	5	8	2	Terminal	1	5.200	**5098600**

Surge protection for use in measurement and control technology

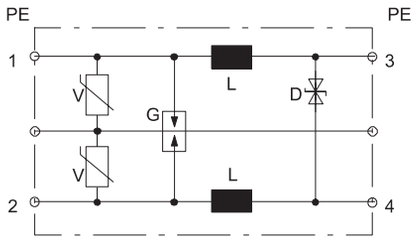
- Medium and fine protection
- Standard design for single core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With inductive decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FLD 5

Maximum continuous voltage AC	U_C	5 V
Maximum continuous voltage DC	U_C	8 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	1 A
Series inductivity per wire		120 µH ± 20 %
Impulse durability wire-wire		C1: 1 kV / 0,5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 3 kA
Protection level wire-wire		<15 V
Protection level wire-earth		<600 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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Medium and fine protection FLD for two-core systems 12 V

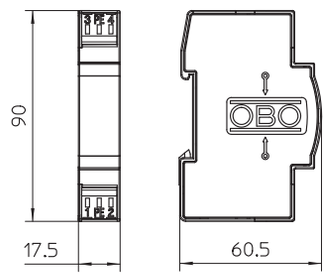
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FLD 12	9	13	2	Terminal	1	5.200	**5098603**

Surge protection for use in measurement and control technology

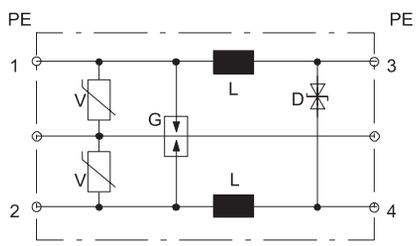
- Medium and fine protection
- Standard design for single core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With inductive decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FLD 12

Maximum continuous voltage AC	U_C	9 V
Maximum continuous voltage DC	U_C	13 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	1 A
Series inductivity per wire		120 µH ± 20 %
Impulse durability wire-wire		C1: 1 kV / 0,5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 3 kA
Protection level wire-wire		<30 V
Protection level wire-earth		<600 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Medium and fine protection FLD for two-core systems 24 V

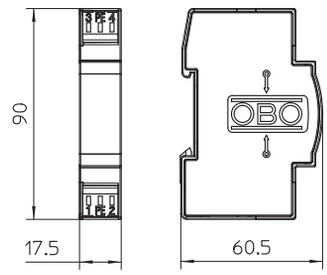
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FLD 24	19	28	2	Terminal	1	5.200	**5098611**

Surge protection for use in measurement and control technology

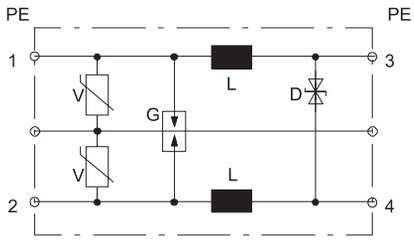
- Medium and fine protection
- Standard design for single core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With inductive decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FLD 24

Maximum continuous voltage AC	U_C	19 V
Maximum continuous voltage DC	U_C	28 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	1 A
Series inductivity per wire		120 µH ± 20 %
Impulse durability wire-wire		C2: 5 kV / 2,5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 3 kA
Protection level wire-wire		<60 V
Protection level wire-earth		<600 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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Medium and fine protection FLD for two-core systems 48 V

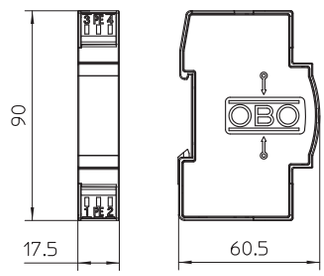
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FLD 48	37	53	2	Terminal	1	5.200	**5098630**

Surge protection for use in measurement and control technology

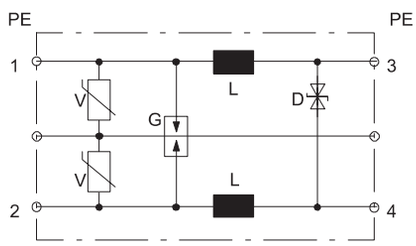
- Medium and fine protection
- Standard design for single core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With inductive decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FLD 48

Maximum continuous voltage AC	U_C	37 V
Maximum continuous voltage DC	U_C	53 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	1 A
Series inductivity per wire		120 µH ± 20 %
Impulse durability wire-wire		C2: 5 kV / 2,5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 3 kA
Protection level wire-wire		<140 V
Protection level wire-earth		<600 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Medium and fine protection FLD for two-core systems 110 V

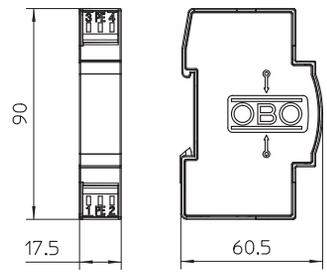
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FLD 110	86	122	2	Terminal	1	5.200	**5098646**

Surge protection for use in measurement and control technology

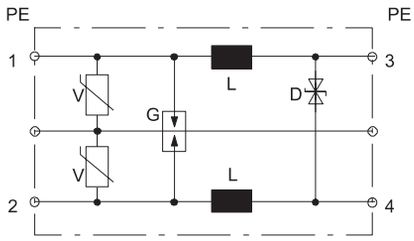
- Medium and fine protection
- Standard design for single core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With inductive decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FLD 110

Maximum continuous voltage AC	U_C	86 V
Maximum continuous voltage DC	U_C	122 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	1 A
Series inductivity per wire		120 µH ± 20 %
Impulse durability wire-wire		C1: 1 kV / 0,5 kA (8/20µs)
Impulse durability wire-earth		C2: 10 kV / 5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 3 kA
Protection level wire-wire		<300 V
Protection level wire-earth		<600 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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Medium and fine protection FLD 2 for two-core systems 12 V

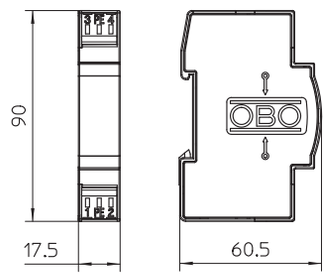
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FLD 2-12	9	13	2	Terminal	1	5.100	**5098808**

Surge protection for use in measurement and control technology

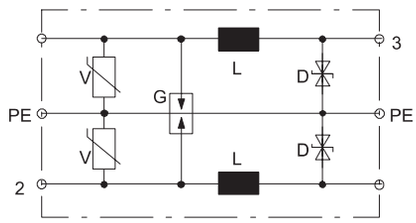
- Medium and fine protection
- Standard design for single core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With inductive decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FLD 2-12

Maximum continuous voltage AC	U_C	9 V
Maximum continuous voltage DC	U_C	13 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		2
Rated current	I_L	1 A
Series inductivity per wire		120 µH ± 10 %
Impulse durability wire-wire		C1: 1 kV / 0,5 kA (8/20µs)
Impulse durability wire-earth		C1: 1 kV / 0,5 kA (8/20µs)
Total discharge current (8/20)		1 kA
Total discharge current (10/350)		– kA
Protection level wire-wire		<60 V
Protection level wire-earth		<30 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Medium and fine protection FLD 2 for two-core systems

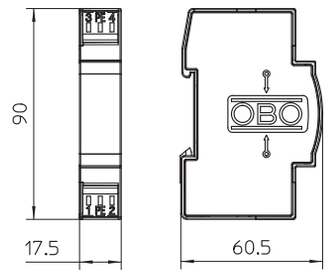
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FLD 2-24	28	19	2	Terminal	1	5.100	**5098816**

Surge protection for use in measurement and control technology

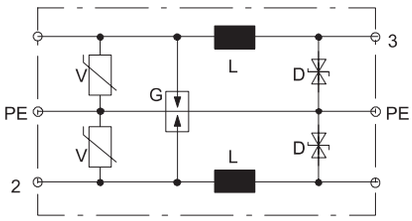
- Medium and fine protection
- Standard design for single core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With inductive decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FLD 2-24

Maximum continuous voltage AC	U_C	28 V
Maximum continuous voltage DC	U_C	19 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		2
Rated current	I_L	1 A
Series inductivity per wire		120 µH ± 10 %
Impulse durability wire-wire		C1: 1 kV / 0,5 kA (8/20µs)
Impulse durability wire-earth		C1: 1 kV / 0,5 kA (8/20µs)
Total discharge current (8/20)		1 kA
Total discharge current (10/350)		– kA
Protection level wire-wire		<120 V
Protection level wire-earth		<60 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

02_TBS_Produkteinheitenkatalog_EX_2018 / en / 2018/11/23 15:05:20 15:05:20 (LLExport_02235) / 2018/11/23 15:07:49 15:07:49

Always indicate the item number when ordering.

Medium and fine protection FLD 2 for two-core systems 110 V

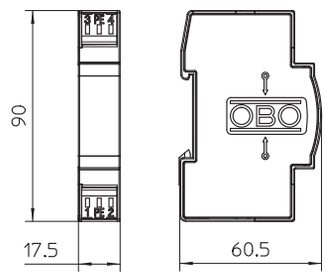
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
FLD 2-110	86	122	2	Terminal	1	5.100	**5098859**

Surge protection for use in measurement and control technology

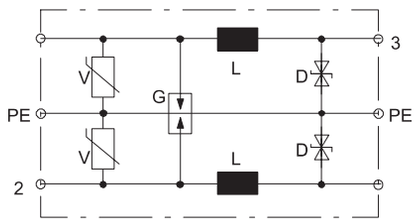
- Medium and fine protection
- Standard design for single core systems
- Two-stage protection circuit
- With installation-friendly, screwless connection terminals
- In space-saving 17.5 mm grid
- With inductive decoupling in the longitudinal branch

Application: Universal use on any 35 mm DIN profile rail in every commercially available distributor housing.

Dimensions



Connection options



FLD 2-110

Maximum continuous voltage AC	U_C	86 V
Maximum continuous voltage DC	U_C	122 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		2
Rated current	I_L	1 A
Series inductivity per wire		120 µH ± 10 %
Impulse durability wire-wire		C2: 5 kV / 2,5 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		5 kA
Total discharge current (10/350)		— kA
Protection level wire-wire		<500 V
Protection level wire-earth		<300 V
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Division unit TE (17.5 mm)		1
Protection rating		IP20
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 2.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		Terminal
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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MCR protection for multi-wire systems (testable): the plus of the MDP family

- Protection device for multi-wire systems (4-pole)
- Direct shield earthing
- Easy-mounting, screwless connection terminals
- Space-saving width of just 8.1 mm
- Versions with nominal currents up to 10 A
- High frequency bandwidth up to 100 MHz
- UL-listed

Series protection device 2–3 and 4-pole from 5 to 48 V

Besides the high current capacity, the lightning barriers of type MDP offer a narrow installation width of just 8 mm. A separate screen connection permits shield attachment on both sides of the equipotential bonding, thus optimising the shield effect against capacitive and inductive couplings. Depending on the version, a nominal current of up to 10 A can be applied to the devices, meaning that they are thus ideally suited to use in special applications, such as slip ring transmitters or heating systems in wind power systems. When installed, all the MDPs can be checked using LifeControl.

Always indicate the item number when ordering.

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Series protection device, 2-pole, 5 V version

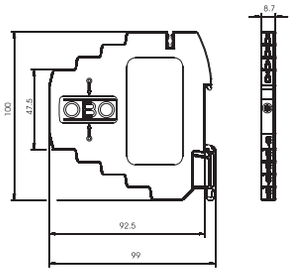
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-2 D-5-T	7	10	2	Terminal	1	6.000	**5098404**

MDP... D-5-T: Lightning barrier with test function; 5 V version

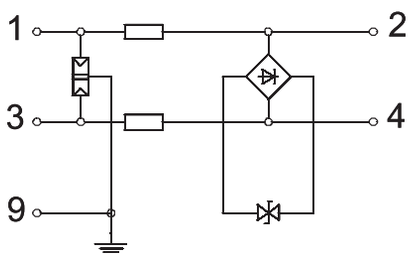
- Nominal load current 0.58 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High frequency range of 0–100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-2 D-5-T

Maximum continuous voltage AC	U_C	7 V
Maximum continuous voltage DC	U_C	10 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω ± 5 %
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		5 kA
Total discharge current (10/350)		D1: 1 kA
Protection level wire-wire		<35 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Series protection device, 3-pole, 5 V version

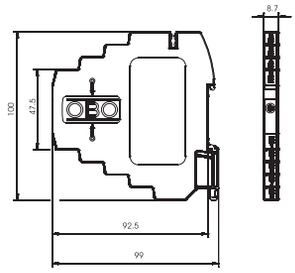
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-3 D-5-T	7	10	3	Terminal	1	6.000	**5098407**

MDP... D-5-T: Lightning barrier with test function; 5 V version

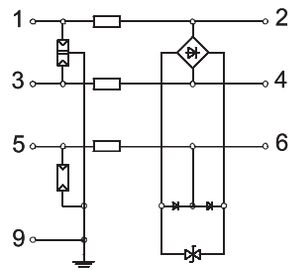
- Nominal load current 0.58 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High frequency range of 0–100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-3 D-5-T

Maximum continuous voltage AC	U_C	7 V
Maximum continuous voltage DC	U_C	10 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		3
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω ± 5 %
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		7,5 kA
Total discharge current (10/350)		D1: 1,5 kA
Protection level wire-wire		<35 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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Series protection device, 4-pole, 5 V version

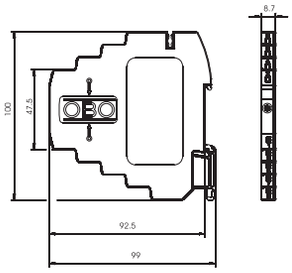
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-5-T	7	10	4	Terminal	1	6.000	**5098411**

MDP... D-5-T: Lightning barrier with test function; 5 V version

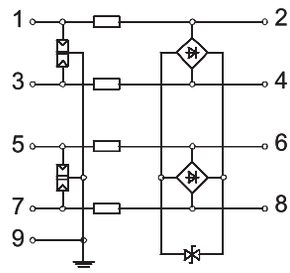
- Nominal load current 0.58 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High frequency range of 0–100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-4 D-5-T

Maximum continuous voltage AC	U_C	7 V
Maximum continuous voltage DC	U_C	10 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω ± 5 %
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		10 kA kA
Total discharge current (10/350)		D1: 2kA kA
Protection level wire-wire		<35 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Series protection device, 2-pole, 24 V version

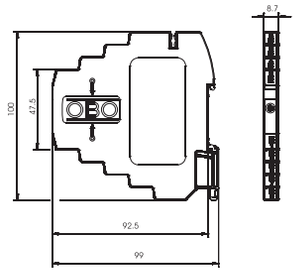
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-2 D-24-T	20	28	2	Terminal	1	6.000	**5098422**

MDP... D-24-T: Lightning barrier with test function; 24 V version

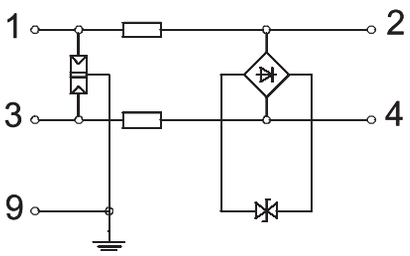
- Nominal load current 0.58 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High bandwidth to 100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-2 D-24-T

Maximum continuous voltage AC	U_C	20 V
Maximum continuous voltage DC	U_C	28 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω ± 5 %
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		5 kA
Total discharge current (10/350)		D1: 1 kA
Protection level wire-wire		<55 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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Series protection device, 3-pole, 24 V version

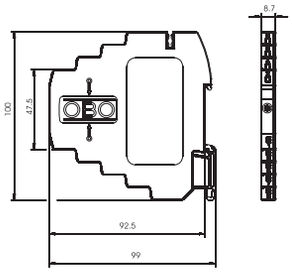
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-3 D-24-T	20	28	3	Terminal	1	6.000	**5098427**

MDP... D-24-T: Lightning barrier with test function; 24 V version

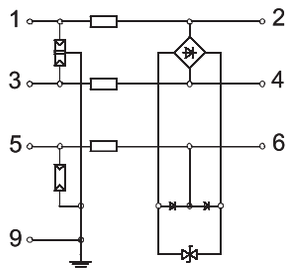
- Nominal load current 0.58 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High bandwidth to 100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-3 D-24-T

Maximum continuous voltage AC	U_C	20 V
Maximum continuous voltage DC	U_C	28 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		3
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω ± 5 %
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		7,5 kA
Total discharge current (10/350)		D1: 1,5 kA
Protection level wire-wire		<55 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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Series protection device, 4-pole, 24 V version

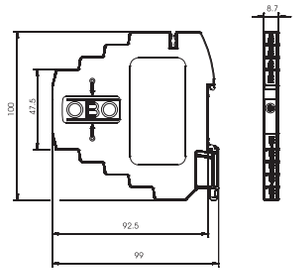
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-24-T	20	28	4	Terminal	1	5.800	**5098431**

MDP... D-24-T: Lightning barrier with test function; 24 V version

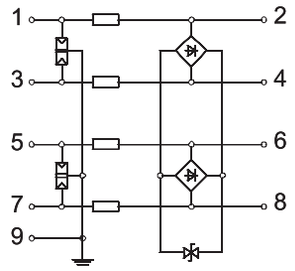
- Nominal load current 0.58 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High bandwidth to 100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-4 D-24-T

Maximum continuous voltage AC	U_C	20 V
Maximum continuous voltage DC	U_C	28 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω ± 5 %
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 2 kA
Protection level wire-wire		<55 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Series protection device, 2-pole, 48 V version

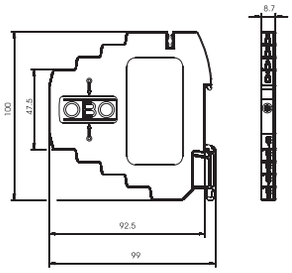
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-2 D-48-T	41	58	2	Terminal	1	6.000	**5098442**

MDP... D-48-T: Lightning barrier with test function; 48 V version

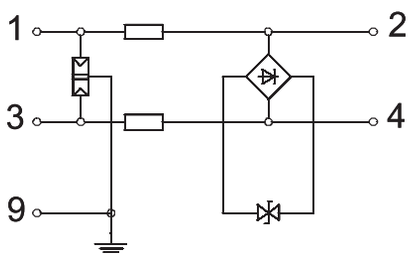
- Nominal load current 0.58 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High bandwidth to 100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-2 D-48-T

Maximum continuous voltage AC	U_C	41 V
Maximum continuous voltage DC	U_C	58 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω ± 5 %
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		5 kA
Total discharge current (10/350)		D1: 1 kA
Protection level wire-wire		<95 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Series protection device, 3-pole, 48 V version

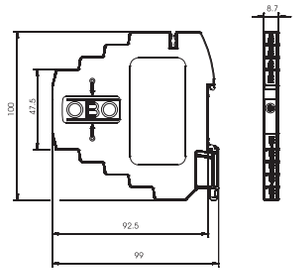
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-3 D-48-T	41	58	3	Terminal	1	6.000	**5098446**

MDP... D-48-T: Lightning barrier with test function; 48 V version

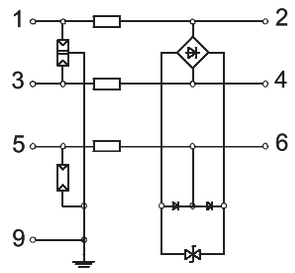
- Nominal load current 0.58 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High bandwidth to 100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-3 D-48-T

Maximum continuous voltage AC	U_C	41 V
Maximum continuous voltage DC	U_C	58 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		3
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω ± 5 %
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		7,5 kA
Total discharge current (10/350)		D1: 1,5 kA
Protection level wire-wire		<95 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Series protection device, 4-pole, 48 V version

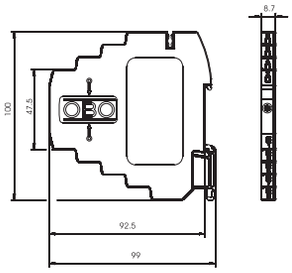
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-48-T	41	58	4	Terminal	1	5.800	**5098450**

MDP... D-48-T: Lightning barrier with test function; 48 V version

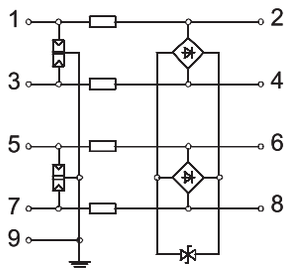
- Nominal load current 0.58 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High bandwidth to 100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-4 D-48-T

Maximum continuous voltage AC	U_C	41 V
Maximum continuous voltage DC	U_C	58 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω ± 5 %
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 2 kA
Protection level wire-wire		<95 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail 35 mm
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Series protection device, 4-pole, 5 V version

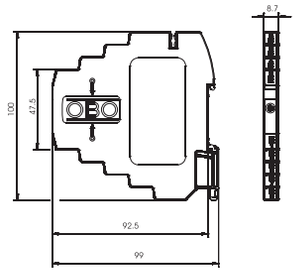
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-5-T-10	7	10	4	Terminal	1	7.200	**5098413**

MDP-4 D-5-T-10: Lightning barrier with test function; 5 V version

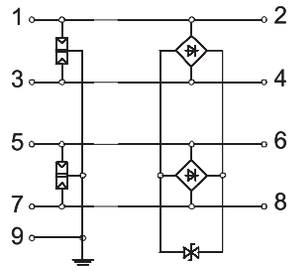
- Nominal load current 10 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High bandwidth to 100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-4 D-5-T-10

Maximum continuous voltage AC	U_C	7 V
Maximum continuous voltage DC	U_C	10 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Rated current	I_L	10 A
Series resistance per wire		–
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 2 kA
Protection level wire-wire		<45 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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Series protection device, 2-pole, 12 V version

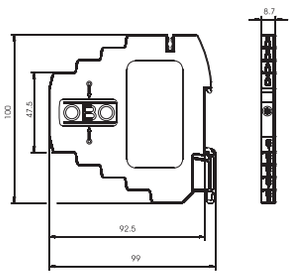
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-2 D-12-T-10	10.5	15	2	Terminal	1	6.000	**5098415**

MDP... D-12-T-10: Lightning barrier with test function; 12 V version

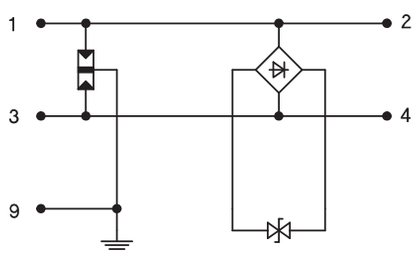
- Nominal load current 10 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High bandwidth to 100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-2 D-12-T-10

Maximum continuous voltage AC	U_C	10.5 V
Maximum continuous voltage DC	U_C	15 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	10 A
Series resistance per wire		—
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Total discharge current (8/20)		5 kA
Total discharge current (10/350)		D1: 1 kA
Protection level wire-wire		<55 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Series protection device, 4-pole, 12 V version

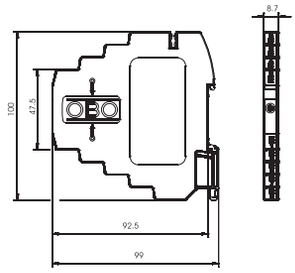
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-12-T-10	10.5	15	4	Terminal	1	6.000	**5098419**

MDP... D-12-T-10: Lightning barrier with test function; 12 V version

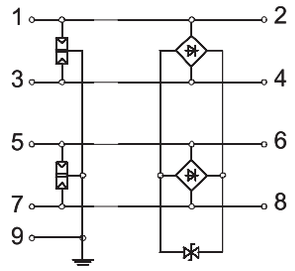
- Nominal load current 10 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High bandwidth to 100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-4 D-12-T-10

Maximum continuous voltage AC	U_C	10.5 V
Maximum continuous voltage DC	U_C	15 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Rated current	I_L	10 A
Series resistance per wire		–
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 2 kA
Protection level wire-wire		<55 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Series protection device, 2-pole, 24 V version

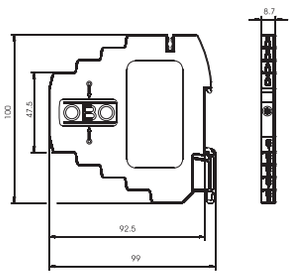
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-2 D-24-T-10	20	28	2	Terminal	1	6.000	**5098425**

MDP... D-24-T-10: Lightning barrier with test function; 24 V version

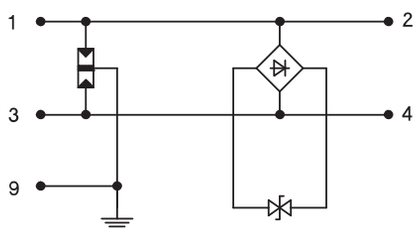
- Nominal load current 10 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High bandwidth to 100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-2 D-24-T-10

Maximum continuous voltage AC	U_C	20 V
Maximum continuous voltage DC	U_C	28 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		2
Rated current	I_L	10 A
Series resistance per wire		—
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Total discharge current (8/20)		5 kA
Total discharge current (10/350)		D1: 1 kA
Protection level wire-wire		<70 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

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Always indicate the item number when ordering.

Series protection device, 4-pole, 24 V version

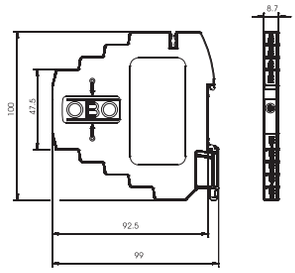
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Connection system	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-24-T-10	20	28	4	Terminal	1	7.200	**5098433**

MDP... D-24-T-10: Lightning barrier with test function; 24 V version

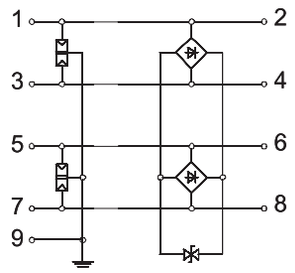
- Nominal load current 10 A
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- Protection circuit testable with Life Control
- High bandwidth to 100 MHz
- UL-listed (4DG1)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-4 D-24-T-10

Maximum continuous voltage AC	U_C	20 V
Maximum continuous voltage DC	U_C	28 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Rated current	I_L	10 A
Series resistance per wire		–
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 2 kA
Protection level wire-wire		<70 V
Protection level wire-earth		<800 V
Frequency range		0 - 100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
Testing standard		IEC 61643-21
Approvals		UL

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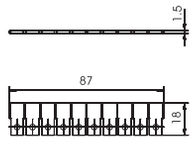
Always indicate the item number when ordering.

Earthing strip

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
VB-MDP 10-MD	1	2.300	**5098470**



Cu Copper

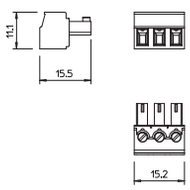
Connecting bridge for 8 mm lightning barriers

- Length of bridge can be adjusted
- Material: Copper
- Allows quick equipotential bonding

Application: Parallel switching of the MDP lightning barriers

Replacement connector for VF remote signalling

Type	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
VF-FS	3-pole	25	0.320	**5098475**



Replacement telephony connector, 3-pin version, for VF variant

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Combined protection device 2in1 for CCTV camera systems

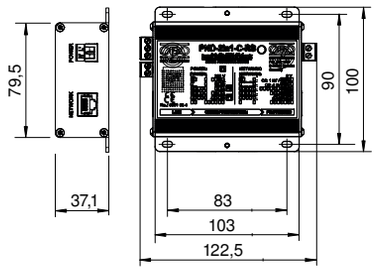
Type	Maximum continuous voltage (L-N) V	Maximum discharge current (8/20 µs) kA	Pack. pcs	Weight kg/100 pcs.	Item No.
PND-2in1-C-RS	230	10	1	27.000	**5081064**

Combination protection device
Data cable protection devices for coaxial and IP-based TV / camera systems

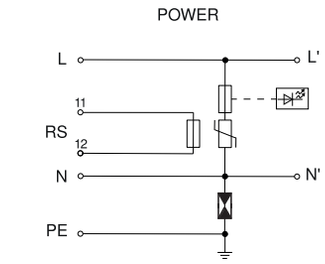
- Protection of power and data interface in a single device
- In aluminium housing
- Simple mounting with adapter plug
- Two-stage protection circuit
- Two-pole power connection for the power interface
- RJ45 connection for the data interface
- With remote signalling (RS) and LED operation display
- Incl. DIN rail fastening set

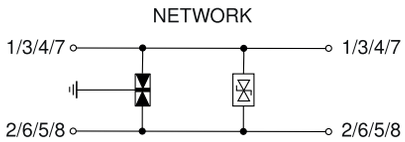
Application: Protection of CCTV, video signals; (IP) cameras and/or TV systems

Dimensions



Connection options





PND-2in1-C-RS

Temperature range	ϑ	-20 - +80 °C
Protection rating		IP20
Earthing via:		Connection cable / DIN rail
Lightning protection zone LPZ		0→2
Power		
SPD to IEC 61643-11		Class I+II
SPD to EN 61643-11		Type 1+2
Maximum continuous voltage (L-N)	U_C	230 V
Rated current	I_L	10 A
Voltage protection level	U_p	<1,2 kV
Idle voltage	U_{OC}	10 kV
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	5 kA
Maximum discharge current (8/20 µs)	I_{max}	10 kA
Impulse discharge current (10/350)	I_{imp}	1.5 kA
Network		
Maximum continuous voltage AC	U_C	5.6 V
Maximum continuous voltage DC	U_C	8 V
Category		Type 1+2 / D1+C2
Impulse durability wire-wire		C1: 1 kV / 0,5 kA (8/20µs)
Impulse durability wire-earth		C2: 4 kV / 2 kA (8/20µs)
Protection level wire-wire		<40 V
Protection level wire-earth		<600 V
Frequency range		0 - 100 MHz
Shielding connection available		Yes
Shield connection		Direct
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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Combined protection device 3in1 for CCTV camera systems

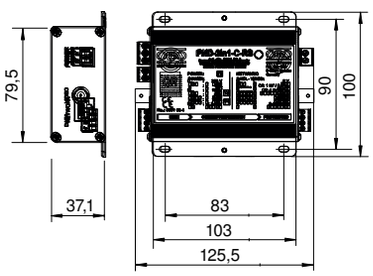
Type	Maximum continuous voltage (L-N) V	Maximum discharge current (8/20 µs) kA	Pack. pcs	Weight kg/100 pcs.	Item No.
PND-3in1-C-RS	230	10	1	29.900	**5081066**

Combination protection device
Data cable protection devices for coaxial and IP-based TV / camera systems

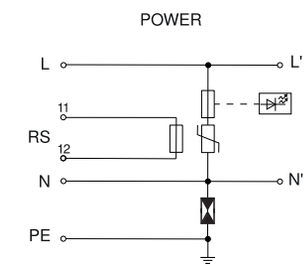
- Protection of power and data interfaces in a single device
- In aluminium housing
- Simple mounting with adapter plug
- Two-stage protection circuit
- Two-pole power connection for the power interface
- Screwless terminal and BNC connection for the data and video interface
- With remote signalling (RS) and LED operation display
- Incl. hat rail fastening set

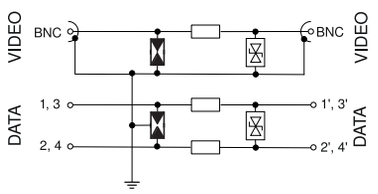
Application: Protection of CCTV, video signals; (IP) cameras and/or TV systems

Dimensions



Connection options





PND-3in1-C-RS

Lightning protection zone LPZ		0→2
Earthing via:		Connection cable / DIN rail
Protection rating		IP20
Power		
SPD to IEC 61643-11		Class I+II
SPD to EN 61643-11		Type 1+2
Maximum continuous voltage (L-N)	U_C	230 V
Rated current	I_L	10 A
Voltage protection level	U_p	<1,2 kV
Nominal discharge current (8/20 µs)	$I_{n\ /\ L\text{-}N}$	5 kA
Maximum discharge current (8/20 µs)	I_{max}	10 kA
Impulse discharge current (10/350)	I_{imp}	1.5 kA
Data		
Maximum continuous voltage AC	U_C	5.65 V
Maximum continuous voltage DC	U_C	8 V
SPD to IEC 61643-21		Class I+II / D1+C2
Category		Type 1+2 / D1+C2
Impulse durability wire - wire		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire - earth		C2: 10 kV / 5 kA (8/20µs)
Lightning impulse current (10/350)	I_{imp}	1 kA
Protection level wire-earth		<450 V
Protection level wire-wire		<65 V
Frequency range		0-100 MHz
Video		
Maximum continuous voltage AC	U_C	5.65 V
Maximum continuous voltage DC	U_C	8 V
SPD to IEC 61643-21		Class I+II / D1+C2
Category		Type 1+2 / D1+C2
Impulse durability wire - earth		C2: 10 kV / 5 kA (8/20µs)
Impulse durability wire - wire		C2: 10 kV / 5 kA (8/20µs)
Lightning impulse current (10/350)	I_{imp}	1 kA
Protection level wire-wire		<90 V
Protection level wire-earth		<150 V
Frequency range		0-100 MHz
Screen connection		Yes
Screening		Direct
Temperature range	ϑ	-20 - +80 °C

Always indicate the item number when ordering.

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Surge protection, Ex protection

	Series protection device, 4-pole, 5 V	413
	Series protection device, 4-pole, 24 V	414
	Series protection device, 4-pole, 48 V	415
	MCR protection, 2-pole 24 V	417
	MCR protection, 3-pole 24 V	418

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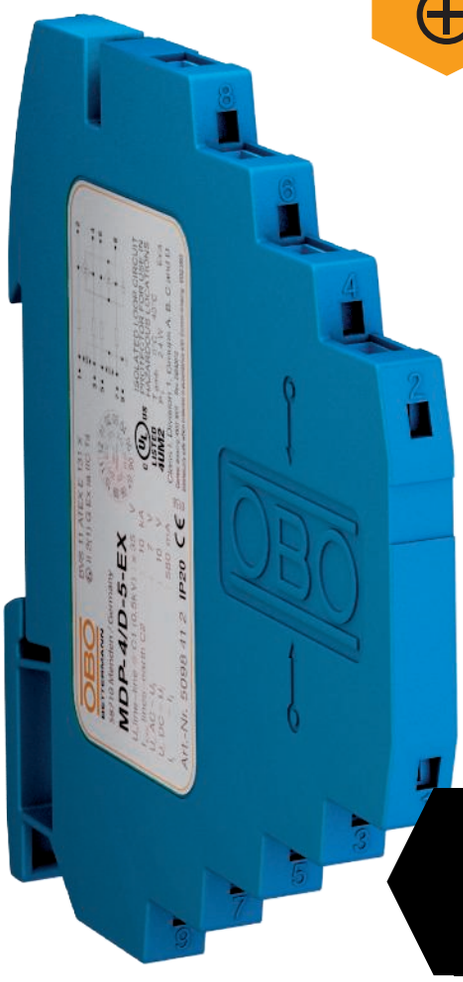
MCR protection for Ex areas: the plus of the MDP Ex family

- Protection device for multi-wire systems (4-pole)
- Direct shield earthing
- Easy-mounting, screwless connection option
- Space-saving width of just 8.7 mm
- Ex-tested for intrinsically safe measuring circuits
- High frequency bandwidth up to 100 MHz



Series protection device, Ex protection 2–4-pole, 5–48 V

Surge protection in potentially explosive areas is an important topic. Here, it is important to protect costly measuring technology against the influence of surge voltages through atmospheric discharge. OBO lightning barriers are tested for intrinsic safety (ia) and are independently certified. With a high arresting capacity of 10 kA, they offer optimum protection for four-pole measurement and control applications. Different voltage variants offer a wide range of applications.

Always indicate the item number when ordering.

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Series protection device, 4-pole, 5 V version, Ex-tested

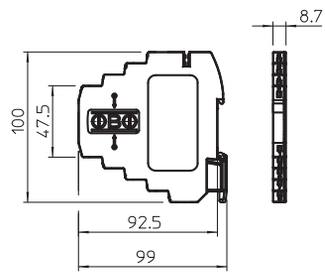
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-5-EX	7	10	4	1	5.800	**5098412**

MDP-4 D...-EX : Lightning barrier for intrinsically safe measuring circuits

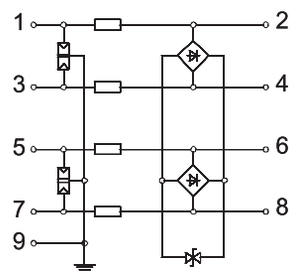
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- High frequency range of 0-100 MHz
- ATEX approval: II 2(1) G Ex ia [ia Ga] IIC T4 (BVS 11 ATEX E 131 X)
- UL-listed (4UM2)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-4 D-5-EX

Maximum continuous voltage AC	U_C	7 V
Maximum continuous voltage DC	U_C	10 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω ± 5 %
Impulse durability wire-wire		C1: 0,5 KV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 KV / 2,5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 2 kA
Protection level wire-wire		< 35 V
Protection level wire-earth		<800 V
Frequency range		0-100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
EX approval		II 2(1)G Ex ia [ia Ga] IIC T4 Gb
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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Series protection device, 4-pole, 24 V version, Ex-tested

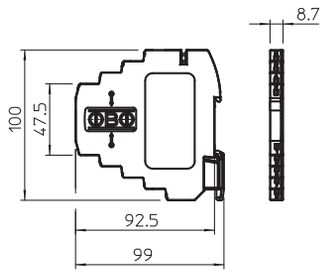
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-24-EX	20	28	4	1	5.800	**5098432**

MDP-4 D...-EX : Lightning barrier for intrinsically safe measuring circuits

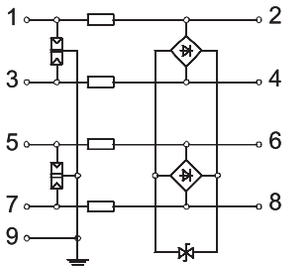
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- High frequency range of 0-100 MHz
- ATEX approval: II 2(1) G Ex ia [ia Ga] IIC T4 (BVS 11 ATEX E 131 X)
- UL-listed (4UM2)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-4 D-24-EX

Maximum continuous voltage AC	U_C	20 V
Maximum continuous voltage DC	U_C	28 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω ± 5 %
Impulse durability wire-wire		C1: 0,5 KV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 KV / 2,5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 2 kA
Protection level wire-wire		< 55 V
Protection level wire-earth		<800 V
Frequency range		0-100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
EX approval		II 2(1)G Ex ia [ia Ga] IIC T4 Gb
Testing standard		IEC 61643-21
Approvals		UL

Always indicate the item number when ordering.

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Series protection device, 4-pole, 48 V version, Ex-tested

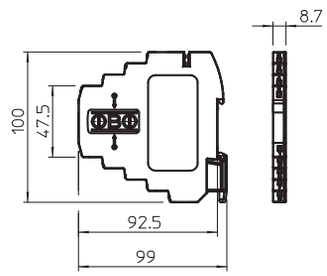
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Number of poles	Pack. pcs	Weight kg/100 pcs.	Item No.
MDP-4 D-48-EX	41	58	4	1	5.800	**5098452**

MDP-4 D...-EX : Lightning barrier for intrinsically safe measuring circuits

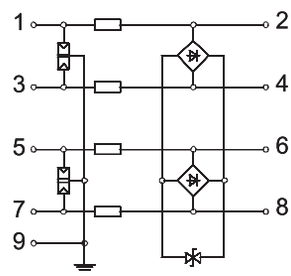
- Protection device for multi-wire systems
- Direct shield earthing and screwless connection terminals
- Space-saving width of just 8.7 mm
- High frequency range of 0-100 MHz
- ATEX approval: II 2(1) G Ex ia [ia Ga] IIC T4 (BVS 11 ATEX E 131 X)
- UL-listed (4UM2)

Application: Universal use on 35 mm DIN profile rail in any standard distribution housing.

Dimensions



Connection options



MDP-4 D-48-EX

Maximum continuous voltage AC	U_C	41 V
Maximum continuous voltage DC	U_C	58 V
Category		Type 1+2+3 / D1+C2+C1
Lightning protection zone LPZ		0→3
Number of poles		4
Rated current	I_L	0.58 A
Series resistance per wire		2,35 Ω ± 5 %
Impulse durability wire-wire		C1: 0,5 KV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 KV / 2,5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Total discharge current (10/350)		D1: 2 kA
Protection level wire-wire		< 95 V
Protection level wire-earth		<800 V
Frequency range		0-100 MHz
Temperature range	ϑ	-40 - +80 °C
Installation type		DIN rail
Connection system		Terminal
Protection rating		IP20
Shielding connection available		Yes
Shield connection		Direct
Connection cross-section, flexible		0.14 - 2.5 mm²
Connection cross-section, multi-wire		0.14 - 1.5 mm²
Connection cross-section rigid		0.14 - 2.5 mm²
Earthing via:		DIN rail
EX approval		II 2(1)G Ex ia [ia Ga] IIC T4 Gb
Testing standard		IEC 61643-21
Approvals		UL

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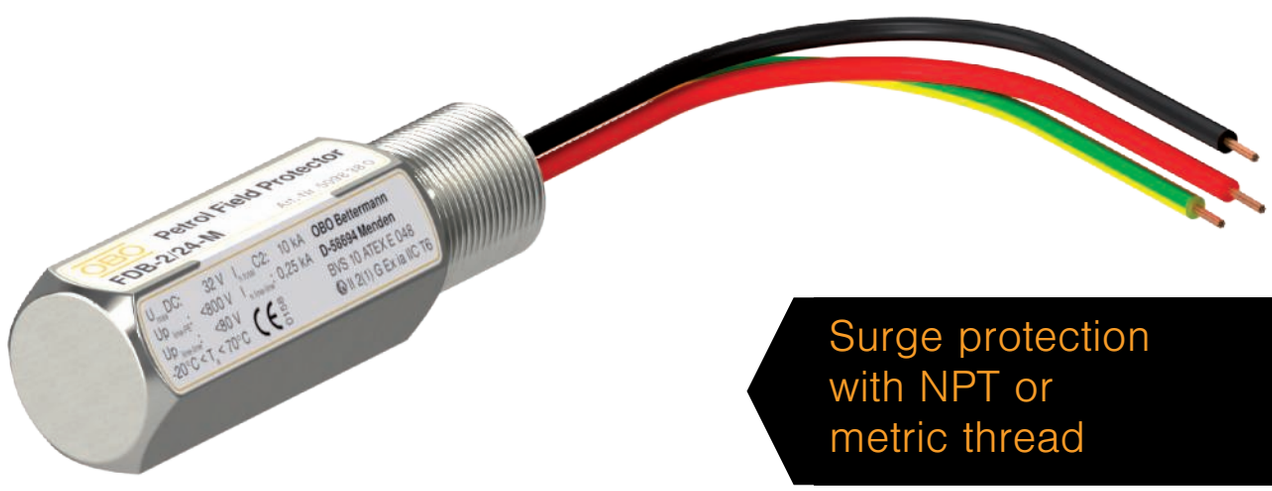
Always indicate the item number when ordering.

MCR protection for explosive areas

- For potentially explosive areas
- Two or three-pole protection of various sensors
- Metric or NPT thread
- Robust VA housing
- High arresting capacity



Surge protection with NPT or metric thread

With the Petrol Field Protector for data cable protection devices, OBO Bettermann can offer a surge protection device for sensors in potentially explosive areas. The Petrol Field Protector permits two or three-pole protection for all kinds of sensors. The protection device can be fastened directly on the sensor and wired in using the appropriate metric or NPT thread. The robust VA housing means that aggressive atmospheres are no problem. The intrinsic safety of the Petrol Field Protector was independently tested and certified. The Petrol Field Protector is your partner for safety-relevant applications in which effective surge protection must be guaranteed.

Always indicate the item number when ordering.

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MCR protection for explosive areas, 2-pole, 24 V

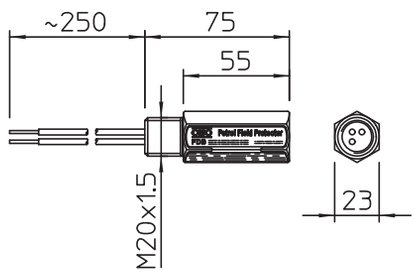
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
FDB-2 24-M	22	32	2-pole; metric	1	18.500	**5098380**

Petrol Field Protector FDB for intrinsically safe measuring circuits and bus systems

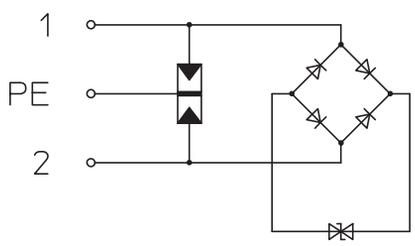
- Different connection technologies available (metric/NPT)
- Low protection level at high current load
- Easy mounting on field devices
- Negligible internal capacitance and inductance
- Stainless steel housing with pressure-resistant encapsulation
- ATEX approval: II 2(1) G Ex ia [ia Ga] IIC T4..T6 Gb (BVS 10 ATEX E 48)

Application: Flow sensors, temperature sensors

Dimensions



Connection options



FDB-2 24-M

Maximum continuous voltage AC U_C	22 V
Maximum continuous voltage DC U_C	32 V
Category	Type 2+3 / C2+C1
Lightning protection zone LPZ	1→3
Number of poles	2
Impulse durability wire-wire	C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth	C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)	10 kA
Protection level wire-wire	<80 V
Protection level wire-earth	<800 V
Temperature range ϑ	-20 - +70 °C
Installation type	Screw-on
Protection rating	IP65/67
Mounting of input / output	M20 x 1.5 external thread
Mounting of field / device side:	Connection cable 1.5 mm² Length ~ 250 mm
Earthing via:	Connection cable
Housing material	V2A
EX approval	II 2(1)G Ex ia [ia Ga] IIC T4..T6 Gb (BVS 10 ATEX E 048)
Testing standard	IEC 61643-21

Always indicate the item number when ordering.

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MCR protection for explosive areas, 3-pole, 24 V

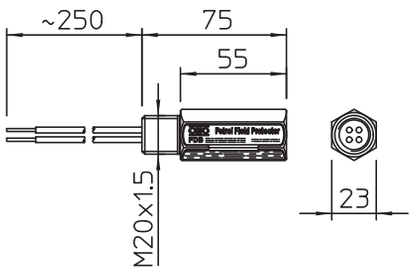
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
FDB-3 24-M	22	32	3-pole; metric	1	19.000	**5098382**

Petrol Field Protector FDB for intrinsically safe measuring circuits and bus systems

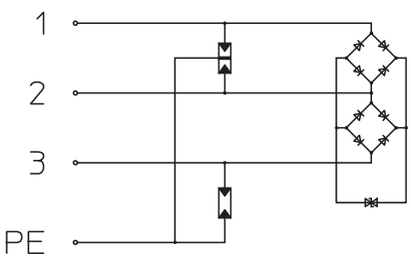
- Different connection technologies available (metric/NPT)
- Low protection level at high current load
- Easy mounting on field devices
- Negligible internal capacitance and inductance
- Stainless steel housing with pressure-resistant encapsulation
- ATEX approval: II 2(1) G Ex ia [ia Ga] IIC T4..T6 Gb (BVS 10 ATEX E 48)

Application: Flow sensors, temperature sensors

Dimensions



Connection options



FDB-3 24-M

Maximum continuous voltage AC	U_C	22 V
Maximum continuous voltage DC	U_C	32 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		3
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Protection level wire-wire		<80 V
Protection level wire-earth		<800 V
Temperature range	ϑ	-20 - +70 °C
Installation type		Screw-on
Protection rating		IP65/67
Mounting of input / output		M20 x 1.5 external thread
Mounting of field / device side:		Connection cable 1.5 mm² Length ~ 250 mm
Earthing via:		Connection cable
Housing material		V2A
EX approval		II 2(1)G Ex ia [ia Ga] IIC T4..T6 Gb (BVS 10 ATEX E 048)
Testing standard		IEC 61643-21

Always indicate the item number when ordering.

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MCR protection for explosive areas, 2-pole, 24 V

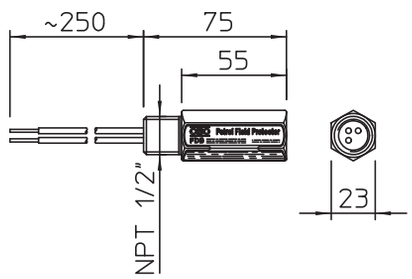
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
FDB-2 24-N	22	32	2-pole; NPT	1	19.000	**5098390**

Petrol Field Protector FDB for intrinsically safe measuring circuits and bus systems

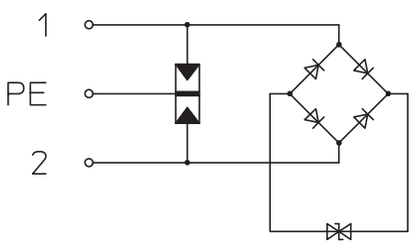
- Different connection technologies available (metric/NPT)
- Low protection level at high current load
- Easy mounting on field devices
- Negligible internal capacitance and inductance
- Stainless steel housing with pressure-resistant encapsulation
- ATEX approval: II 2(1) G Ex ia [ia Ga] IIC T4..T6 Gb (BVS 10 ATEX E 48)

Application: Flow sensors, temperature sensors

Dimensions



Connection options



FDB-2 24-N

Maximum continuous voltage AC U_C	22 V
Maximum continuous voltage DC U_C	32 V
Category	Type 2+3 / C2+C1
Lightning protection zone LPZ	1→3
Number of poles	2
Impulse durability wire-wire	C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth	C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)	10 kA
Protection level wire-wire	<80 V
Protection level wire-earth	<800 V
Temperature range ϑ	-20 - +70 °C
Installation type	Screw-on
Protection rating	IP65/67
Mounting of input / output	1/2" NPT
Mounting of field / device side:	Connection cable 1.5 mm² Length ~ 250 mm
Earthing via:	Connection cable
Housing material	V2A
EX approval	II 2(1)G Ex ia [ia Ga] IIC T4..T6 Gb (BVS 10 ATEX E 048)
Testing standard	IEC 61643-21

Always indicate the item number when ordering.

02_TBS_Produkteinheitenkatalog_EX_2018 / en / 2018/11/23 15:05:20 15:05:20 (LLExport_02235) / 2018/11/23 15:07:49 15:07:49

MCR protection for explosive areas, 3-pole, 24 V

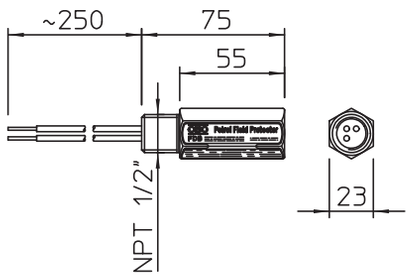
Type	Highest continuous voltage AC V	Highest continuous voltage DC V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
FDB-3 24-N	22	32	3-pole; NPT	1	19.500	**5098392**

Petrol Field Protector FDB for intrinsically safe measuring circuits and bus systems

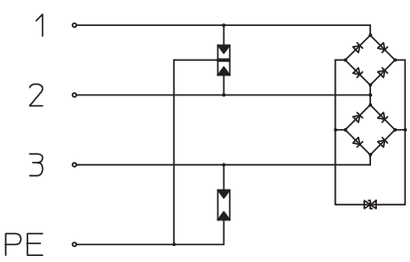
- Different connection technologies available (metric/NPT)
- Low protection level at high current load
- Easy mounting on field devices
- Negligible internal capacitance and inductance
- Stainless steel housing with pressure-resistant encapsulation
- ATEX approval: II 2(1) G Ex ia [ia Ga] IIC T4..T6 Gb (BVS 10 ATEX E 48)

Application: Flow sensors, temperature sensors

Dimensions



Connection options



FDB-3 24-N

Maximum continuous voltage AC	U_C	22 V
Maximum continuous voltage DC	U_C	32 V
Category		Type 2+3 / C2+C1
Lightning protection zone LPZ		1→3
Number of poles		3
Impulse durability wire-wire		C1: 0,5 kV / 0,25 kA (8/20µs)
Impulse durability wire-earth		C2: 5 kV / 2,5 kA (8/20µs)
Total discharge current (8/20)		10 kA
Protection level wire-wire		<80 V
Protection level wire-earth		<800 V
Temperature range	ϑ	-20 - +70 °C
Installation type		Screw-on
Protection rating		IP65/67
Mounting of input / output		1/2" NPT
Mounting of field / device side:		Connection cable 1.5 mm² Length ~ 250 mm
Earthing via:		Connection cable
Housing material		V2A
EX approval		II 2(1)G Ex ia [ia Ga] IIC T4..T6 Gb (BVS 10 ATEX E 048)
Testing standard		IEC 61643-21

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Surge protection, protection and spark gaps

Isolating spark gap 424

Connection straps 426

Closed spark gap with lightning current carrying capability 427

Protective spark gap 427

Spark gap/
surge voltage protection 427

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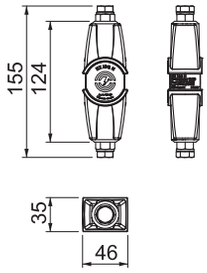
Spark gap EX ISG

Type	Connection cable length m	Contact voltage kV	Lightning current carrying capacity kA	Temperature range °C	Pack. pcs	Weight kg/100 pcs.	Item No.
EX ISG H	0	1.25	100	-20 - +60	1	41.360	**5240030**
EX ISG H 350	0.35	1.25	100	-20 - +60	1	57.260	**5240031**

Hotmelt

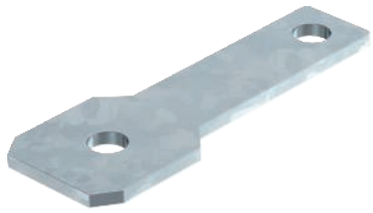
- Spark gap to VDE 0185-561-3 (IEC 62561-3)
- Ex certificate to ATEX
- Labelling to EN 60079-0/-1: II 2G Ex db IIC T6 Gb
- Labelling to EN 60079-0/-31: II 2 D Ex td IIIC T80 °C Db IP67
- Ex certificate to IECEx
- Labelling to EN 60079-0/-1: Ex db IIC T6 Gb
- Labelling to EN 60079-0/-31: Ex td IIIC T80 °C Db IP67

Dimensions



Application: In potentially explosive areas, indirect bridging of insulating flanges and insulating glands, e.g. in cathodic, corrosion-protected (KKS) systems

Connection clamp AB EX ISG straight



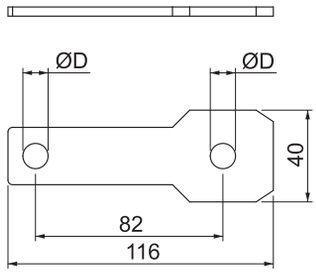
Type	Bore hole Ø mm	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
AB EX ISG S M10	11	For M10 bolt	2	9.000	**5240360**
AB EX ISG S M12	13	For M12 bolt	2	8.900	**5240362**
AB EX ISG S M16	17	For M16 bolt	2	8.600	**5240366**
AB EX ISG S M20	21	For M20 bolt	2	8.200	**5240370**
AB EX ISG S M24	25	For M24 bolt	2	7.800	**5240374**

St Steel

FT Hot-dip galvanised

Connection straps for mounting the OBO Ex spark gap, type EX ISG, on insulating flanges and insulating pieces.

Dimensions



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Always indicate the item number when ordering.

Connection clamp AB EX ISG, angled

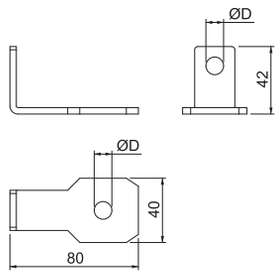
Type	Bore hole Ø mm	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
AB EX ISG SW M10	11	For M10 bolt	2	10.900	**5240380**
AB EX ISG SW M12	13	For M12 bolt	2	10.800	**5240382**
AB EX ISG SW M16	17	For M16 bolt	2	10.500	**5240386**
AB EX ISG SW M20	21	For M20 bolt	2	10.100	**5240390**
AB EX ISG SW M24	25	For M24 bolt	2	9.700	**5240394**

St Steel

FT Hot-dip galvanised

Connection straps for mounting the OBO Ex spark gap, type EX ISG, on insulating flanges and insulating pieces.

Dimensions



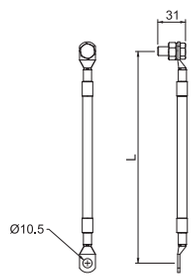
Connection cable - AL EX ISG

Type	Dimension mm	Pack. pcs	Weight kg/100 pcs.	Item No.
AL EX ISG 100	100	1	9.600	**5240102**
AL EX ISG 200	200	1	12.300	**5240104**
AL EX ISG 300	300	1	15.200	**5240106**

Cu Copper

UV-resistant connection cable for mounting the OBO Ex spark gap, type EX ISG, on insulating flanges and insulating pieces.

Dimensions



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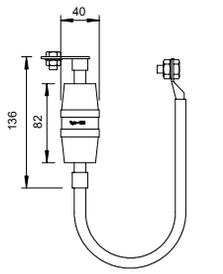
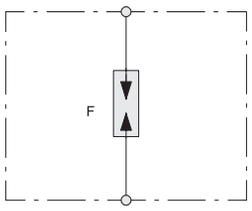
Always indicate the item number when ordering.

Explosion-proof, Parex closed spark gap

Type	Connection cable length m	Dimension mm	Pack. pcs	Weight kg/100 pcs.	Item No.
480 180	0.18	180	1	48.000	**5240034**
480 250	0.25	250	1	50.000	**5240077**
480 350	0.35	350	1	53.000	**5240069**

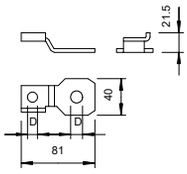




- Ex certificate to ATEX
- Labelling to EN 60079-0/-1: II 2G Ex d IIC T6 Gb
- Ex certificate to IECEx and DNV
- Labelling to EN 60079-0/-1: Ex d IIC T6 Gb
- Lightning current carrying capacity class H (100 kA) to VDE 0185-561-3 (IEC 62561-3)
- Incl. connector cable 25 mm² Cu, highly flexible, with cable shoe, screw (M 10), nut and lock washer

Application: In potentially explosive areas, indirect bridging of insulating flanges and insulating glands e.g. in cathodic, corrosion-protected (KKS) systems

Connection bracket for Parex spark gap



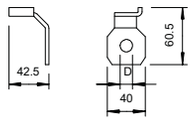
Type	Bore hole Ø mm	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
484 M12	13	For M12 bolt	2	8.100	**5240220**
484 M16	17	For M16 bolt	2	7.700	**5240239**
484 M20	21	For M20 bolt	2	7.300	**5240247**
484 M24	25	For M24 bolt	2	6.800	**5240255**

St Steel

F Hot-dip galvanised

Attaching flange for installing OBO Parex spark gap 480 on insulating flanges.

Connection bracket for Parex spark gap



Type	Bore hole Ø mm	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
485 M12	13	For M12 bolt	2	8.100	**5240328**
485 M10	11	For M10 bolt	2	8.300	**5240301**
485 M16	17	For M16 bolt	2	7.700	**5240336**

St Steel

F Hot-dip galvanised

Attaching flange for installing OBO Parex spark gap 480 on insulating flanges.

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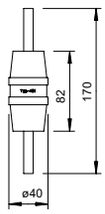
Always indicate the item number when ordering.

Closed spark gap with lightning current carrying capability

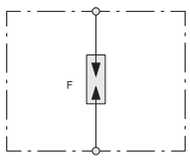
Type	Impulse current (10/350) kA	Nominal discharge current (8/20) kA	Protection level kV	Contact voltage kV	Temperature range °C	Pack. pcs	Weight kg/100 pcs.	Item No.
481	50	100	< 5,0	2.5	-20 - +50	1	26.500	**5240085**



Closed, lightning current carrying spark gap for separation of electrically conductive plant components.

- Connection bolts; Ø 10 mm; stainless steel.
- Pulsed current 50 kA (10/350)
- BET

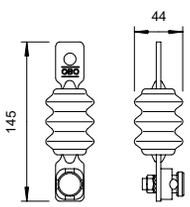
Tested application: Installation of electrical isolations for external lightning protection and earthing systems, e.g. two earthing systems on account of mutual influence or corrosion (corrosion current prevention).



Connection options

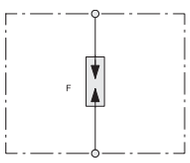
Protective spark gap

Type	Protection level kV	Nominal discharge current (8/20) kA	Contact voltage kV	Pack. pcs	Weight kg/100 pcs.	Item No.
482	< 10 kV	25 kA	10	1	56.000	**5240050**



Closed spark gap for bridging a proximity point between roof standard of low-voltage system and components of outer lightning protection system

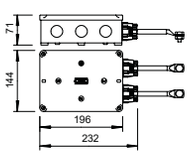
- Protection rating IP 54
- With pre-mounted type 5001 connector for attaching round conductors Rd 8 - 10



Connection options

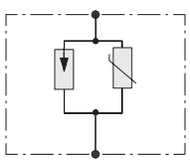
Spark gap / surge voltage protection for coupling earthing systems

Type	Rated power frequency withstand voltage V	Rated DC withstand voltage V	Impulse current (10/350) kA	Nominal discharge current (8/20) kA	Pack. pcs	Weight kg/100 pcs.	Item No.
FS-V20	280	280	100	100	1	170.000	**5099803**



The FS-V20 device is a spark gap with parallel-connected surge arrestor (protection level <1.5 kV). It is used to couple different earthing systems.
It is connected directly to the appropriate equipotential busbar.
Cable mounted with M10 cable shoe and bolt M10x25 (DIN 933) and nut M10 (DIN 934).

Application: Coupling earthing systems in data technology sector (functional and operational earthing)



Connection options

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Measuring and testing systems

	ISOLAB measuring system arrestor tester	430
	Testing unit for lightning barriers	430
	Magnetic card PCS	430
	Magnetic card holder PCS-H	431
	Card reader PCS-CS..	431
	Lightning current meter LSC	431

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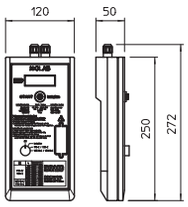
ISOLAB measuring system arrestor tester



Type	Country version	Nom. voltage V	Measuring range	Pack. pcs	Weight kg/100 pcs.	Item No.
ISOLAB	D/GB	6	0 V - - 999 V	1	75.000	**5096812**

To test the insulation resistance to DIN VDE 0100 Part 610 and the characteristic curve behaviour of the following surge voltage and lightning current arrestors:

• V10-C and V20-C:

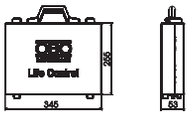
Uc		Tolerance range
75 V	->	110 V - 130 V
150 V	->	215 V - 265 V
280 V	->	385 V - 475 V
320 V	->	460 V - 560 V
335 V	->	460 V - 560 V
385 V	->	560 V - 680 V
440 V	->	645 V - 785 V
550 V	->	820 V - 1,000 V

• V25-B+C and V50-B+C:

Uc		Tolerance range
150 V	->	215 V - 265 V
280 V	->	385 V - 475 V
320 V	->	460 V - 560 V
385 V	->	560 V - 680 V

• Varistor arrestors of other manufacturers can be tested for 1 or 3 mA characteristic curve behaviour
• Battery operation
• Measuring cables contained in the scope of delivery.

Testing unit for lightning barriers



Type	Pack. pcs	Weight kg/100 pcs.	Item No.
LFC	1	164.500	**5096786**

OBO Life Control allows function control of the MDP lightning barriers.
The lightning barriers can be checked while installed. Life Control will not have any influences on the measuring signal.
Life Control possesses an integrated OLED with visual and acoustic defect signalling. A separate LED inside the testing pin is also integrated.
Life Control is delivered in a case, complete with a CD and instructions.

Magnetic card PCS

Type	Pack. PU	Weight kg/100 PUs	Item No.
PCS	1	5.000	**5091438**

Peak Current Sensor (PCS) card for recording pulsed/lightning currents. A continuous check of whether lightning has struck the lightning protection system and how high the most recent lightning current was in kA can thus be carried out in the simplest manner by the system operator, specialist lightning protection company or by a surveyor. Here, the printed maintenance circuit and the labelling panels support the maintenance work of the entire lightning protection system which must be performed at defined intervals according to VDE 0185-305-3 (IEC/EN 62305-3).

· Contents = 10 units
· Digital evaluation via the PCS card reading device
· Can be used in addition to the OBO lightning current meter LSC I+II
· With separate labelling panels: "Erected by", "Tested by", "Card code"
· Integrated maintenance circuit (year/month)

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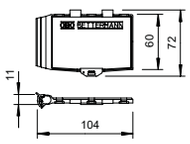
Magnetic card holder PCS-H

Type	Pack. PU	Weight kg/100 PUs	Item No.
PCS-H	1	31.000	**5091527**

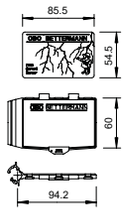


Magnetic card holder for mounting PCS cards.

- Sealable holder
- For installing on round conductor Rd 8-10
- Simple holder installation by means of clamp
- 1 PU = 10 pieces

Magnetic card and holder MK-B

Type	Pack. PU	Weight kg/100 PUs	Item No.
MK-B	1	31.000	**5091322**

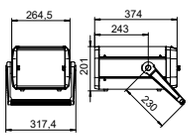


PCS magnetic card to record pulse/lightning currents including holder

- Holder can be leaded
- For mounting on round conductor Rd 8-10
- Simple holder mounting through clamping
- 1 PU = 10 units

Card reader PCS-CS..

Type	Country version	Nom. voltage V	Measuring range	Measuring tolerances	Pack. pcs	Weight kg/100 pcs.	Item No.
PCS-CS-D	EN	230	3 - - 120 kA	< 2 kA (< 2%)	1	750.000	**5091683**
PCS-CS-GB	GB	230	3 - - 120 kA	< 2 kA (< 2%)	1	750.000	**5091691**

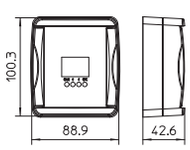


Magnetic card reader for reading and analysing PCS cards.

- Inc. rechargeable battery for 4 h continuous, no-mains operation
- Large, clear display

Lightning strike counter

Type	Measuring range	Pack. pcs	Weight kg/100 pcs.	Item No.
LSC I+II	1 kA - 100 kA	1	32.500	**5091722**



Plastic

The LSC I+II lightning current meter measures and permanently saves pulse currents, together with the date and time. This ensures constant monitoring in order to notice if any lightning has struck the lightning protection system. Should this be the case, then the lightning protection system must be maintained according to VDE 0185-305 (IEC 62305).

- Saving and display of time and date
- Usable both inside and outside due to its protection class of IP65
- Cable clip for round conductor or flat conductor
- Direct mounting on the conductor or the PE conductor of the surge protection device
- Long lifespan of the internal lithium batteries
- LCD display
- Internal battery
- Tested according to VDE 0185-561-6 (IEC 62561-6)

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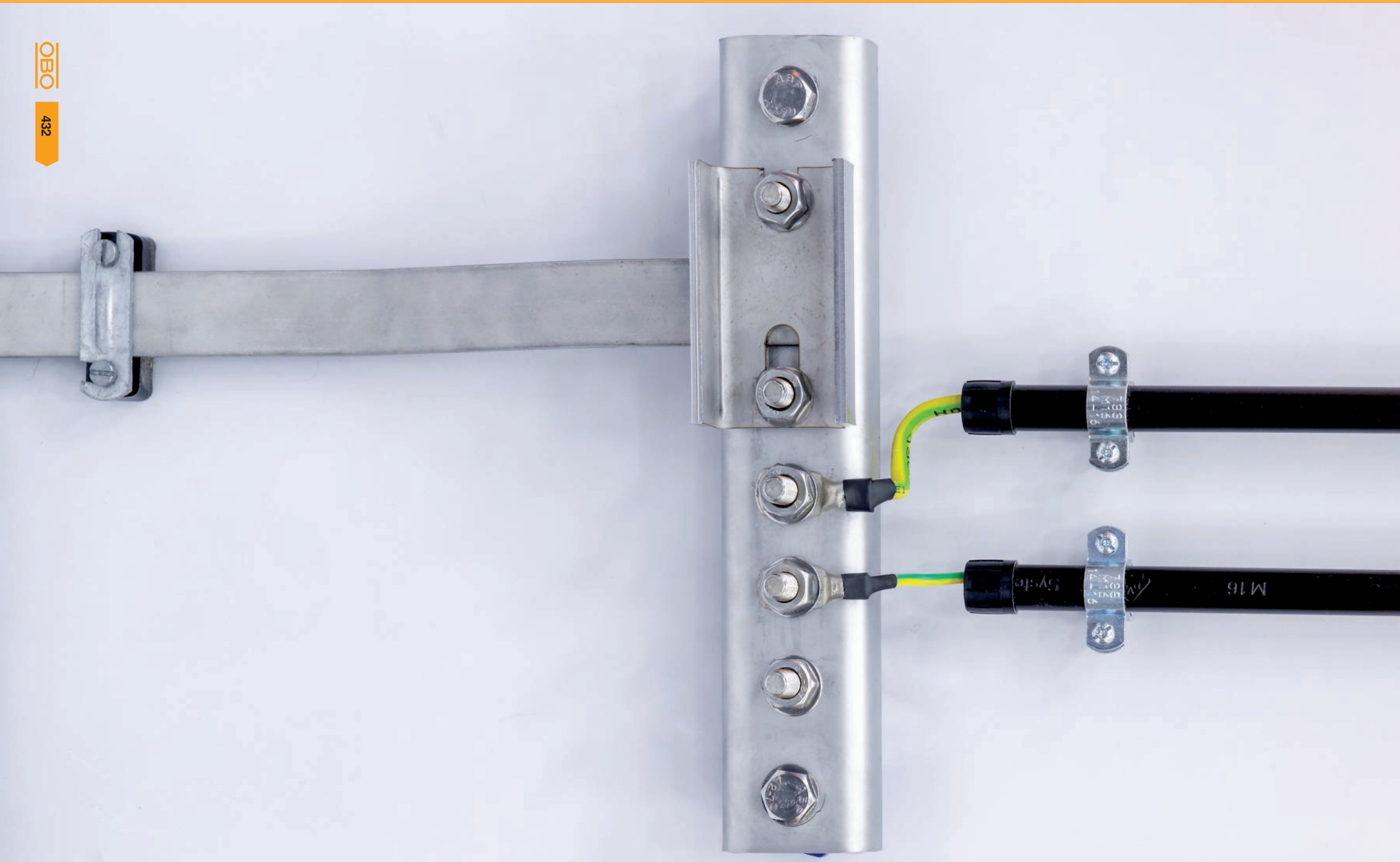
M16

Equipotential bonding systems

Equipotential busbars for indoor use 437

Equipotential busbars for outdoor areas 443

Equipotential busbars for industrial areas 445

Equipotential busbars for Ex area 449

Earthing clamps 453

Earthing clamps 454

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Equipotential busbars for industry

Type stainless steel

Pole	Item no.	Page
5	5015854	445
10	5015866	445

Type copper

Pole	Item no.	Page
5	5015830	445
6	5015832	445
8	5015836	445
10	5015842	445
12	5015844	445
14	5015847	445
20	5015849	445

Type: Galvanised steel

Pole	Item no.	Page
2	5016029	446
4	5016037	446
6	5016045	446

Type stainless steel

Pole	Item no.	Page
2	5016096	447
4	5016118	447
6	5016126	447

Equipotential busbars for potentially explosive areas

Zone 1/21 + 2/22

Pole	Item no.	Page
5	5015265	449
10	5015270	449

Zone 2/22 (stainless steel)

Pole	Item no.	Page
5	5015854	375
10	5015866	375

Zone 2/22 (copper)

Pole	Item no.	Page
5	5015830	375
6	5015832	375
8	5015836	375
10	5015842	375
12	5015844	375
14	5015847	375
20	5015849	375

Connector

Type	Item no.	Page
249 8-10 VA	5311551	451
5001 N-VA	5304176	447
5002 N-VA	5304270	451
249 8-10X16 VA	5311590	451

Always indicate the item number when ordering.

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Equipotential busbars for indoor use

VDE-tested

Type	Item no.	Page
1801 VDE	5015650	437

Standard

Type	Item no.	Page
1809	5015073	439

With metal base plate

Type	Item no.	Page
1809 M	5015081	439

Bioplastic

Type	Item no.	Page
1809 NR	5015075	440

Equipotential busbars for outdoor areas

UV-resistant

Type	Item no.	Page
1809 A	5015111	443
1809 AM	5015105	443

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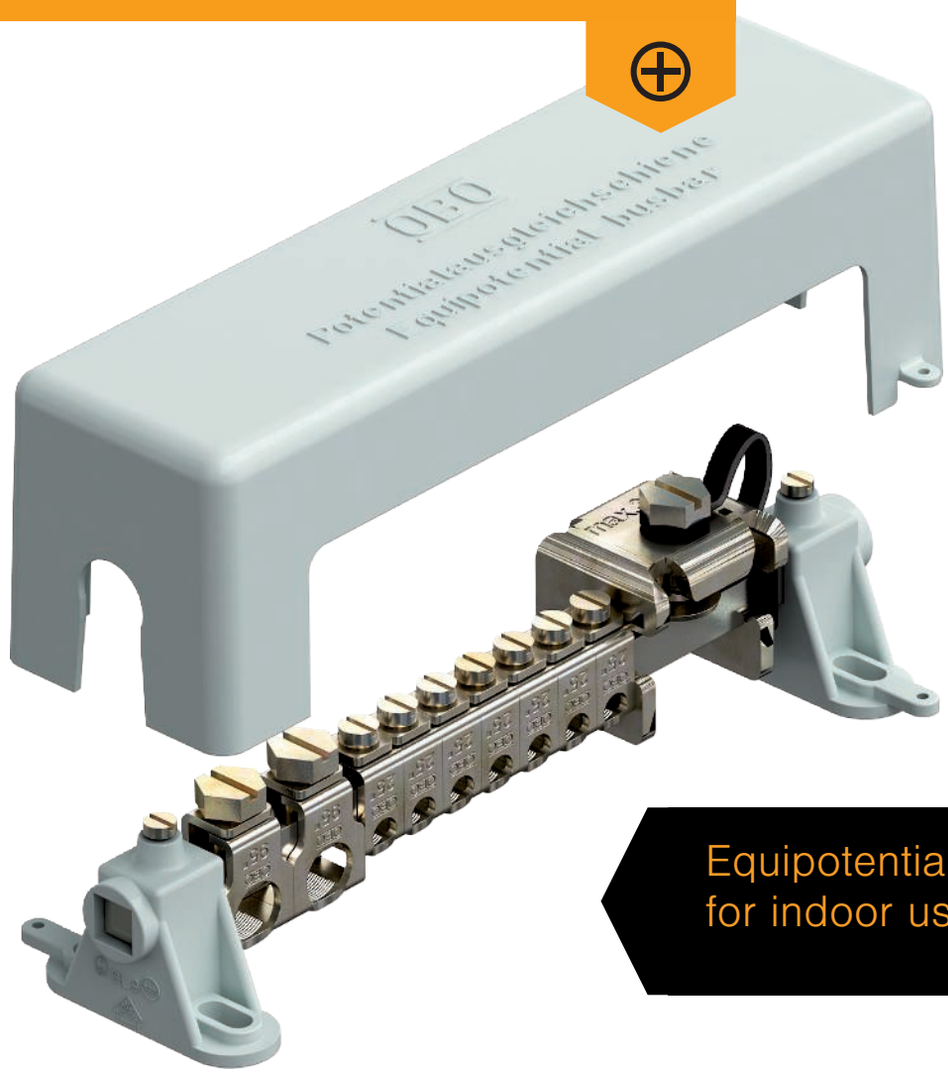
Always indicate the item number when ordering.

Equipotential busbars for indoor use

- Simple installation
- Modular series terminal system
- Wide range of uses



Equipotential bonding for indoor use

The equipotential busbars for interior areas are available as a modular, VDE-tested series terminal system 1801 or as a ready-for-installation equipotential busbar 1809 with plastic or metal footplate. The OBO Green 1809 is a solution made from renewable resources. The simple versions of the 1809 and 1804 are available as both surface-mounted and concealed versions. The equipotential busbars are used for installation the protection and functional equipotential bonding according to DIN VDE 0100-410/540 and the lightning equipotential bonding according to VDE 0185-305 (IEC 62305).

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Always indicate the item number when ordering.

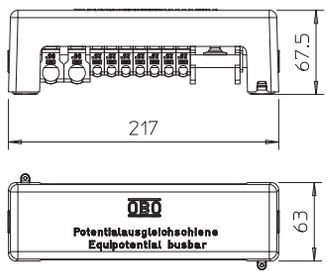
Equipotential bonding rail for indoors, VDE-tested

Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
1801 VDE	Grey	1	55.000	**5015650**

CuZn Brass

Equipotential busbar for equipotential bonding to DIN VDE 0100-410/-540 as well as lightning protection equipotential bonding to DIN VDE 0185-305

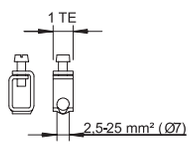
Dimensions



- According to VDE 0618, Part 1
- With 10 x 10 mm clamping rail made of nickel-plated brass
- With contact-secure series terminals made of electrogalvanised steel
- Cover and rail stands made of grey polystyrene
- Sealable / labellable cover
- Lightning current carrying capacity 100 kA (10/350)
- Tension clamp with screw lock against self-loosening (e.g. required in industrial and Ex areas)

Connection options:
- 7 single or multi-wire cables 2.5–25 mm² or fine-wire cables to 16 mm² (max. Ø 7 mm)
- 2 single or multi-wire cable 25–95 mm² or fine-wire cable to 70 mm² (max. Ø 13.5 mm)
- 1 flat conductor 30 x 3.5 mm

Round conductor terminal to 25 mm² for 1801 VDE



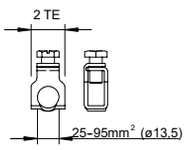
Type	Connection option	Pack. pcs	Weight kg/100 pcs.	Item No.
1801 RK25	2.5–25 mm²	10	2.080	**5015758**

St Steel

G Electrogalvanised

- For single or multi-wire cables 2.5–25 mm²
- For fine-wire cables to 16 mm² (max. Ø 7 mm)
- 1 division unit
- Lightning current carrying capacity 100 kA (10/350)
- Electrogalvanised steel
- Tension clamp with screw lock against self-loosening (e.g. required in industry and in explosion-protected areas)

Round conductor terminal from 25 mm² for 1801 VDE



Type	Connection option	Pack. pcs	Weight kg/100 pcs.	Item No.
1801 RK95	25–95 mm²	10	4.700	**5015766**

St Steel

G Electrogalvanised

- For single or multi-wire cables 25–95 mm²
- For fine-wire cables to 70 mm² (max. Ø 13.5 mm)
- 2 division units
- Lightning current carrying capacity 100 kA (10/350)
- Electrogalvanised steel
- Tension clamp with screw lock against self-loosening (e.g. required in industry and in explosion-protected areas)

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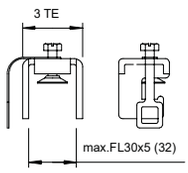
Flat conductor terminal to FL 30 for 1801 VDE



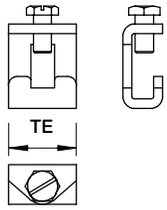
Type	Connection option	Pack. pcs	Weight kg/100 pcs.	Item No.
1801 RK30	FL 30 x 5	10	10.643	**5015731**

St Steel

G Electrogalvanised

- For flat conductors to FL 30 and thickness to 5 mm
- Captive design with plastic safety strap
- 3 division units
- Lightning current carrying capacity 100 kA (10/350)
- Electrogalvanised steel

Flat conductor terminal from FL 30 for 1801 VDE



Type	Connection option	Pack. pcs	Weight kg/100 pcs.	Item No.
1801 RK40	FL 40 x 5	10	7.300	**5015774**

St Steel

G Electrogalvanised

- For flat conductors from FL 30
- 2 terminals always required for each flat conductor connection
- Lightning current carrying capacity 100 kA (10/350)
- Electrogalvanised steel

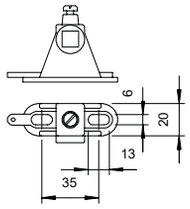
Contact strip for 1801 VDE

Type	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1801 KL1	212	1	18.000	**5015723**
1801 KL2	430	1	36.000	**5015804**
1801 KL3	645	1	54.000	**5015812**

CuZn Brass

- 10 x 10 mm made of nickel-plated brass
- 1801 KL1: 14 subunits
- 1801 KL2: 28 subunits
- 1801 KL3: 42 subunits

Busbar stands for 1801 VDE

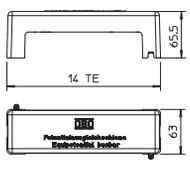


Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
1801 SCH	Grey	10	1.490	**5015715**

PS Polystyrene

- 2 rail stands required per 14 units
- With 6 x 13 mm slot

Cover hood for 1801 VDE



Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
1801 AH	Grey	1	6.450	**5015707**

PS Polystyrene

- 1 covering hood required per 14 division units
- Fastening to rail stands 1801/Sch
- Sealable

Always indicate the item number when ordering.

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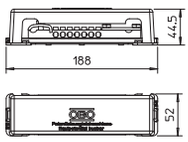
Equipotential bonding rail with plastic base plate

Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
1809	Grey	1	23.000	**5015073**

CuZn Brass



Equipotential busbar for equipotential bonding according to DIN VDE 0100-410/-540 and lightning protection equipotential bonding according to DIN VDE 0185-305

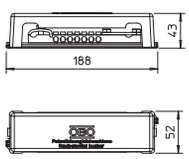
- Base plate and covering made of polystyrene, grey
- Sealable / labellable cover
- Contact strip made of nickel-plated brass
- Screws and crossbar made of electrogalvanised steel
- Capable of carrying lightning current 50 kA (10/350)

Connection options:
- 7 x single or multi-core cables to 25 mm² or fine-core cables to 16 mm²
- 1 x round conductor Rd 8-10
- 1 x flat strip to FL30 or round conductor Rd 8-10

Equipotential bonding rail with metal base plate

Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
1809 M	Grey	1	28.100	**5015081**

CuZn Brass



Equipotential busbar with metal foot for equipotential bonding according to DIN VDE 0100-410/-540 and lightning protection equipotential bonding according to DIN VDE 0185-305

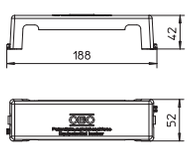
- Cover hood from polystyrene, grey
- Sealable / labellable cover
- Base plate made of strip-galvanised steel
- Contact strip made of nickel-plated brass
- Screws and crossbar made of electrogalvanised steel
- Capable of carrying lightning current 50 kA (10/350)

Connection options:
- 7 x single or multi-core cables to 25 mm² or fine-core cables to 16 mm²
- 1 x round conductor Rd 8-10
- 1 x flat strip to FL30 or round conductor Rd 8-10

Cover hood for 1809

Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
1809 30 AH	Grey	50	3.700	**5015200**

PS Polystyrene



- Replacement cover hood for equipotential busbar, type 1809

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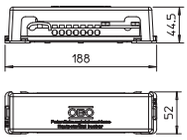
Always indicate the item number when ordering.

Equipotential busbar OBO Green



Type	Pack. pcs	Weight kg/100 pcs.	Item No.
1809 NR	1	22.300	**5015075**

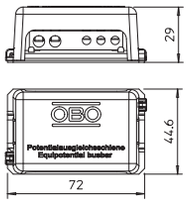
CuZn Brass

Natural product protects against natural influences.
The OBO Green equipotential busbar is a solution manufactured from cellulose acetate CA for the installation of the equipotential bonding according to DIN VDE 0100-410/-540 and lightning protection equipotential bonding according to DIN VDE 0185-305. The basic material is widely used in the paper industry.

- Base plate and cover hood made of CA, white
- Sealable and labellable cover
- Contact strip made of nickel-plated brass
- Bolts and crossbar made of electrogalvanised steel
- Capable of carrying lightning current 50 kA (10/350)

Connection options:
- 7x single or multi-wire cables to 25 mm² or fine-wire cables to 16 mm²
- 1x round conductor Rd 8–10
- 1x flat strip to FL 30 or round cable Rd 8–10

Equipotential bonding rail for small systems



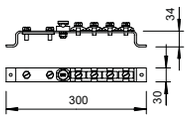
Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
1809 BG	Grey	1	9.000	**5015502**

CuZn Brass

- Cover made of polystyrene, grey
- Sealable / labellable cover
- Base plate made of strip galvanised steel
- Contact strip and screws made of nickel-plated brass

Connection options:
- 3 x multi-core cables to 6 mm²
- 2 x multi-core cables to 16 mm²

Equipotential bonding rail, simple version



Type	Pack. pcs	Weight kg/100 pcs.	Item No.
1808	1	67.000	**5015014**

CuZn Brass

- Clamp and crossbar, electrogalvanised steel
- Clamping element and contact strip, brass, screws, hot dipped galvanised steel

Connection options:
- 8 x cables to 25 mm²
- 1 x round conductor Rd 8-10
- 1 x flat conductor to FL 40

Always indicate the item number when ordering.

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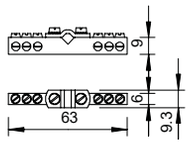
Equipotential bonding bar for bathrooms

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
1804	5	3.000	**5015553**

CuZn Brass

- Nickel-plated brass contact strip
- Screws and clamp made of electrogalvanised steel

Connection options:
- 6 cables 1.5-10 mm²
- 1 cable 6-16 mm²



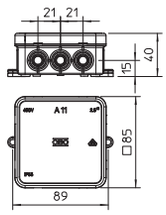
Equipotential bonding rail for surface mounting with 1804

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
1804 AP	10	8.077	**5015557**

PE Polyethylene

A 10/BP: Equipotential busbar for bathroom in housing

Connection options:
- 6x conductors 1.5-10 mm²
- 1x conductor 6-16 mm²
- Uncut
- With mounted potential equalisation rail 1804 in wet-room branch box A10

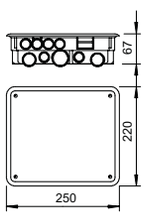


Equipotential bonding rail for flush-mounting with 1809

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
1809 UP	1	74.500	**5015065**

CuZn Brass

Connection options:
- 7 conductors to 25 mm²
- 1 round conductor Rd 8-10
- 1 flat conductor to FL30 or round conductor Rd 8-10
- With mounted potential equalisation rail 1809 (without covering hood)
- Pre-marked boxes for inserting required conductors and cover



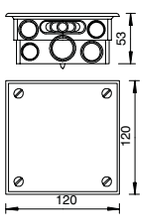
Equipotential bonding rail for flush-mounting with 1804

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
1804 UP	5	20.700	**5015545**

CuZn Brass

A 10/BP: Equipotential busbars for bathroom in housing

Connection options:
- 6x conductors 1.5-10 mm²
- 1x conductor 6-16 mm²
- Uncut
- With mounted potential equalisation rail 1804 in wet-room branch box A10



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Equipotential busbars for outdoor areas

- UV-stabilised
- Corrosion-resistant
- Simple installation
- Sealable
- Labelling in the lid

Equipotential bonding for outdoor use

The equipotential busbar for outdoor areas, 1809 A, is used for installation the protection and functional equipotential bonding according to DIN VDE 0100-410/540 and the lightning protection equipotential bonding according to VDE 0185-305 (IEC 62305). Thanks to corrosion-resistant and UV-stabilised materials, the equipotential busbar is suitable for both outdoor areas and systems in aggressive environments.

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Always indicate the item number when ordering.

Equipotential bonding rail for outside installation

Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
1809 A	Black	1	23.000	**5015111**
1809 AM	Black	1	23.000	**5015105**

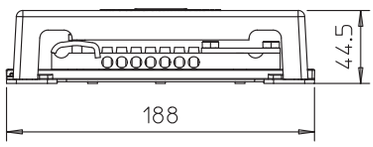
V2A Stainless steel, grade 304

Equipotential busbar for equipotential bonding according to DIN VDE 0100-410/-540 and lightning protection equipotential bonding according to DIN VDE 0185-305

- Cover hood and base plate made of polystyrene
- Colour: Black, UV-resistant
- Screws and crossbar made of VA
- Capable of carrying lightning current 50 kA (10/350)

Connection options:
- 7 x single or multi-core cables to 25 mm² or fine-core cables to 16 mm²
- 1 x round conductor Rd 8-10
- 1 x flat strip to FL30 or round conductor Rd 8-10

Dimensions



Equipotential bonding rail, solid version

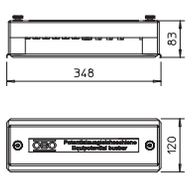
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
1810	1	173.000	**5015057**

St Steel

F Hot-dip galvanised

- Base plate and screw-on cover made of strip-galvanised steel
- Sealable / labellable cover
- Contact strip made of strip-galvanised steel
- Screws and crossbar made of steel, hot-dip galvanised or electrogalvanised

Connection options:
- 6 cables 6-16 mm²
- 1 round conductor Rd 8-10
- 1 flat conductor to FL 40
- 2 cable shoe M8



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Always indicate the item number when ordering.

Equipotential busbars for industrial areas

- Corrosion-resistant
- UV-stabilised
- Quick and easy mounting

Equipotential bonding for industry

The equipotential busbars for industry, BigBar (1802) and 1805, are used for the installation of protection and functional equipotential bonding according to DIN VDE 0100-410/540 and the lightning protection equipotential bonding according to VDE 0185-305 (IEC 62305). Due to the combination of corrosion resistance materials and their simple installation, the equipotential busbars are especially suitable for use in the industrial sector. The stainless steel (V4A, 1.4571, 316 Ti) variants of the 1805 can be used in a wide range of applications thanks to the fastening holes with their 11 mm diameter.

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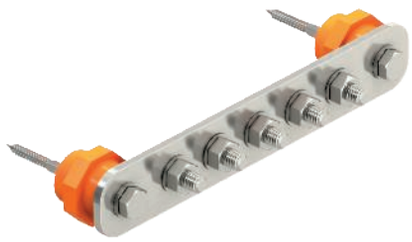
Always indicate the item number when ordering.

Equipotential bonding rail BigBar for industrial application

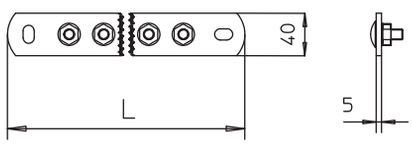
Type	Number of connections	Width mm	Length mm	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1802 5 VA	5	40	246	5	1	90.000	**5015854**
1802 10 VA	10	40	408.5	5	1	190.000	**5015866**

V2A Stainless steel, grade 304

- Main potential equalisation to VDE 0100 Part 410 and Part 540, and also lightning protection potential equalisation to VDE 0185-305 (IEC 62305)
- Insulation feet
- Quick, simple assembly of connection conductors to the contact rail using lock bolts M10
- The high-grade stainless steel versions (V2A) are suitable for outdoor use
- Complete with anchors and bolts for wall mounting
- With lock washer (DIN 137) for bolt locking against loosening (e.g. required in industry and explosion-protected areas)



Dimensions

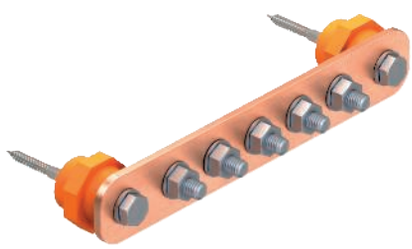


Equipotential bonding rail BigBar for industrial application

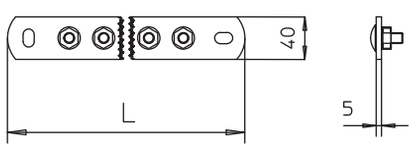
Type	Number of connections	Width mm	Length mm	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1802 5 CU	5	40	246	5	1	80.000	**5015830**
1802 6 CU	6	40	278.5	5	1	98.400	**5015832**
1802 8 CU	8	40	343.5	5	1	116.550	**5015836**
1802 10 CU	10	40	408.5	5	1	180.000	**5015842**
1802 12 CU	12	40	473.5	5	1	152.850	**5015844**
1802 14 CU	14	40	538.5	5	1	171.000	**5015847**
1802 20 CU	20	40	733.5	5	1	225.450	**5015849**

Cu Copper

- Main potential equalisation to VDE 0100 Part 410 and Part 540, and also lightning protection potential equalisation to VDE 0185-305 (IEC 62305)
- Insulation feet
- Quick, simple assembly of connection conductors to the contact rail using lock bolts M10
- The high-grade stainless steel versions (V2A) are suitable for outdoor use
- Complete with anchors and bolts for wall mounting
- With lock washer (DIN 137) for bolt locking against loosening (e.g. required in industry and explosion-protected areas)



Dimensions

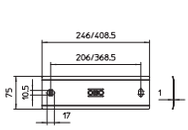


Cover for BigBar equipotential bonding rail

Type	Number of connections	Pack. pcs	Weight kg/100 pcs.	Item No.
1802 AH 5	5	1	25.800	**5015880**
1802 AH 10	10	1	36.300	**5015884**

V2A Stainless steel, grade 304

- Complete with all mounting components
- Labellable



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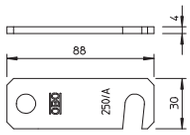
Crossbar for equipotential bonding rail

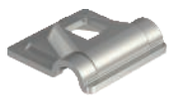


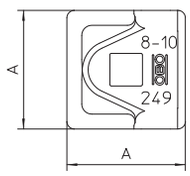
Type	Connection option	Pack. pcs	Weight kg/100 pcs.	Item No.
1802 KL	FL20-FL40	1	7.000	**5015890**

V2A Stainless steel, grade 304

- To clamp the flat conductors 30 x 3.5 and 40 x 5
- Suitable for equipotential busbar BigBar, type 1802

Connection terminal, equipotential bonding, Rd 8–10 mm



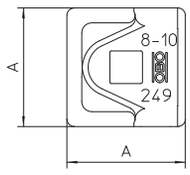


Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 VA-OT	Rd 8-10	40	100	3.130	**5311554**

V2A Stainless steel, grade 304

- For round conductor Rd 8-10
- Suitable for M10 bolts

Connection terminal, equipotential bonding, Rd 8–10 mm

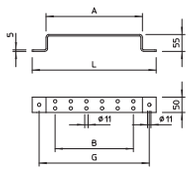


Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 CU-OT	Rd 8-10	40	100	3.580	**5311530**

Cu Copper

- For round conductor fastening RD 8-10
- Suitable for M10 bolts

Earthing connection bar



Type	Dimension L mm	Dimension A mm	Dimension B mm	Dimension G mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1805 2 FT	200	110	51	155	1	54.800	**5016029**
1805 4 FT	302	212	153	257	1	77.000	**5016037**
1805 6 FT	404	314	255	359	1	97.100	**5016045**

St Steel

FT Hot-dip galvanised

1805/...: For connecting different earthing systems

- With 2 mounting holes Ø 11 mm
- 1805/2: With 4 attaching holes
- 1805/4: With 8 attaching holes
- 1805/6: With 12 attaching holes

Always indicate the item number when ordering.

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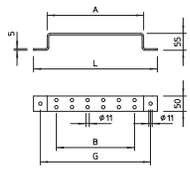
Earthing connection bar



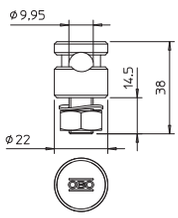
Type	Dimension L mm	Dimension A mm	Dimension B mm	Dimension G mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1805 2 VA	200	110	51	155	1	54.800	**5016096**
1805 4 VA	302	212	153	257	1	77.000	**5016118**
1805 6 VA	404	314	255	359	1	97.100	**5016126**

V4A Stainless steel, grade 316 Ti

1805/...: For connecting different earthing systems

- With 2 mounting holes Ø 11 mm
- 1805/2: With 4 attaching holes
- 1805/4: With 8 attaching holes
- 1805/6: With 12 attaching holes

Connector, Rd 8–10 mm with pressure trough



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5001 N-VA	Rd 8-10	N/50	10	6.800	**5304176**

V2A Stainless steel, grade 304

- With 1 fix contact clamping screw, nut and serrated washer
- Including pre-mounted pressure sump, steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

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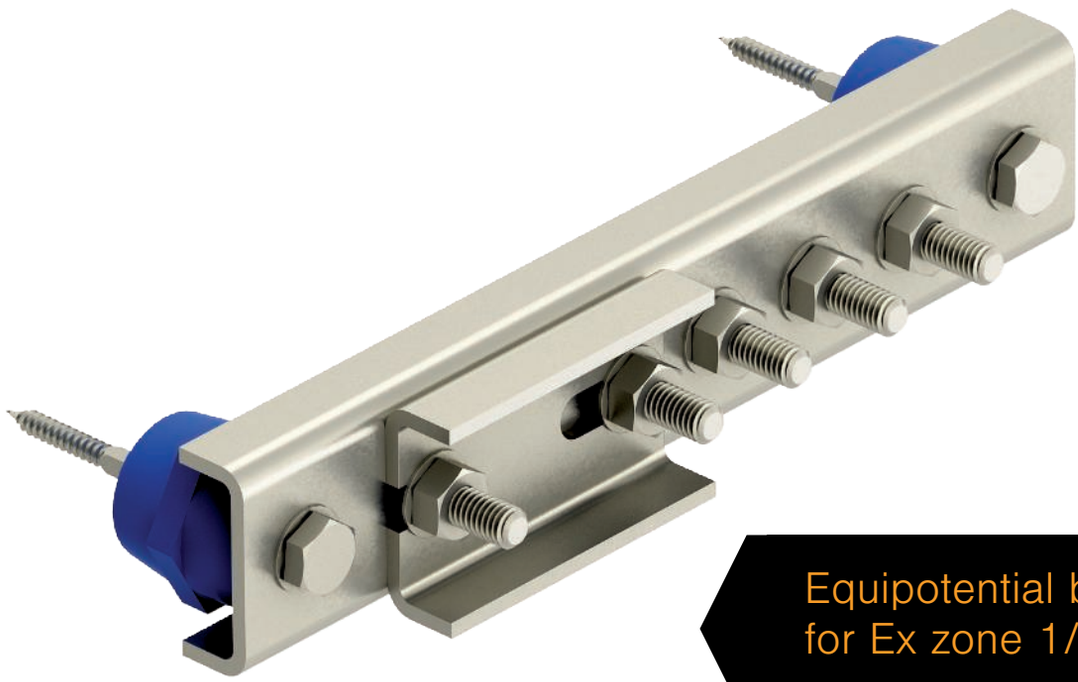
Always indicate the item number when ordering.

Equipotential bonding for Ex areas

- Manufacturer declaration for use in potentially explosive areas
- Protected against self-loosening
- UV-stabilised and halogen-free insulation feet
- For single, multi and fine-wire connection cables and flat conductors
- Suitable for FT, VA, CU and AL material
- Corrosion-resistant



Equipotential bonding for Ex zone 1/21, 2/22

The lightning protection components for equipotential bonding in Ex areas can be used as part of the erection according to VDE 0165 Part 1 (IEC 60079-14) and VDE 0185-305-3 (IEC 62305-3). They are secured against self-loosening in accordance with VDE 0185-305-3 Supplementary Sheet 2 (DIN EN 62305-3 Supplementary Sheet 2). The equipotential busbars are used for lightning protection equipotential bonding according to VDE 0185-305-3 (IEC 62305-3) and protective/function equipotential bonding according to DIN VDE 0100 Part 410/540. The Vario quick connectors and the connectors with pressure trough are connected with lightning current carrying capacity according to VDE 0185-305-3 (IEC 62305-3) and VDE 0185-561-1 (IEC 62561-1). The components are suitable for use in potentially explosive areas of Zone 2 (gases, vapours, mist) as well as Zone 22 (dusts). They do not possess their own potential source of ignition and thus cannot be evaluated according to the European Directive 94/9/EC. This means that an approval according to the European Directive 94/9/EC is not legally possible and also not required in the context of explosion protection.

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Always indicate the item number when ordering.

Equipotential busbar for EX zone 1/21, 2/22

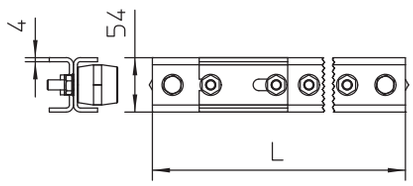
Type	Number of connections	Width mm	Length mm	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
EX PAS 5	5	54	279	4	1	152.000	**5015265**
EX PAS 10	10	54	441	4	1	214.000	**5015270**

V2A Stainless steel, grade 304

For ignition spark-free protection/functional equipotential bonding to DIN VDE 0100-410/-540 as well as ignition spark-free lightning protection equipotential bonding to DIN VDE 0185-305 (IEC 62305) in systems to VDE 0165-1 (IEC/ EN 60079-14)

- Use in potentially explosive areas, Ex zone 1 and 2/21 and 22
- Tested according to explosion group IIC
- Lightning current carrying capacity class H (100 kA) to VDE 0185-561-1 (IEC/EN 62561-1)
- UV-stabilised and halogen-free insulation feet
- With spring washer for locking screws against self-loosening to VDE 0185-305-3 Supplementary sheet 2
- Suitable for indoor and outdoor applications

Dimensions

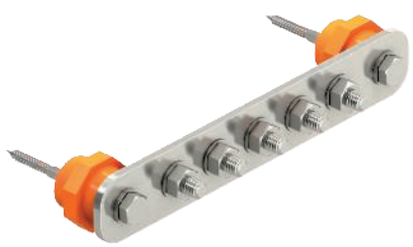


Equipotential bonding rail BigBar for industrial application

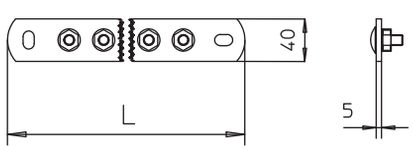
Type	Number of connections	Width mm	Length mm	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1802 5 VA	5	40	246	5	1	90.000	**5015854**
1802 10 VA	10	40	408.5	5	1	190.000	**5015866**

V2A Stainless steel, grade 304

- Main potential equalisation to VDE 0100 Part 410 and Part 540, and also lightning protection potential equalisation to VDE 0185-305 (IEC 62305)
- Insulation feet
- Quick, simple assembly of connection conductors to the contact rail using lock bolts M10
- The high-grade stainless steel versions (V2A) are suitable for outdoor use
- Complete with anchors and bolts for wall mounting
- With lock washer (DIN 137) for bolt locking against loosening (e.g. required in industry and explosion-protected areas)



Dimensions



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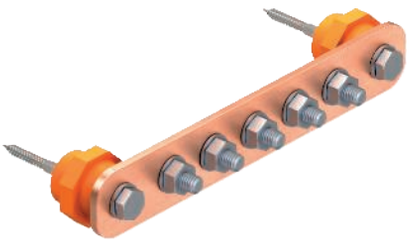
Always indicate the item number when ordering.

Equipotential bonding rail BigBar for industrial application

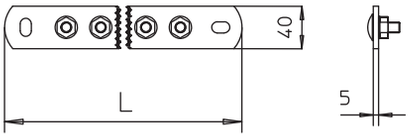


Type	Number of connections	Width mm	Length mm	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1802 5 CU	5	40	246	5	1	80.000	**5015830**
1802 6 CU	6	40	278.5	5	1	98.400	**5015832**
1802 8 CU	8	40	343.5	5	1	116.550	**5015836**
1802 10 CU	10	40	408.5	5	1	180.000	**5015842**
1802 12 CU	12	40	473.5	5	1	152.850	**5015844**
1802 14 CU	14	40	538.5	5	1	171.000	**5015847**
1802 20 CU	20	40	733.5	5	1	225.450	**5015849**

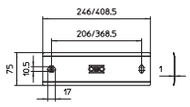
Cu Copper

- Main potential equalisation to VDE 0100 Part 410 and Part 540, and also lightning protection potential equalisation to VDE 0185-305 (IEC 62305)
- Insulation feet
- Quick, simple assembly of connection conductors to the contact rail using lock bolts M10
- The high-grade stainless steel versions (V2A) are suitable for outdoor use
- Complete with anchors and bolts for wall mounting
- With lock washer (DIN 137) for bolt locking against loosening (e.g. required in industry and explosion-protected areas)

Dimensions



Cover for BigBar equipotential bonding rail

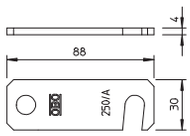


Type	Number of connections	Pack. pcs	Weight kg/100 pcs.	Item No.
1802 AH 5	5	1	25.800	**5015880**
1802 AH 10	10	1	36.300	**5015884**

V2A Stainless steel, grade 304

- Complete with all mounting components
- Labellable

Crossbar for equipotential bonding rail

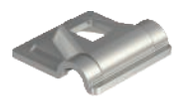


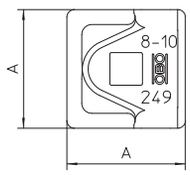
Type	Connection option	Pack. pcs	Weight kg/100 pcs.	Item No.
1802 KL	FL20-FL40	1	7.000	**5015890**

V2A Stainless steel, grade 304

- To clamp the flat conductors 30 x 3.5 and 40 x 5
- Suitable for equipotential busbar BigBar, type 1802

Connection terminal, equipotential bonding, Rd 8–10 mm





Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 VA-OT	Rd 8-10	40	100	3.130	**5311554**

V2A Stainless steel, grade 304

- For round conductor Rd 8-10
- Suitable for M10 bolts

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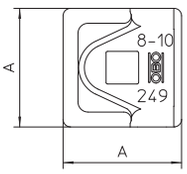
Always indicate the item number when ordering.

Connection terminal, equipotential bonding, Rd 8–10 mm

Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 CU-OT	Rd 8-10	40	100	3.580	**5311530**

Cu Copper

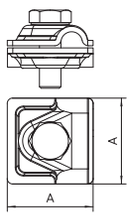


- For round conductor fastening RD 8-10
- Suitable for M10 bolts

Vario quick connector

Type	Fit mm	Dimension A mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 VA	Rd 8-10	40	H/100	10	10.700	**5311551**

V2A Stainless steel, grade 304

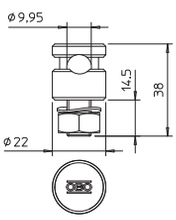


- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Connector, Rd 8–10 mm with pressure trough

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5001 N-VA	Rd 8-10	N/50	10	6.800	**5304176**

V2A Stainless steel, grade 304

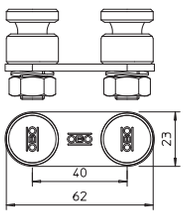


- With 1 fix contact clamping screw, nut and serrated washer
- Including pre-mounted pressure sump, steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Connector, Rd 8–10 mm, double, with pressure trough

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5002 N-VA	Rd 8-10	N/50	10	16.200	**5304270**

V2A Stainless steel, grade 304

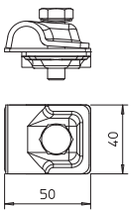


- With 2 Fix-Kontakt clamping bolts, nuts and serrated washers
- With pre-mounted pressure trough made of VA
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

Vario quick connector Rd 8-10x16

Type	Fit mm	Dimension A mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10X16 VA	8-10X16	40	H/100	10	16.300	**5311590**

V2A Stainless steel, grade 304



- For T, intersection and parallel connections with adapter plates
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel
- With sprung washer to DIN 137
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

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The plus of earthing pipe clamps

- Varied connection options
- Adjustable mounting strip
- Suitable for many pipe diameters

Earthing pipe clamps

Each system has different environmental and normative requirements relating to equipotential bonding. To implement equipotential bonding correctly, it is therefore necessary to select the right components to use. Equipotential busbars and earthing pipe clamps are key components of this kind of installation. In the context of lightning protection equipotential bonding, these must fulfil the requirements and undergo tests as defined in VDE 0185-561-1 (IEC 62561-1). When connecting metallic pipes to the equipotential bonding, strip earthing pipe clamps such as OBO type 927 are generally used. These offer a wide range of advantages over pipe clamps during assembly. With their rustproof stainless steel tightening strap, they are suitable for a wide range of pipe diameters and materials.

Always indicate the item number when ordering.

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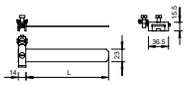
Earthing pipe clamp VA

Type	for pipe Ø inch	Dimension L mm	for pipe Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
927 1	3/8-11/2	200	17.2 - 48	10	7.780	**5057515**
927 2	3/8-4	395	17.2 - 114	10	8.550	**5057523**
927 4	3/8-6	555	17.2 - 185	10	8.900	**5057558**

V2A Stainless steel, grade 304



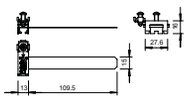
- For pipes of Ø 3/8 - 6"
- Connection options: Max. 2 cables 2.5-25 mm²
- Round conductor Rd 8
- Clip element, bolts and tightening strap made of rustproof stainless steel (VA)

Earthing pipe clamp, nickel-plated

Type	Dimension L mm	for pipe Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
927 0	109.5	8 - 22	10	5.000	**5057507**

CuZn Brass

N Nickel-plated

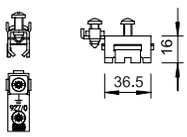


- For pipe Ø 8-22 mm
- Connection options: max. 2 conductors 2.5-10 mm²
- Clip elements and screws from nickel-plated brass
- Tightening strip from high-grade stainless steel (V2A)

Clamp lock for earthing pipe clamp

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
927 SCH-K-VA	20	4.700	**5057930**

V2A Stainless steel, grade 304

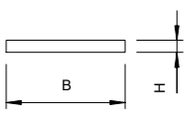


- Connection option: max. 2 conductors 2.5-25 mm²
- Possible to connect round conductor Rd 8

Installation strip for earthing pipe clamp

Type	Dimension B mm	Dimension H mm	Pack. m	Weight kg/100 m	Item No.
927 BAND-VA	23	0.3	40	6.000	**5057922**

V2A Stainless steel, grade 304



- 40 m roll
- Ready for transport and installation in unroll pack

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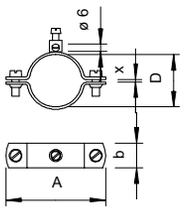
Always indicate the item number when ordering.

Earthing clamp, type 925



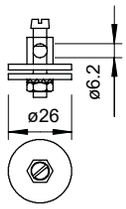
Type	Dimension A mm	Clamping range D mm	Dim. X mm	for pipe Ø inch	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
925 1/4	48	11.5 - 13.5	2	1/4	300	25	4.100	**5040035**
925 3/8	52	15.2 - 17.2	2	3/8	300	25	4.360	**5040051**
925 1/2	56	19.3 - 21.3	2	1/2	300	25	4.788	**5040078**
925 3/4	62	24.9 - 26.9	2	3/4	250	25	5.316	**5040094**
925 1	70	31.7 - 33.7	2	1	250	25	5.956	**5040116**
925 1 1/4	81	40.4 - 42.4	2	1 1/4	300	25	7.744	**5040132**
925 1 1/2	88	46.3 - 48.3	2	1 1/2	240	20	9.615	**5040159**

St Steel

G Electrogalvanised

- For pipes 1/4"-1½" or Ø 11.5-48.3 mm
- Connection options: conductors to 16 mm² with connecting terminal, riveted with brass and 1 cylinder screw M5 x 12
- To 1½" with 2 cylinder screws M6 x 16 (G)

Earthing terminal for fastening on earthing strap



CE

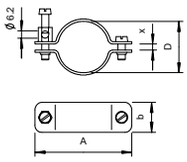
Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
928	240	10	5.700	**5040507**

CuZn Brass

N Nickel-plated

- For use in bathtubs or shower tubs etc.
- Connection option: conductors to 16 mm²
- Clamping element with threaded connection M6, 1 hexagonal nut M6, 1 serrated dimension washer and 1 cylinder screw M5 x 8
- Clamping element, nut and screws from copper-plated brass
- Serrated washer from stainless steel; 2 washers from galvanised steel

Earthing clamp, type 942



Type	Dimension A mm	Clamping range D mm	Dim. X mm	for pipe Ø inch	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
942 11	44	8 - 11	3.5	1/8	420	10	4.480	**5038014**
942 15	50	13 - 15	3	1/4	320	10	4.800	**5038030**
942 18	52	16 - 18	2	3/8	200	10	5.170	**5038057**
942 22	55	19 - 22	3	1/2	180	10	5.550	**5038073**
942 28	63	24 - 28	3	3/4	180	10	6.170	**5038081**
942 35	71	30 - 35	5	1	120	10	8.570	**5038111**
942 43	81	39 - 43	5	1 1/4	100	10	9.740	**5038138**
942 49	86	44 - 49	5	1 1/2	100	10	10.540	**5038154**

Cu Copper

N Nickel-plated

- For pipes 1/8"-1½" or Ø 8-49 mm
- Connection options: conductors to 16 mm²
- With attaching clamp and cylinder screw M6 x 16 from nickel-plated brass
- Top and bottom clip sections from nickel-plated copper

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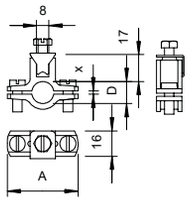
Always indicate the item number when ordering.

Earthing clamp, type 950

Type	Dimension A mm	Clamping range D mm	Dim. X mm	for pipe Ø inch	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
950 Z 1/4	45	12 - 14	2	1/4	300	10	5.830	**5050030**
950 Z 3/8	50	15.5 - 17.5	2	3/8	180	10	6.020	**5050057**
950 Z 1/2	54	20 - 22.5	2.5	1/2	120	10	7.000	**5050073**
950 Z 3/4	61	25 - 28	3	3/4	120	10	7.620	**5050081**
950 Z 1	66	31.5 - 34.5	3	1	150	10	8.410	**5050111**
950 Z 1 1/4	78	40.5 - 43.5	3	1 1/4	160	10	10.030	**5050138**
950 Z 1 1/2	84	46.5 - 49.5	3	1 1/2	150	10	10.410	**5050154**
950 Z 1 3/4	88	51 - 54	3	1 3/4	100	10	10.251	**5050170**
950 Z 2	96	58.5 - 61.5	3	2	80	10	12.150	**5050197**

Zn Die-cast zinc

G Electrogalvanised



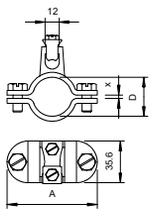
- For pipes Ø 1/4"-2"
- Connection options: conductors to 35 mm² or round conductors to Ø 6 mm
- With captive pressure strip, 2 cylinder screws M6 x 16 and 1 hex-head screw M6 x 16 from galvanised steel, top and bottom part of clip from die-cast zinc

Earthing clamp, type 952

Type	Dimension A mm	Clamping range D mm	Dim. X mm	for pipe Ø inch	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
952 Z 1/2	65	18.5 - 21.5	3	1/2	50	5	24.880	**5052076**
952 Z 3/4	71	24 - 27	3	3/4	50	5	26.780	**5052092**
952 Z 1	77	30.5 - 33.5	3	1	50	5	28.560	**5052114**
952 Z 1 1/4	87	39.5 - 42.5	3	1 1/4	50	5	32.200	**5052130**
952 Z 1 1/2	94	45.5 - 48.5	3	1 1/2	20	5	34.720	**5052157**
952 Z 2	105	57 - 60	3	2	30	5	38.520	**5052181**

St Steel

FT Hot-dip galvanised

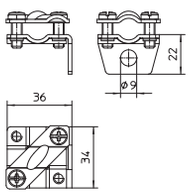


- For pipes 1/2-2" or Ø 11.5-60 mm
- Connection options: conductors 16-70 mm² and/or round conductors to Rd 10 with captive pressure strip from stainless steel
- With 2 hexagonal bolts M6 x 16 and 2 hexagonal bolts M6 x 20 from hot-dip galvanised steel
- Top section of clip with cast contact point from die-cast zinc, bottom section of clip from hot-dip galvanised steel

Earthing terminal type 951

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
951	120	10	5.400	**5051509**

V2A Stainless steel, grade 304



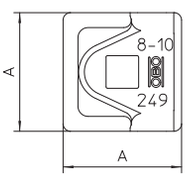
- Longitudinal and transverse conductor routing
- With 1 attaching hole Ø 9 mm
- With 2 cylinder bolts M6 x 16

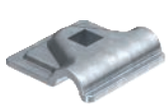
Connection terminal, equipotential bonding, Rd 8–10 mm

Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 ST-OT	Rd 8-10	40	100	3.240	**5311503**

St Steel

FT Hot-dip galvanised





- For round conductor fastening RD 8-10
- Suitable for M10 bolts

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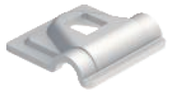
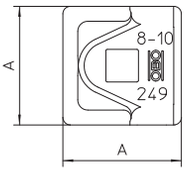
Always indicate the item number when ordering.

Connection terminal, equipotential bonding, Rd 8–10 mm



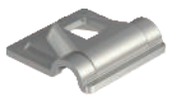


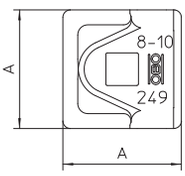
Type	Dimension A mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 ALU-OT	44	Rd 8-10	100	2.100	**5311585**

Alu Aluminium

- For round conductor fastening RD 8-10
- Suitable for M10 bolts

Connection terminal, equipotential bonding, Rd 8–10 mm



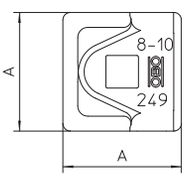


Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 VA-OT	Rd 8-10	40	100	3.130	**5311554**

V2A Stainless steel, grade 304

- For round conductor Rd 8-10
- Suitable for M10 bolts

Connection terminal, equipotential bonding, Rd 8–10 mm

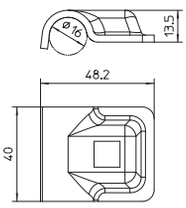


Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 CU-OT	Rd 8-10	40	100	3.580	**5311530**

Cu Copper

- For round conductor fastening RD 8-10
- Suitable for M10 bolts

Connection terminal, equipotential bonding, Rd 16 mm

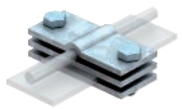


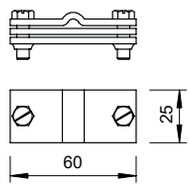
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 VA-OT	16	100	5.700	**5311573**

V2A Stainless steel, grade 304

- For round conductor fastening RD 16
- Suitable for M10 bolts

Earth connection terminal for round conductor and flat conductor





Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
937 50	100	10	11.750	**5043018**

St Steel

FT Hot-dip galvanised

- For round and flat conductors
- Fit: cable 50 mm² x max. FL 40
- Rd 8 x max. FL 40
- With 2 hexagonal bolts M6 x 20 (F)

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Always indicate the item number when ordering.

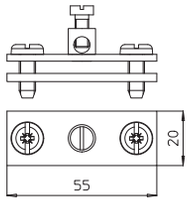
Earthing terminal for cables and flat conductors

Type	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
939	150	25	5.932	**5043107**

St Steel

G Electrogalvanised

- For cables to 16 mm² and flat conductors
- Fit: cable to 16 mm² x max. FL 30
- With riveted brass connection terminal and one cylinder bolt, M5 x 12, with two cylinder bolts, M6 x 16



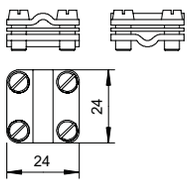
Clip branch terminal

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
470 4-16	50	2.856	**5064015**

CuZn Brass

N Nickel-plated

- Seat: 4-8 mm x 4-8 mm
- With 4 cylinder bolts M4 x 16



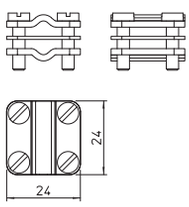
Clip branch terminal, parallel

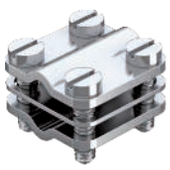
Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
471 4-16 P	–	50	2.900	**5064017**

CuZn Brass

N Nickel-plated

- Seat: 4-8 mm x 4-8 mm
- With 4 cylinder bolts M4 x 16





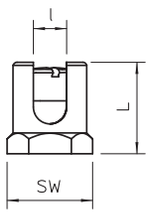
Earthing terminal with fastening thread

CE

Type	Dimension L mm	Dimension l mm	Cross-section mm²	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
EKL 25 M6	22	8	25	M6	50	3.100	**6404006**
EKL 35 M6	26	10	35	M6	50	4.800	**6404014**
EKL 25 M8	26	10	25	M8	50	3.970	**6404001**

CuZn Brass

Earthing terminal for fastening the equipotential bonding conductor to the cable support system.



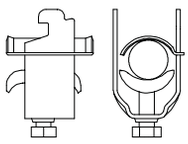
Clamp clips for screen connection

CE 11-12

Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2056N SAS 8 A2	4 - 8	50	2.900	**1167006**
2056N SAS 12 A2	8 - 12	50	3.700	**1167014**
2056N SAS 16 A2	12 - 16	50	4.200	**1167022**
2056N SAS 22 A2	16 - 22	50	4.850	**1167030**
2056N SAS 28 A2	22 - 28	50	6.600	**1167049**

V2A Stainless steel, A2

For electrical connection of the braided shield of stripped cables.
Delivery complete with counter-trough; pressure trough and VA counter-trough.
A cable screen for protection against electromagnetic influences, can also contribute towards equipotential bonding as both ends are connected to the reference potential.



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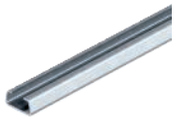
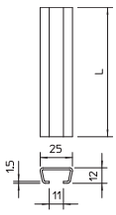
Profile rail CL2512, slot 11 mm, unperforated





Type	Length mm	Dimension W x H mm	Material thickness mm	Dimension L mm	Pack. m	Weight kg/100 m	Item No.
CL2512UP2000FT	2000	25 x 12	1.5	2000	20	65.000	**1117025**
CL2512UP2000FS	2000	25 x 12	1.5	2000	20	58.300	**1117033**

St Steel

FS Strip-galvanised FT Hot-dip galvanised

Light-duty C profile rail for cable routing, in conjunction with series clips or clamp clips with N foot. Can also be used in building of control cabinets.

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Always indicate the item number when ordering.

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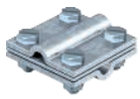
Earthing systems

Conductor material 464

Earth rods and plates 469



Connection material 478

Holders and accessories 494

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Diagonal and parallel clamps

RD 8-10/FL 30

Surface	Item no.	Page
FT	5312906	484
V4A	5312925	484
V2A	5312922	484

RD 6-22/max. FL 50

Surface	Item no.	Page
FT	5313015	485
FT	5313031	485
FT	5313066	485
V2A	5313023	485

RD 8-10

Surface	Item no.	Page
V4A	5313013	486
V2A	5001612	486

RD 10-20

Surface	Item no.	Page
V2A	5315522	486
FT	5315514	486
ST	5315557	486

Connection terminals, sealing sleeves and fixed earthing terminals

Ø 8–14 mm

Surface	Item no.	Page
ST	5014476	487
FT	5014468	487

Ø 16–37 mm

Surface	Item no.	Page
ST	5014477	487
FT	5014469	487

RD 10/FL 30x3.5

Surface	Item no.	Page
	2360041	487
	2360043	487

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Always indicate the item number when ordering.

Earth rods

219 Standard

Surface	Item no.	Page
FT	5000742	469
FT	5000750	469
FT	5000769	469

BP

Surface	Item no.	Page
FT	5000947	470
FT	5000955	470
Stainless steel	5000858	470
Stainless steel	5000866	470
Copper-plated	5000500	470

OMEX

Surface	Item no.	Page
FT	5000017	471
FT	5000203	471
FT	5000025	471

Pipe earther

Surface	Item no.	Page
FT	5000300	469
Stainless steel	5000335	469

Connection clips for earth rods

RD 8-10/FL 30-40

Surface	Item no.	Page
FT	5001641	478
FT	5001749	478
FT	5001668	478
Stainless steel	5001633	479
Stainless steel	5001672	479
Stainless steel	5001617	479
Stainless steel	5001625	479

Universal

Surface	Item no.	Page
FT	5001412	478
FT	5001404	478
Stainless steel	5001366	478

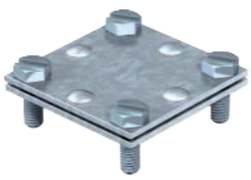
RD 8-10

Surface	Item no.	Page
FT	5001218	478
FT	5001226	478

RD 7-12.5

Surface	Item no.	Page
Copper-plated	5001560	479

Cross-connectors

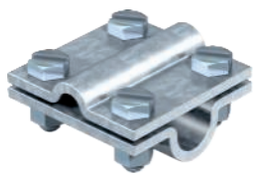


FL/FL

Surface	Item no.	Page
FT	5314534	480
FT	5314518	480
FT	5314658	480
FT	5314666	480
FT	5314615	481
FT	5314623	481
Stainless steel	5314659	480
Stainless steel	5314720	480
Stainless steel	5314616	481

RD 8-10/RD 8-10

Surface	Item no.	Page
FT	5312604	481
FT	5312310	482
Stainless steel	5312318	482
Copper-plated	5312418	482



RD 8-10/RD 16

Surface	Item no.	Page
FT	5312809	482
FT	5312345	483
Stainless steel	5312346	483
Copper-plated	5312442	483

RD 8-10/FL 30

Surface	Item no.	Page
FT	5312655	483
Stainless steel	5312656	484

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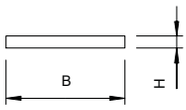
Always indicate the item number when ordering.

Galvanised steel flat conductor for earth



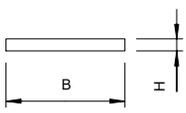
Type	Dimension W x H mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
5052 DIN 20X2.5	20 x 2,5	50	122	50	122	41.000	**5019340**
5052 DIN 25X3	25 x 3	75	84	50	84	59.700	**5019342**
5052 DIN 30X3	30 x 3	90	71	50	71	70.650	**5019344**
5052 DIN 30X3.5	30 x 3,5	105	30	25	30	84.000	**5019345**
5052 DIN 30X3.5	30 x 3,5	105	60	50	60	84.000	**5019347**
5052 DIN 30X4	30 x 4	120	52	50	52	97.000	**5019350**
5052 DIN 40X4	40 x 4	160	40	51	40	128.000	**5019355**
5052 DIN 40X5	40 x 5	200	30	50	30	162.000	**5019360**

St Steel

FT Hot-dip galvanised

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Meets the requirements of VDE 0185-305 (IEC 62305)
- Zinc coating: 500 g/m² (approx. 70 µm)
- For lightning protection, earthing systems and ring equipotential bonding

Stainless steel flat conductor

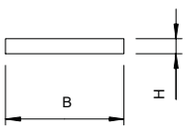


Type	Dimension W x H mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
5052 V2A 30X3.5	30 x 3,5	105	50	42	50	82.500	**5018501**
5052 V4A 30X3.5	30 x 3,5	105	50	42	50	82.425	**5018706**
5052 V4A 30X3.5	30 x 3,5	105	25	21	25	82.425	**5018730**

V2A Stainless steel, grade 304 V4A Stainless steel, 316Ti / 316L

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)
- According to the foundation earther standard DIN 18014, V4A is required in the earth
- For use in areas at risk of corrosion
- For lightning protection, earthing systems and ring equipotential bonding

Flat conductor, copper

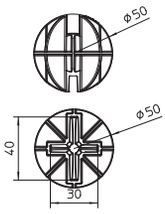


Type	Dimension W x H mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
FL 20-CU	20 x 2,5	50	45	20	45	44.500	**5021804**

Cu Copper

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Meets the requirements of VDE 0185-305 (IEC 62305)
- For lightning protection, earthing systems and ring equipotential bonding

Protective cap for connection lugs, reflective



Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
ProtectionBall	RD 8-10/ FL 25/ 30/ 40	25	2.050	**5018014**

PE Polyethylene

- For snapping onto round conductors or flat conductors
- Noticeable, reflective label
- For accident protection during the construction phase

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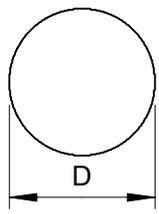
Always indicate the item number when ordering.

Round conductor, galvanised steel

Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
RD 8-FT	8	50	125	50	125	40.000	**5021081**
RD 8-FT 50	8	50	50	20	50	40.000	**5021050**
RD 10	10	78	80	50	80	52.500	**5021103**

St Steel

FT Hot-dip galvanised



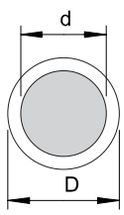
- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)
- RD 10 can also be used in the earth
- Zinc coating: 350 g/m² (approx. 50 µm)

Round conductor, galvanised steel with PVC jacketing

Type	Colour	Dimension d mm	Dimension D mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
RD 10-PVC	Black	10	13	78	75	50	75	67.000	**5021162**

St Steel

FT Hot-dip galvanised

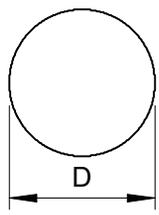


- Conforms to the requirements according to VDE V 0185-305, (IEC 62305)
- Zinc coating: 350 g/m² (approx. 50 µm)
- With PVC sheathing

Round conductor, aluminium

Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
RD 8-ALU	8	50	150	20	150	13.500	**5021286**
RD 8-ALU-T	8	50	150	20	150	13.500	**5021294**
RD 8-ALU-T 75	8	50	75	10	75	13.500	**5021296**
RD 10-ALU	10	78	95	20	95	21.000	**5021308**

Alu Aluminium

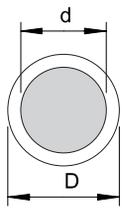


- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)
- RD 8 ALU: Semi-hard (E-AlMgSi0.5 corresponds to DIN 48801)
- RD 8 ALU-T: Can be subjected to torsion (E-AlMgSi0.5 corresponds to DIN 48801)
- RD 10 ALU: Pure aluminium (E-Al corresponds to DIN 48801)
- AL and ALMgSi may not be routed directly on, in or under plaster, mortar or concrete, nor routed in the earth

Round conductor, aluminium, with PVC sheathing

Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
RD 8-PVC	8/11	50	100	20	100	20.000	**5021332**

Alu Aluminium



- Meets the requirements of VDE 0185-305 (IEC 62305)
- With PVC jacketing (halogen-free)
- Suitable for routing on, in or under plasterwork, mortar or concrete

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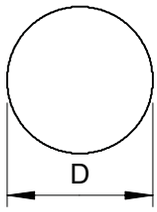
Always indicate the item number when ordering.

Round conductor, stainless steel A2

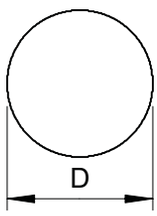


Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
RD 8-V2A	8	50	125	50	125	40.000	**5021235**
RD 10-V2A	10	78	50	32	50	63.000	**5021227**
RD 10-V2A	10	78	80	50	80	63.000	**5021239**
RD 8-V4A	8	50	125	50	125	40.000	**5021644**
RD 10-V4A 20	10	78	20	12	20	63.000	**5021640**
RD 10-V4A	10	78	50	32	50	63.000	**5021642**
RD 10-V4A	10	78	80	50	80	63.000	**5021647**

V2A Stainless steel, grade 304 V4A Stainless steel, 316Ti / 316L

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)
- RD 10-V4A for applications in the earth
- According to the foundation earther standard DIN 18014, V4A is required in the earth

Round conductor, copper

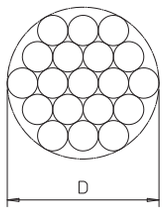


Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
RD 8-CU	8	50	100	45	100	45.000	**5021480**
RD 10-CU	10	78	50	35	50	70.000	**5021502**

Cu Copper

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

Copper cable



Type	Dimension D mm	Individual wires	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
S 11-CU	10.5	19x Ø 2,1	70	50	30	50	58.600	**5021654**
S 9-CU	9	19x Ø 1,8	50	100	45	100	45.000	**5021652**
S-11-CU SN	10.5	19x Ø 2,1	70	50	30	50	58.600	**5021656**

Cu Copper
Sn Tin-plated

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

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The plus of earth rods and plates

+ Corrosion-resistant – zinc coating double the amount required
+ Constant resistance values
+ No cross-section increase at the coupling point
+ Optimised for vibration hammers
+ Tested to VDE-0185-561-2 (IEC/EN 62561-2)
+ Can carry short-circuit current

Earth rod with modular structure

The earthing system is the basis for the entire electrical system. Together with the equipotential bonding system, a conductive and low-resistance connection to the local earth is created. Voltage differences between the connected parts are shorted and a reference potential is generated. The safety conditions and switch-off systems can only reach their protection aims when the system is implemented correctly.

Besides correct planning, the installation must be checked and documented. The continued protective action of the earthing system must be ensured through regular maintenance and testing. Besides the state of the art and the named standards, the directives of the local power generating company must be complied with.

A correctly installed earthing system, together with lightning and surge protection devices, can minimise damage and failures.

The earthing system creates the electrical connection to the surrounding earth. The earthing resistance of the system should be as small as possible (less than 10 Ω) and must be coordinated with further protective measures and switch-off conditions.

Always indicate the item number when ordering.

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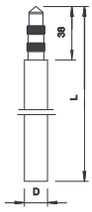
Earthing rod for standard applications

Type	Length mm	Outer-Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
219 20 ST FT	1000	20	5	250.000	**5000742**
219 20 ST FT	1500	20	5	360.000	**5000750**

St Steel

FT Hot-dip galvanised



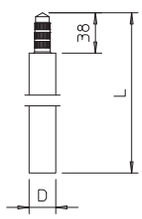
- High corrosion resistance
- Zinc support 70 µm
- With peg and bore for linking together
- Round pegs with two knurls
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)
- Short-circuit current Ik (50 Hz), time 1 s, max. temp 300 °C: 7.9 kA (219/20 ST)

Earthing rod for standard applications

Type	Length mm	Outer-Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
219 25 ST FT	1500	25	5	573.000	**5000769**

St Steel

FT Hot-dip galvanised



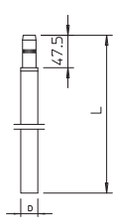
- High corrosion resistance
- Zinc support approx. 130 µm
- With peg and bore for linking together
- Round pegs with three knurls
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)
- Short-circuit current Ik (50 Hz), time 1 s, temp. max. 300 °C: 12.3 kA

LightEarth earthing rod

Type	Length mm	Outer-Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
LE ERDER FT	1500	25	5	235.000	**5000300**

St Steel

FT Hot-dip galvanised

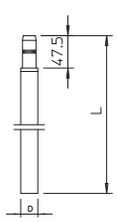


- Expandable earth rod system for erecting earthing connections (type A)
- Also suitable for difficult soil conditions
- The LightEarth earthing system is connected using the pre-mounted sleeve
- Satisfies requirements according to DIN VDE 0185-305 (IEC 62305)
- For use with antenna earthing systems, lightning earthing systems, etc.

LightEarth earthing rod

Type	Length mm	Outer-Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
LE ERDER V4A	1500	25	5	235.000	**5000335**

V4A Stainless steel, grade 316 L



- Expandable earth rod system for erecting earthing connections (type A)
- Also suitable for difficult soil conditions
- The LightEarth earthing system is connected using the pre-mounted sleeve
- Satisfies requirements according to DIN VDE 0185-305 (IEC 62305)
- For use with antenna earthing systems, lightning earthing systems, etc.

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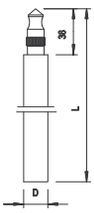
Always indicate the item number when ordering.

BP earthing rod



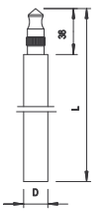
Type	Length mm	Outer-Ø mm	Short-circuit current (50 HZ) (1 s;≤300°C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
219 20 BP FT	1500	20	7.9	H/100	5	360.000	**5000947**
219 25 BP FT	1500	25	12.3	H/100	5	573.000	**5000955**

St Steel

FT Hot-dip galvanised

- "BP" system (Bundespost)
- Very good contacting properties with soft metal inlay in the bore hole
- With peg and bore for linking together
- FT version with zinc coating approx. 130 µm
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)

BP earthing rod

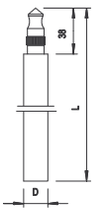


Type	Length mm	Outer-Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
219 20 BP V4A	1000	20	5	250.000	**5000858**
219 20 BP V4A	1500	20	5	365.000	**5000866**

V4A Stainless steel, grade 316

- "BP" system (Bundespost)
- Very good contacting properties with soft metal inlay in the bore hole
- With peg and bore for linking together
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)
- Short circuit current Ik (50 Hz), time 1 s, max. temp. 300 °C: 4.5 kA (219 20 BP V4A)

BP earthing rod with copper sheath



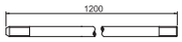
Type	Length mm	Outer-Ø mm	Short-circuit current (50 HZ) (1 s;≤300°C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
219 20 BP CU	1500	20	7.9	H/100	5	365.400	**5000500**

St Steel

Cu Copper-plated

- "BP" system (Bundespost)
- Made of steel with a copper jacket of min. 0.25 mm
- Very good contacting properties with soft metal inlay in the bore hole
- With peg and bore for linking together
- Tensile strength min. 600 N/mm²
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)

BP earth rod with copper sheath



Type	Length mm	Outer-Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
219 16 CU	1200	14.2	5	192.000	**5000481**

St Steel

Cu Copper-plated

- Made of steel with a copper jacket of min. 0.25 mm
- With thread for linking together
- Tensile strength min. 600 N/mm²
- Meets the requirements of VDE 0185-305 (IEC 62305)

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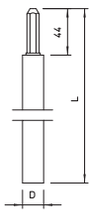
Always indicate the item number when ordering.

OMEX earthing rod

Type	Length mm	Outer-Ø mm	Short-circuit current (50 HZ) (1 s;≤300°C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
219 20 OMEX FT	1500	20	7.9	H/100	5	365.400	**5000017**
219 20 OMEX FT	2000	20	7.9	H/100	5	491.400	**5000203**



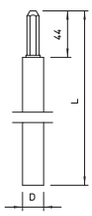
St Steel

FT Hot-dip galvanised

- OMEX system
- With peg and bore for linking together
- With hardened hexagonal pins
- Min. zinc coating 60 µm
- Very good contacting properties with soft metal inlay in the bore hole
- Conforms to the requirements according to VDE 0185-305 (IEC 62305) and DIN EN 62561-2

OMEX earthing rod

Type	Length mm	Outer-Ø mm	Short-circuit current (50 HZ) (1 s;≤300°C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
219 25 OMEX FT	1500	25	12.3	H/100	5	577.200	**5000025**



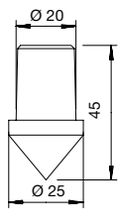
St Steel

FT Hot-dip galvanised

- OMEX system
- With peg and bore for linking together
- With hardened hexagonal pins
- Min. zinc coating 60 µm
- Very good contacting properties with soft metal inlay in the bore hole
- Conforms to the requirements according to VDE 0185-305 (IEC 62305) and DIN EN 62561-2

Driving spike for LightEarth earth rod

Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
LE SPITZE	25	5	10.000	**3041409**



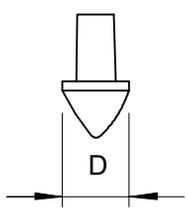
St Steel

FT Hot-dip galvanised

- Suitable for LightEarth system

Driving spike for ST and BP earth rod

Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1819 20BP	20	5	3.800	**3041212**
1819 25BP	25	5	6.700	**3041956**



TG Cast iron

FT Hot-dip galvanised

- Suitable for ST and BP system

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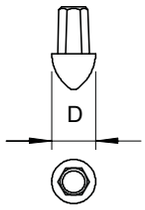
Always indicate the item number when ordering.

Driving spike for OMEX earth rod



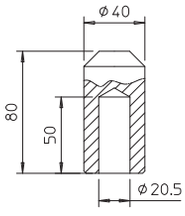
Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1819 20	20	5	3.300	**3041204**
1819 25	25	5	4.900	**3041255**

TG Cast iron

FT Hot-dip galvanised

- Suitable for OMEX system
- DIN 48852, Form SP

Impact head for LightEarth earthing rod



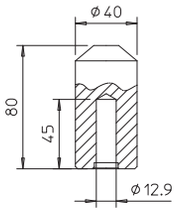
Type	Material symbol	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
LE KOPF	St	25	1	0.550	**3042308**

St Steel

FT Hot-dip galvanised

- Suitable for LightEarth system
- For driving earth rods using hand-held hammer
- Hardened

Impact head for earthing rods ST, BP and OMEX

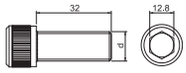


Type	Material symbol	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1820 20	St	20	1	62.600	**3042200**
1820 25	St	25	1	70.000	**3042251**

St Steel

- Suitable for ST, BP and OMEX systems
- Hardened
- DIN 48852, Form SP

Impact head for earthing rod with thread

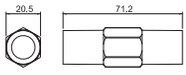


Type	Material symbol	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1820 16	V2A	14.2	5	5.800	**3042270**

V2A Stainless steel, grade 304

- Suitable for earth rods, type 2019 16 CU

Coupling for earth rod with thread



Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2019 16	14.2	10	8.000	**5001190**

CuSn Red bronze

- Suitable for earth rods, type 2019 16 CU

Always indicate the item number when ordering.

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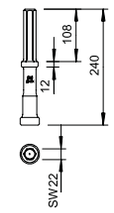
Hammer insert, type 2500, for earthing rods ST, BP and OMEX

Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2500 20	20	1	120.000	**3043207**
2500 25	25	1	140.000	**3043258**

St Steel

- Manufactured by Cobra BBM 47 SPA-Super, Tex11 and COBRA 248
- Fits earth rod system ST, BP and OMEX
- Hardened

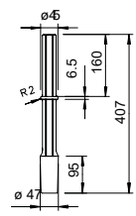


Hammer insert, type 2510, for earthing rods ST, BP and OMEX

Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2510 20	20	1	310.000	**3043312**

St Steel

- Manufactured by Atlas Copco, type FB 60 S-Super
- Fits earth rod system ST, BP and OMEX
- Hardened

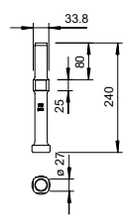


Hammer insert, type 2520, for earthing rods ST, BP and OMEX

Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2520 20	20	1	197.000	**3043703**
2520 25	25	1	197.000	**3043754**

St Steel

- Manufactured by Wacker BHF 25, BHF 30S, EHU 25/220
- Fits earth rod system ST, BP and OMEX
- Hardened

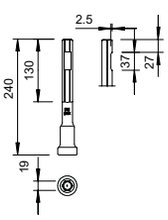


Hammer insert, type 2530, for earthing rods ST, BP and OMEX

Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2530 20	20	1	125.000	**3043401**
2530 25	25	1	125.000	**3043452**

St Steel

- Manufactured by Bosch USH 10, HSH 10
- Fits earth rod system ST, BP and OMEX
- Hardened

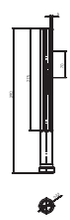


Hammer insert, type 2531, for earthing rods ST, BP and OMEX

Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2531 20	20	1	200.000	**3043908**

St Steel

- Make: Bosch GSH 27, USH 27 (WAF 28 mm)
- Suitable for ST, BP and OMEX earth rod systems
- Hardened



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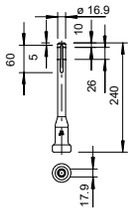
Always indicate the item number when ordering.

Hammer insert, type 2535, for earthing rods ST, BP and OMEX

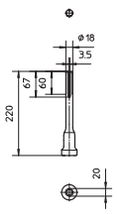


Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2535 20	20	1	100.000	**3043916**
2535 25	25	1	100.000	**3044912**

St Steel

- Manufactured by Hilti TE 52/42, TE 72/60, TE 92
- Fits earth rod system ST, BP and OMEX
- Hardened

Hammer insert, type 2536, for earthing rods ST, BP and OMEX



Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2536 20	20	1	63.000	**3044904**
2536 25	25	1	61.000	**3044831**

St Steel

- Fits earth rod system ST, BP and OMEX
- For vibration hammers with SDS- Max/TEY- mounting
- Hardened

Hammer insert for LightEarth earthing rod

Type	Seat systems	Pack. pcs	Weight kg/100 pcs.	Item No.
LE HAMMER-W	Wacker	1	132.000	**3043606**
LE HAMMER-H	Hilti	1	76.000	**3043610**
LE HAMMER-B	Bosch	1	87.000	**3043614**
LE HAMMER-SDS-M	SDS-max	1	76.000	**3043602**
LE HAMMER-AC	Atlas Copco	1	76.000	**3043618**
LE HAMMER-B-II	Other	1	200.000	**3043628**

St Steel

- Suitable for LightEarth system
- 3043606 for Wacker (BHF 25, BHF 30S)
- 3043610 for Hilti (TE 52/42, TE72/60, TE92)
- 3043614 for Bosch (USH 10, HSH 10)
- 3043602 for SDS-Max
- 3043618 for Atlas Copco (Hexagon seat)
- 3043628 for Bosch GSH27/UH27 (11304) / HS28 (12314)
  Hitachi H65SD
  Makita HM 1500B / HM1800
- Hardened

Always indicate the item number when ordering.

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Air-termination/earth entry rod, rounded-off on both ends

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 A-1500	1500	16	10	240.000	**5400155**

St Steel

FT Hot-dip galvanised

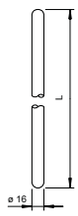
- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system

Air-termination/earth entry rod, rounded-off on both ends

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
200 V4A-1500	1500	16	10	242.000	**5420504**
200 V4A-2000	2000	16	10	320.000	**5420539**

V4A Stainless steel, grade 316 Ti

- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system



Air-termination/earth entry rod, rounded-off on both ends

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 A-CU	1500	16	10	272.100	**5400627**

Cu Copper

- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system

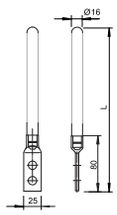
Air-termination/earth entry rod with connection tabs

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 F1500	1500	16	10	240.000	**5424151**
101 F2000	2000	16	10	320.000	**5424208**

St Steel

FT Hot-dip galvanised

- With 2 attaching holes Ø 12 mm
- One end rounded

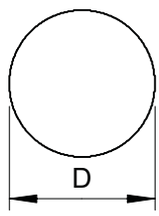


Connection lug/earth entry rod made of stainless steel

Type	Nominal size Ø mm	Cross-section mm²	Pack. pcs	Weight kg/100 pcs.	Item No.
AF RD 10 V4A	10	75	5	123.600	**5430720**

V4A Stainless steel, 316Ti / 316L

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)
- RD 10-V4A for applications in the earth
- According to the foundation earther standard DIN 18014, V4A is required in the earth



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Always indicate the item number when ordering.

Earth entry rod, tapered and partially insulated

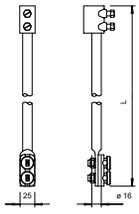
Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
204 KS-2000	2000	16/10	1	230.000	**5430011**
204 KS-2500	2500	16/10	1	310.000	**5430062**

St Steel

F Hot-dip galvanised

- 16 mm earth entry with 10 mm connection
- With mounted heat-shrinkable sleeve (corrosion protection)

Earth entry rod with separating piece and connector

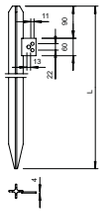


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
204 KL-1500	Rd 8-10	10	260.700	**5430151**

St Steel

- With separating piece type 223 DIN and connector type 5002 DIN

Profile earthing rod with connecting lug



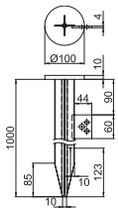
Type	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
213 1000 DIN	1000	5	240.500	**5003008**
213 1500 DIN	1500	5	364.500	**5003016**
213 2000 DIN	2000	5	488.400	**5003024**
213 2500 DIN	2500	3	612.400	**5003032**
213 3000 DIN	3000	3	736.400	**5003040**

St Steel

FT Hot-dip galvanised

- Cross-profile 50 x 50 x 3 mm
- With connecting strap
- 1 through hole Ø 13 mm
- 2 through holes Ø 11 mm
- Round conductor fastening e.g. with type 5001 DIN-FT possible
- For the construction of earthing systems e.g. antenna or earthing of building site distribution boards

Profile earthing rod with connection strap/hand protection



Type	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
213 1000 DIN HS	1000	5	300.000	**5003081**

St Steel

FT Hot-dip galvanised

- Cross-profile 50 x 50 x 3 mm
- Hand protection Ø 100 mm
- With connecting strap
- 1 gland hole Ø 13 mm
- 2 gland holes Ø 11 mm
- Round cable fastening e.g. with type 5001 DIN-FT possible
- For the construction of earthing systems e.g. antennas or earthing of building site distribution boards

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Always indicate the item number when ordering.

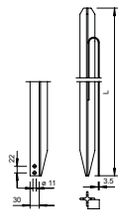
Profile earth rod connection with strip steel lug

Type	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
213 1500 M	1500	3	527.600	**5003261**
213 2000 M	2000	3	651.600	**5003288**
213 2500 M	2500	3	783.800	**5003296**
213 3000 M	3000	3	899.500	**5003318**

St Steel

FT Hot-dip galvanised

- With 2 m strip steel section FL 30 x 3.5
- With 2 through holes Ø 11 mm
- For the construction of earthing systems e.g. antenna or earthing of building site distribution boards



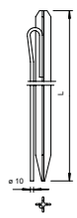
Profile earth rod connection with round conductor lug

Type	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
213 1500 F	1500	3	486.900	**5003776**
213 2000 F	2000	3	610.900	**5003784**

St Steel

FT Hot-dip galvanised

- With 2 m round conductor lugs Rd 10
- For the construction of earthing systems e.g. antenna or earthing of building site distribution boards



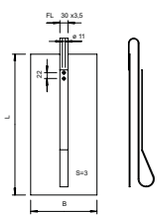
Earthing plate

Type	Dimension B x L x S mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1816 F-500X1000	500 x 1000 x 3	1	1,329.300	**5009227**
1816 F-1000X1000	1000 x 1000 x 3	1	2,700.000	**5009235**

St Steel

FT Hot-dip galvanised

- With 3 m strip steel section FL30 x 3.5
- With 2 attaching holes Ø 11 mm



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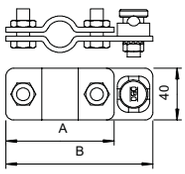
Always indicate the item number when ordering.

Connection clamp for earth rod to round conductors Rd 8–10



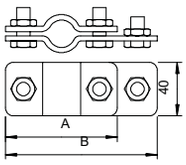
Type	For earth rods Ø mm	Dimension A mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2710 20	20	84	114	5	39.900	**5001218**
2710 25	25	89	119	5	42.300	**5001226**

St Steel

FT Hot-dip galvanised

- ST, BP, OMEX and LightEarth system
- On round conductor Rd 8-10
- Incl. connector, type 5001 DIN

Connection clamp for earth rod on flat conductor



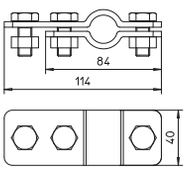
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
2730 25 FT	5	38.800	**5001412**
2730 20 FT	5	35.900	**5001404**

St Steel

FT Hot-dip galvanised

- ST, BP, OMEX and LightEarth systems
- On flat conductors
- Including hex-head screw for attaching flat conductors

Connection clamp for earth rod on flat conductor

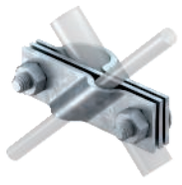


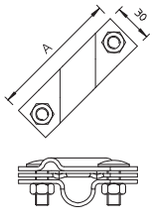
Type	For earth rods Ø mm	Dimension A mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2730 20 VA	20	84	114	5	35.900	**5001366**

V2A Stainless steel, grade 304

- ST, BP, OMEX and LightEarth systems
- On flat conductors
- Including hex-head screw for attaching flat conductors

Connection clamp for earth rod, universal





Type	Dimension A mm	For earth rods Ø mm	Fit mm	Short-circuit current (50 HZ) (1 s;≤300 °C) kA	Pack. pcs	Weight kg/100 pcs.	Item No.
2760 20 FT	101	20	Rd 8-10/FL40	—	5	32.400	**5001641**
2760 B-20 FT	101	20	Rd 8-10/FL40	—	20	32.400	**5001749**
2760 25 FT	110	25	Rd 8-10/FL40	8.5	5	38.400	**5001668**

St Steel

FT Hot-dip galvanised

- Suitable for attaching round conductors Rd 8-10 or flat conductors to FL 40
- With separator plate
- Installed with 2 hexagonal bolts M10 x 30 and 2 hexagonal nuts M10

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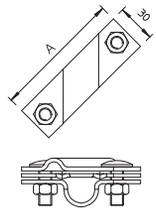
Always indicate the item number when ordering.

Connection clamp for earth rod, universal

Type	Dimension A mm	For earth rods Ø mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2760 20 VA	101	20	Rd 8-10/FL40	5	32.400	**5001617**
2760 B-20 VA	101	20	Rd 8-10/FL40	20	32.400	**5001625**
2760 20 V4A	101	20	Rd 8-10/FL40	5	32.400	**5001633**
2760 25 V4A	110	25	Rd 8-10/FL40	5	32.400	**5001672**

V2A Stainless steel, grade 304 V4A Stainless steel, grade 316 L



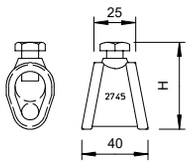
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Suitable for connecting round conductors Rd 8-10 or flat conductors to FL 40
- With adapter plate
- Mounted with 2 hexagonal bolts M10 x 30 and 2 hexagonal bolts M10

Connection clamp for earth rod or cables

Type	For earth rods Ø mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2745 20 MS	20	7-12,5/S95 mm²	5	16.000	**5001560**

CuZn Brass

Cu Copper-plated

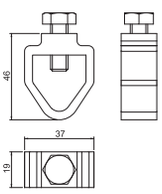


- For earth rod connectors Ø 20 or conductors 95 mm²
- For round conductor attachments Rd 7-12.5 with hexagonal bolts M10 x 25, copper (Cu)

Connection clamp for RD16 / FL25

Type	For earth rods Ø mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2745 16 25	14.2	Rd 14,2/ FL max. 26 x 12	10	12.000	**5001590**
2745 16 30	14.2	Rd 14,2/ FL max. 40 x 12	10	19.000	**5001592**
2745 16 70	14.2	Rd 14,2/ Seil 16-70 mm²	10	6.400	**5001594**

CuAl Aluminium bronze CuSn Red bronze

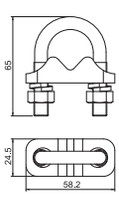


- For connection of the copper-plated earth rod, type 219 16 CU, to conductor material
- Type A terminal

Connection clamp for RD16 / FL25

Type	For earth rods Ø mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2740 16	14.2	FL/ Rd	10	12.900	**5001511**
2740 16 KL	14.2	Rd 8-10/FL max. 26	10	17.500	**5001513**

CuSn Red bronze



- Suitable for connecting round conductors Rd 8-10 or flat conductors with earth rod 219 16 CU

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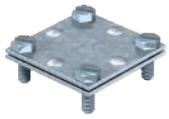
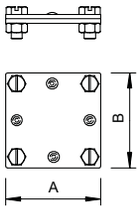
Always indicate the item number when ordering.

Cross-connector for flat conductor





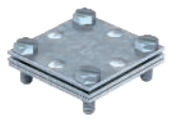
Type	Fit mm	Dimension A mm	Dimension B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
255 A-FL30 FT	max. FL30	52	52	H/100	20	11.500	**5314534**

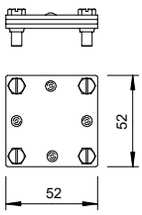
St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Max FL 30 x FL 30
- Without adapter plate
- Mounted with 4 hexagonal bolts M6 x 20 (F)

Cross-connector for flat conductor, with intermediate plate





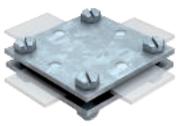
Type	Fit mm	Dimension A mm	Dimension B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
255 30	max. FL30	52	52	H/100	20	16.650	**5314518**

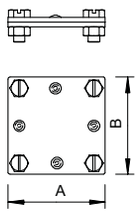
St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Max FL 30 x FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M6 x 20 (F)

DIN cross-connector for flat conductor





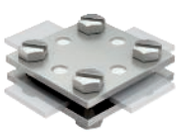
Type	Fit mm	Dimension A mm	Dimension B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
256 A-DIN 30 FT	max. FL30	60	60	H/100	10	27.800	**5314658**
256 A-DIN 40 FT	max. FL40	80	80	H/100	10	38.800	**5314666**

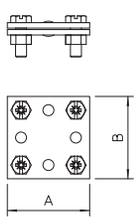
St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Max. FL 30 x FL 30 or max. FL 40 x FL 40
- Without adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)

DIN cross-connector for flat conductor





Type	Fit mm	Dimension A mm	Dimension B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
256 A-DIN 30 VA	max. FL30	60	60	H/100	10	27.800	**5314720**
256 A-DIN 30 V4A	max. FL30	60	60	H/100	10	26.400	**5314659**

V2A Stainless steel, grade 304 V4A Stainless steel, grade 316 Ti

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Max. FL 30 x FL 30
- Without adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Always indicate the item number when ordering.

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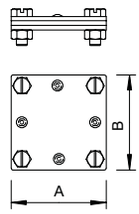
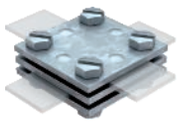
DIN cross-connector for flat conductor, with intermediate plate





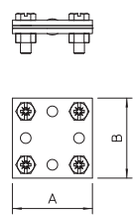
Type	Fit mm	Dimension A mm	Dimension B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
256 DIN 30 FT	max. FL30	60	60	H/100	10	35.860	**5314615**
256 DIN 40 FT	max. FL40	80	80	H/100	10	54.650	**5314623**

St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Max. FL 30 x FL 30 or max. FL 40 x FL 40
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

DIN cross-connector for flat conductor, with intermediate plate

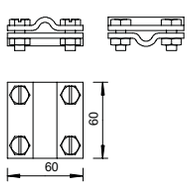


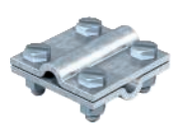
Type	Fit mm	Dimension A mm	Dimension B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
256 DIN 30 V4A	max. FL30	60	60	H/100	10	29.100	**5314616**

V4A Stainless steel, grade 316 Ti

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Max. FL 30 x FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector Rd 8–10 mm, wide version





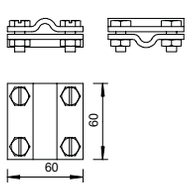
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
253 8X8	Rd 8-10	H/100	25	30.700	**5312604**

St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)

Cross-connector round/round without intermediate plate



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
253 8-10 V4A	Rd 8-10	H/100	25	23.650	**5312582**

V4A Stainless steel, 316Ti / 316L

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)

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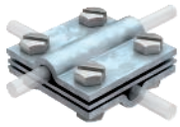
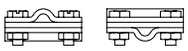
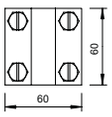
Cross-connector with intermediate plate for Rd 8–10 mm, wide version







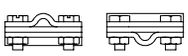
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10 FT	Rd 8-10	H/100	25	33.530	**5312310**

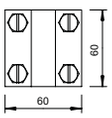
St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)

Cross-connector with intermediate plate for Rd 8–10 mm, wide version



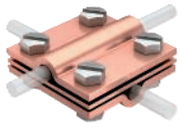


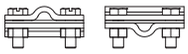
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10 V4A	Rd 8-10	H/100	10	33.530	**5312318**

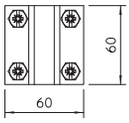
V4A Stainless steel, grade 316 Ti

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector with intermediate plate for Rd 8–10 mm, wide version





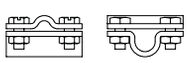


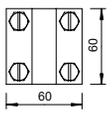
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10 CU	Rd 8-10	H/100	10	38.940	**5312418**

Cu Copper

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector for Rd 8–10 x Rd 16 mm





Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
253 10X16	Rd 8-10 x 16	H/100	25	29.800	**5312809**

St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 16 / FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)

Always indicate the item number when ordering.

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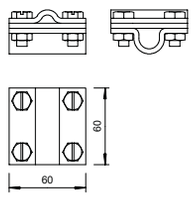
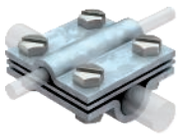
Cross-connector with intermediate plate for Rd 8–10 x Rd 16 mm

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10X16 FT	Rd 8-10 x 16	H/100	25	38.800	**5312345**

St Steel

FT Hot-dip galvanised



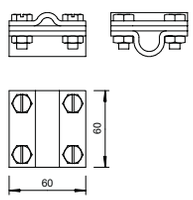


- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 16 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector with intermediate plate for Rd 8–10 x Rd 16 mm

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10x16 V4A	Rd 8-10 x 16	H/100	10	39.000	**5312346**

V4A Stainless steel, grade 316 Ti

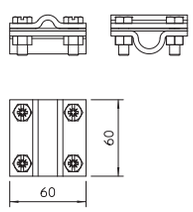


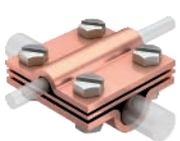
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 16 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector with intermediate plate for Rd 8–10 x Rd 16 mm

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10X16 CU	Rd 8-10 x 16	H/100	10	43.985	**5312442**

Cu Copper





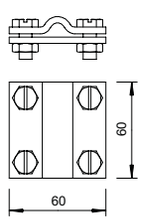
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 16 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

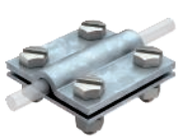
Cross-connector for round cables and flat conductors DIN

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10XFL30 FT	8-10 x FL30	H/100	25	28.500	**5312655**

St Steel

FT Hot-dip galvanised





- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

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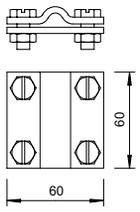
Always indicate the item number when ordering.

Cross-connector for round cables and flat conductors

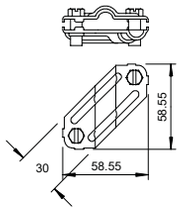


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10xFL30V4A	8-10 x FL30	H/100	10	28.500	**5312656**

V4A Stainless steel, grade 316 Ti

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector for flat conductors and round conductors



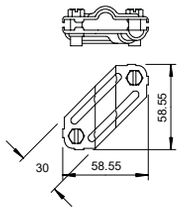
Type	Fit mm	Short-circuit current (50 HZ) (1 s;≤300°C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
250	Rd 8-10/FL30	5.6	N/50	25	10.260	**5312906**

St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10
- Fit: Rd 8-10 x FL 30
- Fit: FL 30 x FL 30
- Mounted with 2 hexagonal bolts M8 x 20 (F)

Cross-connector for flat conductors and round conductors

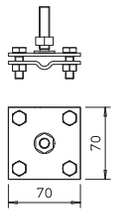


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
250 VA	Rd 8-10/FL30	H/100	25	10.260	**5312922**
250 V4A	Rd 8-10/FL30	H/100	10	10.260	**5312925**

V2A Stainless steel, grade 304 V4A Stainless steel, grade 316 Ti

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10
- Fit: Rd 8-10 x FL 30
- Fit: FL 30 x FL 30
- Mounted with 2 hexagonal bolts M8 x 20

Cross-connector for flat conductors and round conductors with threaded bolt M10x45



Type	Fit mm	Short-circuit current (50 HZ) (1 s;≤300°C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 GB 10x45	8-10 x FL30	4.2	H/100	10	34.800	**5312657**

V2A Stainless steel, grade 304

FT/VA Hot-dip galvanised/stainless steel, grade 304

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Always indicate the item number when ordering.

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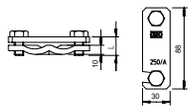
Diagonal clamp for flat conductors and round conductors

Type	Fit mm	Short-circuit current (50 HZ) (1 s;≤300°C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
250 A-FT	Rd 6-22/max. FL50	7.3	H/100	25	28.800	**5313015**
250 AS-FT	Rd 6-22/max. FL50	7.3	H/100	25	26.000	**5313031**
250 A	Rd 6-22/max. FL50	7.3	H/100	25	28.800	**5313058**

St Steel

FT Hot-dip galvanised

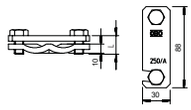


- For reinforced steels Ø 6-22 mm and flat conductor 50 x 4
- Installed with screws M10 x 40
- AS version with screws M10 x 20
- Simple installation with open slot

Diagonal clamp for flat conductors and round conductors

Type	Dimension L mm	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
250 A-VA	40	Rd 6-22/max. FL50	H/100	10	28.800	**5313023**

V2A Stainless steel, grade 304



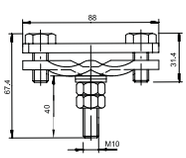
- For reinforced steels Ø 6-22 mm and flat conductor 50 x 4
- Installed with screws M10 x 40
- AS version with screws M10 x 20
- Simple installation with open slot

Diagonal clamp with bolt

Type	Dimension L mm	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
250 A-BO	25	Rd 6-22/max. FL50	H/100	25	33.000	**5313066**

St Steel

F Hot-dip galvanised



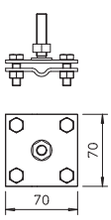
- For reinforced steels Ø 6-22 mm and flat conductor 50 x 4
- Installed with screws M10 x 25
- Simple installation with open slot
- With flange-welded bolts M10 x 40, inc. 2 washers and 2 nuts

Cross-connector for flat conductors and round conductors with threaded bolt M10x45

Type	Fit mm	Short-circuit current (50 HZ) (1 s;≤300°C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 GB 10x45	8-10 x FL30	4.2	H/100	10	34.800	**5312657**

V2A Stainless steel, grade 304

FT/VA Hot-dip galvanised/stainless steel, grade 304



- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

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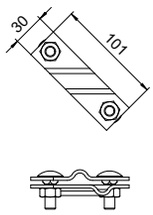
Always indicate the item number when ordering.

Diagonal clamp for flat conductors and round conductors

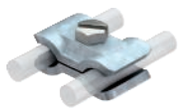


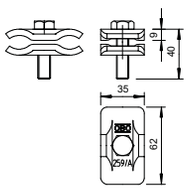
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
2760 8-10 V4A	Rd 8-10	H/100	25	20.600	**5313013**
2760 8	Rd 8-10	H/100	5	27.120	**5001612**

V2A Stainless steel, grade 304 V4A Stainless steel, 316Ti / 316L

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- To connect round conductors 8–10 mm
- Mounted with 2 truss-head bolts M10 x 30 and 2 hexagonal bolts M10
- Type 2760 8 with adapter plate

Parallel clamp for the connecting of reinforcing steels





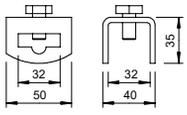
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
259 A ST	Ø 10-20	H/100	25	18.800	**5315557**
259 A FT	Ø 10-20	H/100	25	18.800	**5315514**
259 A VA	Ø 10-20	H/100	10	18.800	**5315522**

St Steel V2A Stainless steel, grade 304

FT Hot-dip galvanised

- For connecting reinforced steels Ø 10–20 mm
- Mounted with M10 x 40 bolts

Variable earthing terminal



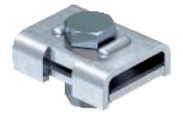
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
1813 KL	FL30 x Rd 8-10	H/100	50	18.000	**5014425**

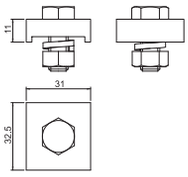
St Steel

FT Hot-dip galvanised

- Suitable for connection for Rd 10 x FL 30, FL 30 x FL 30
- Quick mounting using a hexagonal bolt M10 x 20 (F)

Connection terminal for round cable





Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
1818	Rd 8-10	N/50	10	17.600	**5012015**

St Steel

FT Hot-dip galvanised

- For connecting round conductor Rd 8-10
- With 1 hexagonal bolt M12 x 40, 1 hexagonal nut M12 and 1 lock washer, stainless steel

Always indicate the item number when ordering.

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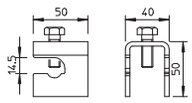
Connection terminal for reinforced steels

Type	Fit mm	Short-circuit current (50 HZ) (1 s;≤300°C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
1814 ST	FL30x5 x Rd8-14	7.3	N/50	25	20.000	**5014476**
1814 FT	FL30x5 x Rd8-14	7.3	N/50	25	20.000	**5014468**



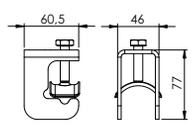
St Steel

FT Hot-dip galvanised

- For reinforced steels with diameters 8-14 mm and FL 30 x 5
- Simple mounting through open slot
- Side suspension possible

Connection terminal for large reinforced steels

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
1814 ST D37	FL30x3-4mm /Rd 10 x Rd 16-37	H/100	25	30.000	**5014477**
1814 FT D37	FL30x3-4mm /Rd 10 x Rd 16-37	H/100	25	30.000	**5014469**



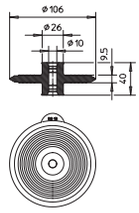
St Steel

FT Hot-dip galvanised

- For armoured steel with 16-37 mm diameter and round conductors and flat conductors
- Rapid installation using open slot and only one M10 screw
- Rotatable metal pressure trough for simple, safe mounting

Sealing sleeve for round conductors

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
DW RD10	RD 10	1	13.000	**2360041**

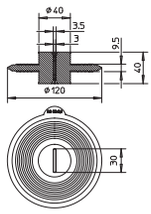


TPE Thermoplastic elastomer

- Sealing sleeve for penetrations with waterproof foundation plates/walls (e.g. white trough)
- For mounting on connection lugs with stainless steel tightening straps
- With pressurised water testing to 5 bar

Sealing sleeve for flat conductors

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
DW FL30x3,5	FL 30x3,5	1	18.000	**2360043**

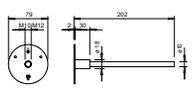


TPE Thermoplastic elastomer

- Sealing sleeve for penetrations with waterproof foundation plates/walls (e.g. white trough)
- For mounting on connection lugs with stainless steel tightening straps
- With pressurised water testing to 5 bar

Fixed earthing point

Type	Thread	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
205 B-M10 VA	M10	—	10	25.500	**5420008**
205 B-M12 VA	M12	—	10	25.500	**5420016**



V4A Stainless steel, grade 316 L

- Connection to earthing systems, conductors and reinforcement
- Contact plate: Ø 79 mm, made of rustproof stainless steel (V4A)
- Clamping bolt Ø 10 mm, rustproof (V2A)
- Incl. plastic cover for simple installation

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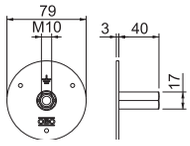
Always indicate the item number when ordering.

Earthing fixed point with double thread



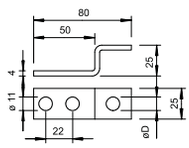
Type	Thread	Short-circuit current (50 HZ) (1 s;≤300°C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
205 DG V4A	M10/M12	6.2	H/100	10	14.800	**5420020**
205 DG L180 V4A	M10/M12	—	H/100	10	23.900	**5420022**
205 DG L180 FT	M10/M12	—	—	10	23.900	**5420024**

St Steel V4A Stainless steel, grade 316 L

FT Hot-dip galvanised

- For connection to earthing systems, conductors and reinforcements
- Contact plate: Ø 79 mm made of stainless steel, rustproof (V4A)
- With double thread M10/M12
- Incl. plastic cover for simple installation

Connection and end piece



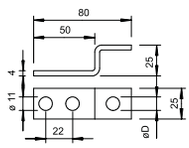
Type	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
5011	11	10	7.064	**5304997**

St Steel

FT Hot-dip galvanised

- For attaching to steel structures or bolting to fixed earthing terminals
- For attachments: Round conductor Rd 8-10 and flat conductor FL 30 x 3.5
- 2 attaching holes Ø 11 mm
- 1 attaching holes Ø D mm

Connection and end piece

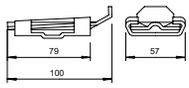


Type	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
5011 VA M10	11	10	7.064	**5334934**
5011 VA M12	13	10	7.048	**5334942**

V4A Stainless steel, grade 316 Ti

- For attaching to steel structures or bolting to fixed earthing terminals
- For attachments: Round conductor Rd 8-10 and flat conductor FL 30 x 3.5
- 2 attaching holes Ø 11 mm
- 1 attaching holes Ø D mm

Wedge connector



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
1813 DIN	10/FL30 x FL30	H/100	5	21.400	**5014212**

St Steel

FT Hot-dip galvanised

- DIN 48834, Form A
- Suitable for connecting Rd 10 x FL 30, FL 30 x FL 30
- Quick installation with high contact force

Always indicate the item number when ordering.

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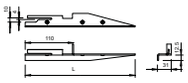
Spacer

Type	Fit mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1811	10/FL30 x 3,5	250	25	19.000	**5014018**
1811 L	10/FL30 x 3,5	400	25	31.500	**5014026**



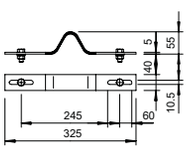
St Steel

FT Hot-dip galvanised

- For professional laying of round conductors and flat conductors according to DIN VDE 0185-305 (IEC 62305)
- DIN 48833
- Suitable for mounting round conductors Rd 10 or flat conductors FL 30 x 3.5

Expansion piece

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
1807	1	27.000	**5016142**

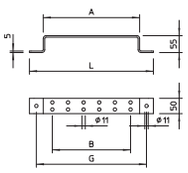


Alu Aluminium

- For expansion joints, for a connection of the foundation earther outside the concrete
- To VDE 0185-561-2 (IEC 62561-2)
- 2 hexagonal nuts M10 x 30, 2 steel washers, hot galvanised and 2 serrated washers made of rustproof steel

Earthing connection bar

Type	Dimension L mm	Dimension A mm	Dimension B mm	Dimension G mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1805 2 FT	200	110	51	155	1	54.800	**5016029**
1805 4 FT	302	212	153	257	1	77.000	**5016037**
1805 6 FT	404	314	255	359	1	97.100	**5016045**



St Steel

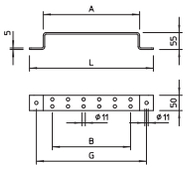
FT Hot-dip galvanised

1805/...: For connecting different earthing systems

- With 2 mounting holes Ø 11 mm
- 1805/2: With 4 attaching holes
- 1805/4: With 8 attaching holes
- 1805/6: With 12 attaching holes

Earthing connection bar

Type	Dimension L mm	Dimension A mm	Dimension B mm	Dimension G mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1805 2 VA	200	110	51	155	1	54.800	**5016096**
1805 4 VA	302	212	153	257	1	77.000	**5016118**
1805 6 VA	404	314	255	359	1	97.100	**5016126**



V4A Stainless steel, grade 316 Ti

1805/...: For connecting different earthing systems

- With 2 mounting holes Ø 11 mm
- 1805/2: With 4 attaching holes
- 1805/4: With 8 attaching holes
- 1805/6: With 12 attaching holes

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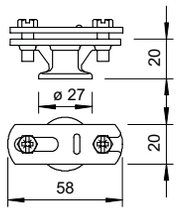
Cable bracket for flat conductor



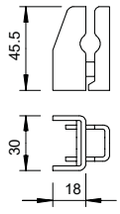
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
113 BZ-FL	100	6.280	**5230446**
113 B-Z-HD-FL	100	7.000	**5230462**

Zn Die-cast zinc

G Electrogalvanised

- With female thread M8 or through hole for wood screws
- For flat conductor FL 30
- Sliding over-piece for quick installation

Cable bracket for Rd 8–10 and FL 30



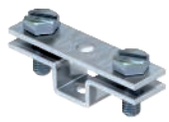
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
835	Rd 8/10/ FL 30x3,5	1	12.100	**5033209**

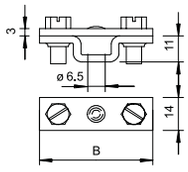
St Steel

FT Hot-dip galvanised

- For round conductor Rd 8-10 and flat conductor FL 30 x 3.5
- Supplied with hexagonal wood bolt 6 x 70 and straddling dowel 910/N

Spacer clip for flat conductor with fastening hole Ø 6.5





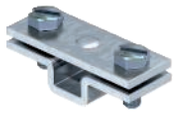
Type	Fit mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
831 30	max. FL30	54	25	3.580	**5032032**
831 40	max. FL40	65	25	3.894	**5032040**

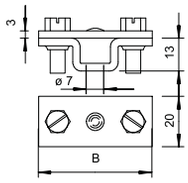
St Steel

FT Hot-dip galvanised

- Fit: FL 30 and FL 40
- With mounting hole Ø 6.5 and 2 hexagonal bolts M6 x 16 (F)

Spacer clip for flat conductor, with fastening hole Ø 7





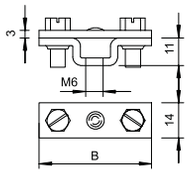
Type	Fit mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
832 30	max. FL30	55	25	7.416	**5032539**
832 40	max. FL40	65	25	7.612	**5032547**

St Steel

FT Hot-dip galvanised

- Fit: FL 30 and FL 40
- With mounting hole Ø 7 mm and 2 hexagonal bolts M6 x 16

Spacer clip for flat conductor, with threaded connection M6



Type	Fit mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
831 30 M6	max. FL30	54	25	3.712	**5032237**
831 40 M6	max. FL40	65	25	3.880	**5032245**

St Steel

FT Hot-dip galvanised

- Fit: FL 30 and FL 40
- With attaching thread M6 and 2 hexagonal bolts M6 x 16 (F)

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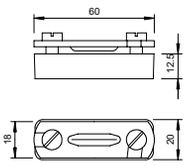
Always indicate the item number when ordering.

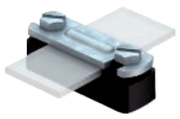
Spacer clip for flat conductor, with polyamide base

Type	Fit mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
833 35	max. FL30	60	25	4.228	**5033039**

St Steel

FT Hot-dip galvanised





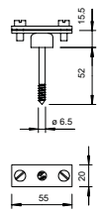
- Fit: FL 30
- With mounting hole 6.2 x 22 mm
- With 2 cylinder bolts M6 x 16 and over-piece from hot-dip galvanised steel
- Bottom section from polyamide, black

Spacer clip for flat conductor, with wood screw and spacer

Type	Fit mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
370 H	max. FL30	55	100	10.200	**5025206**

St Steel

FT Hot-dip galvanised



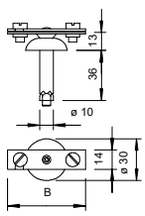
- Fit: FL 30
- With spacer and cylinder bolts M6 x 16 (G)
- With wood bolts

Spacer clip for flat conductor, with steel spreading anchor Ø 10

Type	Fit mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
710 30	max. FL30	52	25	5.044	**5028035**
710 40	max. FL40	62	25	5.360	**5028043**

St Steel

G Electrogalvanised



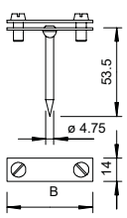
- Fit: FL 30 and FL 40
- With steel straddling dowel Ø 10 mm, spacer and 2 cylinder bolts M5 x 14 (G)

Spacer clip for flat conductor, with square pin

Type	Fit mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
708 30 SP	max. FL30	52	50	3.148	**5030021**

St Steel

G Electrogalvanised



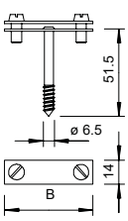
- Fit: FL 30 and FL 40
- With 2 cylinder bolts M5 x 12 (G) and over-piece
- With square pin

Spacer clip for flat conductor, with wood screw

Type	Fit mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
708 30 HG	max. FL30	52	50	3.148	**5030234**
708 40 HG	max. FL40	52	50	3.474	**5030242**

St Steel

G Electrogalvanised



- Fit: FL 30 and FL 40
- With 2 cylinder bolts M5 x 12 (G) and over-piece
- With wood screw

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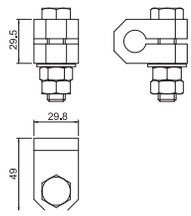
Always indicate the item number when ordering.

Connection clamp for round conductors RD 16

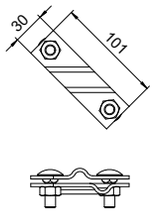


Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2760 16	14.2	5	35.000	**5001601**

CuSn Red bronze

- For the connection of conductor materials with conductor shoes to earth rod 219 16 CU

Diagonal clamp for flat conductors and round conductors

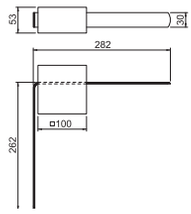


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
2760 S8 V4A	Rd 8-10	H/100	3600	20.600	**5313012**

V4A Stainless steel, grade 316

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- To connect round conductors 8–10 mm
- Mounted with 2 truss-head bolts M10 x 30 and 2 hexagonal bolts M10
- Type 2760 8 with adapter plate

Expansion strip for foundation earther systems



Type	Dimension W x H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1807 DB	30x3,5	1	40.000	**5016160**

V2A Stainless steel, grade 304

- Expansion strip according to VDE 0185-561-2 (IEC 62561-2)
- To pass the foundation earther through movement joints

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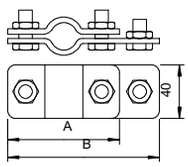
Always indicate the item number when ordering.

Connection clamp for earth rod on flat conductor

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
2730 25 M12 FT	5	46.280	**5001416**

St Steel

FT Hot-dip galvanised



- ST, BP, OMEX and LightEarth systems
- On flat conductors
- Including hex-head screw for attaching flat conductors

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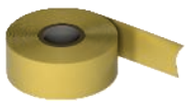
Always indicate the item number when ordering.

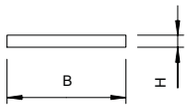
Earthing enhancing compound

Type	Dimension	Pack. pcs	Weight kg/100 pcs.	Item No.
OEC 25	25kg	1	2,500.000	**5009200**

- To improve and maintain a constant earth electrode resistance
- Highly swellable and powdery special clay
- Tested according to IEC 62561-7 (VDE 0185-561-7)

Plastic corrosion protection strip



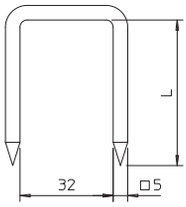


Type	Width mm	Length m	Pack. pcs	Weight kg/100 pcs.	Item No.
356 50	50	10	1	71.500	**2360055**
356 100	100	10	1	122.200	**2360101**

PETRO Petrolatum

- Approx. 1.1 mm thick
- Width: 50 mm or 100 mm, made of petrolatum-coated chemical fibre fabric
- Can be processed cold

Strip steel crimp



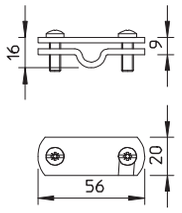
Type	Length mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
366 35	35	max. FL30	100	1.737	**5059356**
366 50	50	max. FL30	100	2.300	**5059496**

St Steel

FT Hot-dip galvanised

- Fit: FL 30

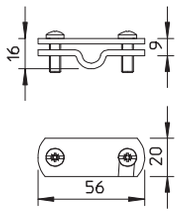
Number plates



Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
311 N-ALU 8-10	RD 8 - 10 / FL30	5	2.500	**3049256**
311 N-ALU 16	RD 16 - FL30	5	2.800	**3049345**

- To identify the point of separation to DIN 48821
- Suitable for universal labelling (e.g. stamped numbers)

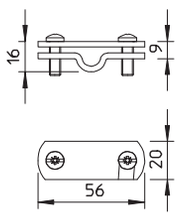
Number plates



Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
311 N-VA 8-10	RD 8 - 10 / FL30	5	5.600	**3049221**
311 N-VA 16	RD 16 - FL30	5	6.400	**3049329**

- To identify the point of separation to DIN 48821
- Suitable for universal labelling (e.g. stamped numbers)

Number plates



Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
311 N-CU 8-10	RD 8 -10 / FL30	5	6.400	**3049205**

Cu Copper

- To identify the point of separation to DIN 48821
- Suitable for universal labelling (e.g. stamped numbers)

Always indicate the item number when ordering.

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Air-termination and down conductor systems

Conductor material 500

Air-termination systems 503

Air-termination rods 510

Roof conductor holder 519

Cable bracket 528

Connectors and connection terminals 537

Connection and separating terminals 564

Earth entries 568

Accessories 570

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Always indicate the item number when ordering.

Air-termination rods

Type
FangFix-Junior

Length	Item no.	Page
1 m	5403308	503

Type 101 VL
Tapered tubular air-termination rod

Length	Item no.	Page
1.5 m	5401980	503
2.0 m	5401983	503
2.5 m	5401986	503
3.0 m	5401989	503
3.5 m	5401993	503
4.0 m	5401995	503

Type 101 ALU
Threaded air-termination rod

Length	Item no.	Page
1.0 m	5401771	507
1.5 m	5401801	507
2.0 m	5401836	507
3.0 m	5401879	507

Concrete blocks

Type	Item no.	Page
FangFix	5403200	504
FangFix	5403205	504
Loose	5403227	504
FangFix	5403103	505
FangFix	5403110	505
Loose	5403117	505
Thread	5402891	507

Air-termination rod systems up to 8 m

Type 101 3B
isFang air-termination rod, AL

Length	Item no.	Page
4.0 m	5402864	510
4.5 m	5402866	510
5.0 m	5402868	510
5.5 m	5402870	510
6.0 m	5402872	510
6.5 m	5402874	510
7.0 m	5402876	510
7.5 m	5402878	510
8.0 m	5402880	510

isFang air-termination rod, insulated

Length	Item no.	Page
4.0 m	5408943	511
6.0 m	5408947	511
4.0 m	5408942	511
6.6 m	5408946	511

isFang stand

Spr.	Item no.	Page
1.0 m	5408966	511
1.5 m	5408967	511
1.0 m	5408968	511
1.5 m	5408969	511

Air-termination rod systems 10 m, 12 m, 14 m, 19 m

irod

Length	Item no.	Page
10 m	5400810	517
12 m	5400812	517
14 m	5400814	517
19 m	5400817	517

Accessories, air-termination rod systems

Accessories

Type	Item no.	Page
isFang 3B-100 AL	5408966	511
isFang 3B-150 AL	5408967	511
isFang 3B-100	5408968	511
isFang 3B-150	5408968	513
F-FIX- S16	5403227	504
F-FIX-B16 3B	5403238	513

Always indicate the item number when ordering.

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Roof conductor holder

Ridge

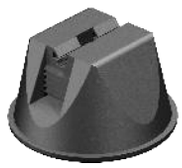
Surface	Item no.	Page
V2A	5203018	519
V2A	5202833	519
V2A	5203015	519
V2A	5202510	520
Copper-plated	5203023	519
Copper-plated	5202868	519
Copper-plated	5202590	520
FT	5202566	520

Tile

Surface	Item no.	Page
V2A	5215555	521
V2A	5215552	521
V2A	5215544	521
V2A	5215668	522
Copper	5216192	521
Copper	5216184	521
Copper	5216184	521
Copper	5215749	522

Slate

Surface	Item no.	Page
V2A	5215838	523
V2A	5215439	523
V2A	5215374	523
Copper-plated	5215854	523
Copper-plated	5215471	523
Copper-plated	5215382	523



Flat roof

Colour	Item no.	Page
Grey	5218999	526

Connector

Vario quick connector 8-10

Surface	Item no.	Page
FT	5311500	537
FT	5311705	537
Copper	5311527	538
V2A	5311551	451
ALU	5311519	537
V4A	5311404	537
Bimetal	5311535	538

Vario quick connector 6-8

Surface	Item no.	Page
FT	5311410	538
Copper-plated	5311417	538
Copper-plated	5311407	539

Fix contact clamping screw Rd 8-10

Surface	Item no.	Page
FT	5304105	539
FT	5304107	539
FT	5304202	540
FT	5304318	540
Copper-plated	5304113	540

Flat roof

Surface	Item no.	Page
FT	5304164	540
Copper-plated	5304172	541
V2A	5304270	541
V2A	5304176	447

Terminals and clips

Fold

Surface	Item no.	Page
FT	5317010	549
FT	5317401	550
FT	5317428	552
Copper-plated	5317053	549
Copper-plated	5317258	550
Copper-plated	5317452	551
V2A	5317208	550
V2A	5317481	551

Trays

Surface	Item no.	Page
FT	5316450	552
FT	5316308	553
FT	5316510	554
Copper-plated	5316468	553
Copper-plated	5316154	554
V2A	5316459	552
V2A	5316324	553
V2A	5316324	553

Downspout

Surface	Item no.	Page
Strip galvanised	5350867	558
Strip galvanised	5351057	559
Copper-plated	5350883	558
Copper-plated	5351456	559
Copper-plated	5351472	559
V2A	5350905	558
V2A	5351251	559
ALU	5351359	559

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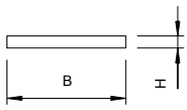
Always indicate the item number when ordering.

Galvanised steel flat conductor for earth



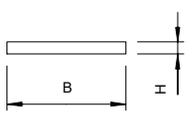
Type	Dimension W x H mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
5052 DIN 20X2.5	20 x 2,5	50	122	50	122	41.000	**5019340**
5052 DIN 25X3	25 x 3	75	84	50	84	59.700	**5019342**
5052 DIN 30X3	30 x 3	90	71	50	71	70.650	**5019344**
5052 DIN 30X3.5	30 x 3,5	105	30	25	30	84.000	**5019345**
5052 DIN 30X3.5	30 x 3,5	105	60	50	60	84.000	**5019347**
5052 DIN 30X4	30 x 4	120	52	50	52	97.000	**5019350**
5052 DIN 40X4	40 x 4	160	40	51	40	128.000	**5019355**
5052 DIN 40X5	40 x 5	200	30	50	30	162.000	**5019360**

St Steel

FT Hot-dip galvanised

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Meets the requirements of VDE 0185-305 (IEC 62305)
- Zinc coating: 500 g/m² (approx. 70 µm)
- For lightning protection, earthing systems and ring equipotential bonding

Stainless steel flat conductor

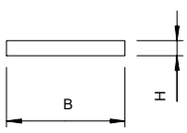


Type	Dimension W x H mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
5052 V2A 30X3.5	30 x 3,5	105	50	42	50	82.500	**5018501**
5052 V4A 30X3.5	30 x 3,5	105	50	42	50	82.425	**5018706**
5052 V4A 30X3.5	30 x 3,5	105	25	21	25	82.425	**5018730**

V2A Stainless steel, grade 304 V4A Stainless steel, 316Ti / 316L

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)
- According to the foundation earther standard DIN 18014, V4A is required in the earth
- For use in areas at risk of corrosion
- For lightning protection, earthing systems and ring equipotential bonding

Flat conductor, copper

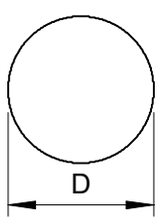


Type	Dimension W x H mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
FL 20-CU	20 x 2,5	50	45	20	45	44.500	**5021804**
FL 25-CU	25 x 3	75	50	33	50	67.000	**5021830**

Cu Copper

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Meets the requirements of VDE 0185-305 (IEC 62305)
- For lightning protection, earthing systems and ring equipotential bonding

Round conductor, galvanised steel



Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
RD 8-FT	8	50	125	50	125	40.000	**5021081**
RD 8-FT 50	8	50	50	20	50	40.000	**5021050**
RD 10	10	78	80	50	80	52.500	**5021103**

St Steel

FT Hot-dip galvanised

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)
- RD 10 can also be used in the earth
- Zinc coating: 350 g/m² (approx. 50 µm)

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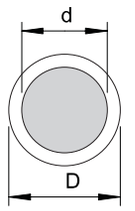
Always indicate the item number when ordering.

Round conductor, galvanised steel with PVC jacketing

Type	Colour	Dimension d mm	Dimension D mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
RD 10-PVC	Black	10	13	78	75	50	75	67.000	**5021162**

St Steel

FT Hot-dip galvanised

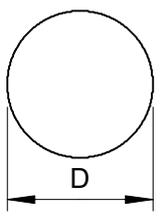


- Conforms to the requirements according to VDE V 0185-305, (IEC 62305)
- Zinc coating: 350 g/m² (approx. 50 µm)
- With PVC sheathing

Round conductor, aluminium

Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
RD 8-ALU	8	50	150	20	150	13.500	**5021286**
RD 8-ALU-T	8	50	150	20	150	13.500	**5021294**
RD 8-ALU-T 75	8	50	75	10	75	13.500	**5021296**
RD 10-ALU	10	78	95	20	95	21.000	**5021308**

Alu Aluminium

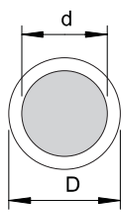


- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)
- RD 8 ALU: Semi-hard (E-AlMgSi0.5 corresponds to DIN 48801)
- RD 8 ALU-T: Can be subjected to torsion (E-AlMgSi0.5 corresponds to DIN 48801)
- RD 10 ALU: Pure aluminium (E-Al corresponds to DIN 48801)
- AL and ALMgSi may not be routed directly on, in or under plaster, mortar or concrete, nor routed in the earth

Round conductor, aluminium, with PVC sheathing

Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
RD 8-PVC	8/11	50	100	20	100	20.000	**5021332**

Alu Aluminium

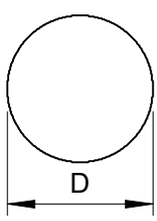


- Meets the requirements of VDE 0185-305 (IEC 62305)
- With PVC jacketing (halogen-free)
- Suitable for routing on, in or under plasterwork, mortar or concrete

Round conductor, stainless steel A2

Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
RD 8-V2A	8	50	125	50	125	40.000	**5021235**
RD 10-V2A	10	78	50	32	50	63.000	**5021227**
RD 10-V2A	10	78	80	50	80	63.000	**5021239**
RD 8-V4A	8	50	125	50	125	40.000	**5021644**
RD 10-V4A 20	10	78	20	12	20	63.000	**5021640**
RD 10-V4A	10	78	50	32	50	63.000	**5021642**
RD 10-V4A	10	78	80	50	80	63.000	**5021647**

V2A Stainless steel, grade 304 V4A Stainless steel, 316Ti / 316L



- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)
- RD 10-V4A for applications in the earth
- According to the foundation earther standard DIN 18014, V4A is required in the earth

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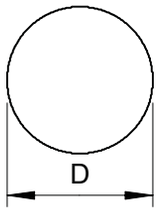
Always indicate the item number when ordering.

Round conductor, copper

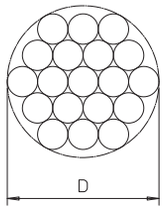


Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
RD 8-CU	8	50	100	45	100	45.000	**5021480**
RD 10-CU	10	78	50	35	50	70.000	**5021502**

Cu Copper

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

Copper cable



Type	Dimension D mm	Individual wires	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
S 11-CU	10.5	19x Ø 2,1	70	50	30	50	58.600	**5021654**
S 9-CU	9	19x Ø 1,8	50	100	45	100	45.000	**5021652**
S-11-CU SN	10.5	19x Ø 2,1	70	50	30	50	58.600	**5021656**

Cu Copper

Sn Tin-plated

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

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Always indicate the item number when ordering.

Stand for FangFix Junior system

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-JUNIOR	1000	10	10	32.000	**5403308**

Alu Aluminium

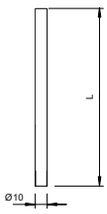
- Incl. aluminium air-termination rod 1,000 mm long (Ø 10 mm)
- Quick mounting of the air-termination rod in the base using plug technology
- With Vario quick connector 249

Air-termination rod for FangFix-Junior

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 J1000	1000	10	10	21.800	**5401970**

Alu Aluminium

- Suitable for wind loads according to Eurocode 1: DIN EN 1991-1-4
- Ø 10 mm, aluminium
- Without thread
- Suitable for use in FangFix-Junior

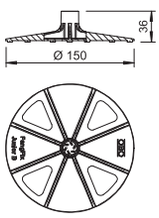


Base for FangFix Junior

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-BASIS	10	3.790	**5403324**

PP Polypropylene

- For mounting Ø 10 mm air-termination rods up to an overall length of 1,000 mm
- Quick installation of air-termination rod in base using plug-in system
- Quick and easy installation



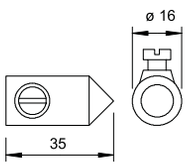
Air-termination tip

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
120 A	Rd 8-10	10	2.500	**5405068**

Zn Die-cast zinc

G Electrogalvanised

- To be used for Rd 8–10 (corrosion protection)
- With cylinder bolt M6 x 10
- Made of die-cast zinc, bolts made of hot-galvanised steel

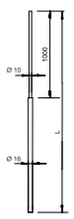


Tapered pipe air-termination rod

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 VL1500	1500	10/16	10	38.000	**5401980**
101 VL2000	2000	10/16	10	55.000	**5401983**
101 VL2500	2500	10/16	10	72.000	**5401986**
101 VL3000	3000	10/16	10	88.000	**5401989**
101 VL3500	3500	10/16	10	105.000	**5401993**
101 VL4000	4000	10/16	10	120.000	**5401995**

Alu Aluminium

- Suitable for wind loads according to Eurocode 1: DIN EN 1991-1-4
- From a free length of > 2.5 m, an additional fastening, e.g. insulated spacer is recommended
- Last metre is tapered from Ø 16 mm to Ø 10 mm, material: AlMgSi
- Matches stand system FangFix



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Always indicate the item number when ordering.

Air-termination/earth entry rod, rounded-off on both ends

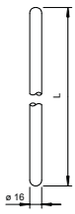
Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 A-1500	1500	16	10	240.000	**5400155**

St Steel

FT Hot-dip galvanised

- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system

Air-termination/earth entry rod, rounded-off on both ends



Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
200 V4A-1500	1500	16	10	242.000	**5420504**
200 V4A-2000	2000	16	10	320.000	**5420539**

V4A Stainless steel, grade 316 Ti

- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system

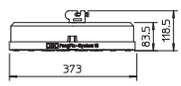
Air-termination/earth entry rod, rounded-off on both ends

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 A-CU	1500	16	10	272.100	**5400627**

Cu Copper

- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system

Stand for FangFix system 16 kg

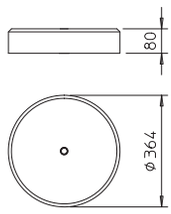


Type	Fit mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-16	Rd 8	373	1	1,732.500	**5403200**
F-FIX-16B	Rd 8	373	54	1,732.500	**5403205**

BET Concrete

- System consists of FangFix stone with base and clamp
- FangFix clamp made of VA; lightning current tested with 100 kA (10/350)
- 16 kg stone of Ø 365 mm, high level of stability
- Quick and easy mounting of air-termination rod using anchors
- Concrete, frost-resistant
- The FangFix stone can be stacked

Concrete block for FangFix-System 16 kg



Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-S16	365	1	1,700.000	**5403227**

BET Concrete

- 16 kg stone of Ø 365 mm, high level of stability
- Frost-resistant concrete
- Stackable

Always indicate the item number when ordering.

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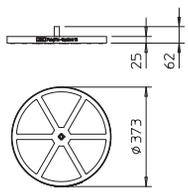
Base for FangFix system 16 kg

Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-B16	373	10	16.400	**5403235**

PP Polypropylene

Edge protection with integrated dowel (basic) suitable for FangFix system.

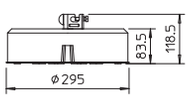


Stand for FangFix system 10 kg

Type	Fit mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-10	Rd 8	295	1	1,058.000	**5403103**
F-FIX-10B	Rd 8	295	72	1,058.000	**5403110**

BET Concrete

- System consists of FangFix stone with base and clamp
- FangFix clamp made of VA; lightning current tested with 100 kA (10/350)
- 10 kg stone of Ø 289 mm, high level of stability
- Quick and easy mounting of air-termination rod using anchors
- Concrete, frost-resistant
- The FangFix stone can be stacked

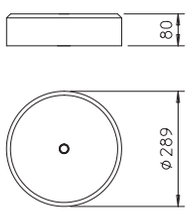


Concrete block for FangFix system 10 kg

Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-S10	289	1	1,000.000	**5403117**

BET Concrete

- 10 kg stone of Ø 289 mm, high level of stability
- Frost-resistant concrete
- Stackable

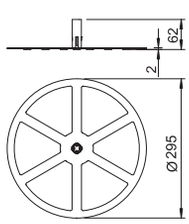


Base for FangFix system 10 kg

Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-B10	295	10	7.600	**5403124**

PP Polypropylene

Edge protection with integrated dowel (basic) suitable for FangFix 10 system.

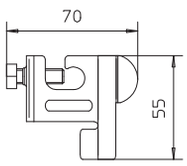


Terminal for FangFix system

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-KL	Rd 8	5	8.700	**5403219**

V2A Stainless steel, grade 304

- FangFix terminal, VA for RD 8 mm
- Tested with H (100 kA) to DIN EN 50164-1
- Round conductor installed on the air-termination rod with only one screw



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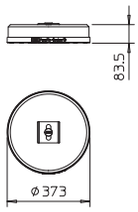
Always indicate the item number when ordering.

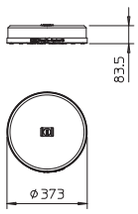
Stand - TrayFix set 16 L



Type	From tray width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
TrayFix-16-L	100	1	1,700.000	**5403098**

• Mounting system for the fastening of mesh cable trays with the FangFix stone, e.g. cable routing on a flat roof.
• Matched to OBO cable tray systems MKSM and SKSM.
• Matched to OBO mesh cable systems with a minimum width of 100 mm.
• Set consisting of TrayFix mounting adapter and concrete block including base for FangFix system 16 kg

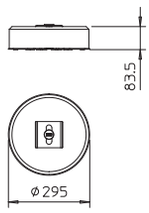
Stand - TrayFix set 16 S



Type	From tray width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
TrayFix-16-S	100	1	1,700.000	**5403099**

• Mounting system for the fastening of mesh cable trays with the FangFix stone, e.g. cable routing on a flat roof.
• Matches OBO mesh cable tray systems with a minimum width of 100 mm
• Set consisting of TrayFix mounting adapter and concrete block including base for FangFix system 16 kg

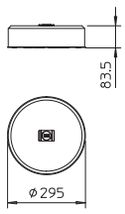
Stand - TrayFix set 10 L



Type	From tray width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
TrayFix-10-L	100	1	1,100.000	**5403101**

• Mounting system for the fastening of mesh cable trays with the FangFix stone, e.g. cable routing on a flat roof.
• Matched to OBO cable tray systems MKSM and SKSM.
• Matched to OBO mesh cable systems with a minimum width of 100 mm.
• Set consisting of TrayFix mounting adapter and concrete block including base for FangFix system 16 kg

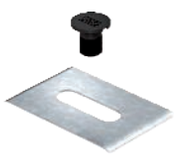
Stand - TrayFix set 10 S

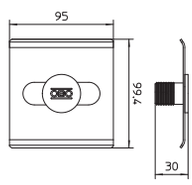


Type	From tray width mm	Pack. pcs	Weight kg/100 pcs.	Item No.
TrayFix-10-S	100	1	1,000.000	**5403102**

• Mounting system for the fastening of mesh cable trays with the FangFix stone, e.g. cable routing on a flat roof.
• Matches OBO mesh cable tray systems with a minimum width of 100 mm
• Set consisting of TrayFix mounting adapter and concrete block including base for FangFix system 10 kg

TrayFix mounting adapter for mesh cable trays on FangFix system





Type	Dimension	Pack. pcs	Weight kg/100 pcs.	Item No.
TrayFix	ø20mm	25	9.850	**5403100**

• Mounting system for the fastening of mesh cable trays and cable trays on FangFix stone e.g. cable routing on a flat roof.
• Adapted to OBO cable tray systems MKSM, SKSM and IKSM
• Adapted to OBO mesh cable tray systems with a minimum width of 100 mm

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Always indicate the item number when ordering.

Air-termination rod, one end rounded Aluminium

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 ALU-1000	1000	16	10	55.000	**5401771**
101 ALU-1500	1500	16	10	81.000	**5401801**
101 ALU-2000	2000	16	10	109.000	**5401836**
101 ALU-2500	2500	16	10	136.000	**5401852**
101 ALU-3000	3000	16	5	162.000	**5401879**

Alu Aluminium

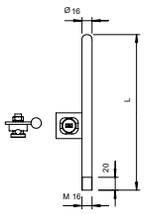
- Suitable for wind loads according to Eurocode 1: DIN EN 1991-1-4
- From a free length of > 2.5 m, an additional fastening, e.g. insulated spacer is recommended
- Ø 16 mm, aluminium
- For stand system with M16 internal thread

Air-termination rod, one end rounded with connection strap

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 A-L100	1000	16	10	160.000	**5402808**
101 A-L150	1500	16	10	240.000	**5402859**

St Steel

FT Hot-dip galvanised

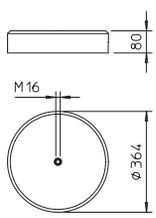


- With thread M16 x 20
- With connecting strap
- Including pre-mounted connector type 5001 DIN for round conductor Rd 8-10
- For stands with female thread M16

Stand 16 kg with female thread

Type	Nominal size Ø mm	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
101 B2-16 M16	364	M16	1	1,600.000	**5402958**

BET Concrete

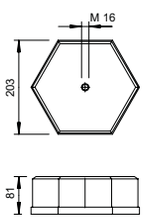


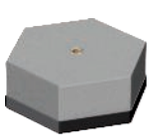
- Weight 16 kg
- Frost-resistant concrete
- Female thread M16
- Recommended air-termination rod length max. 3.0 m, depending on wind load zone

Stand 6.9 kg with female thread

Type	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
101 ST	M16	4	690.000	**5402891**

BET Concrete





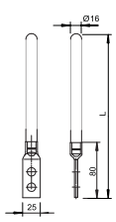
- Weight 6.9 kg
- Frost-resistant concrete
- Female thread M16
- Recommended air-termination rod length max. 1.0 m

Air-termination/earth entry rod with connection tabs

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 F1000	1000	16	10	160.000	**5424100**
101 F1500	1500	16	10	240.000	**5424151**
101 F2000	2000	16	10	320.000	**5424208**

St Steel

FT Hot-dip galvanised



- With 2 attaching holes Ø 12 mm
- One end rounded

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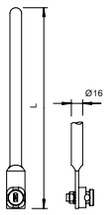
Always indicate the item number when ordering.

Air-termination/earth entry rod with connection tabs and connector



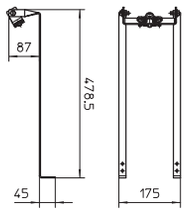
Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 G1000	1000	16	10	164.300	**5402107**
101 G1500	1500	16	10	240.000	**5402158**

St Steel

FT Hot-dip galvanised

- 1 attaching hole Ø 12 mm
- With pre-mounted conductor for Rd 8-10
- One end rounded

Air-termination rod holder for sloping roof



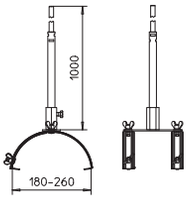
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
SD-Fix	1	81.000	**5403335**

V2A Stainless steel, grade 304

Stand system: rod holder for sloping roofs, for simple, quick and secure fastening of Ø 16 mm air-termination rods.

- System consists of a bracket made of V2A stainless steel
- Quick and easy mounting
- Adjustable angle
- In the case of high air-termination rods (> 1 m), additional fastening with insulated spaces is necessary

Air-termination rod holder for ridge tiles



Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-132	110	1	62.000	**5403330**
F-Fix-132-300	300	1	78.000	**5403333**

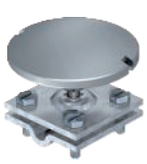
V2A Stainless steel, grade 304

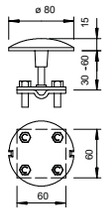
Rod holder for ridge tiles, for simple, quick and safe fastening of Ø 16 mm air-termination rods

- System consisting of holder made of V2A stainless steel and aluminium air-termination rods
- Quick and easy mounting thanks to pre-mounted air-termination rod
- Air-termination rod length:
- Air-termination rod length: 1,000 mm
- Width adjustable between 180–260 mm
- Spacing of the ridge holders: 110 mm (5403330)
- Spacing of the ridge holders: 300 mm (5403333)

Application: To protect roof structures such as photovoltaic and TV/SAT systems.

Mushroom-shaped air-termination with connectors





Type	Fit mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
128 F	Rd 8-10/ FL30	–	5	40.000	**5405769**

St Steel

FT Hot-dip galvanised

- Mushroom-shaped interceptor from aluminium
- With pre-mounted cross-piece and hexagonal bolt M8 x 25, hot-dip galvanised steel
- For round conductor Rd 8-10 and flat conductor FL 30

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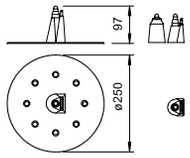
Roof penetration

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
330 K	Rd 8-16/ FL20 u. FL30	5	14.400	**5201101**

PA Polyamide

- For round conductors 8-10, air-termination rods 16 mm
- Flat conductors 20 mm/30 mm
- Colour: Black, UV-resistant
- For penetration and sealing of roofs



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Always indicate the item number when ordering.

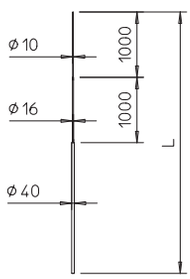
isFang air-termination rod

Type	Dimension B mm	Dimension D mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 3B-4000	2000	1000	4000	1	400.000	**5402864**
101 3B-4500	2500	1000	4500	1	480.000	**5402866**
101 3B-5000	3000	1000	5000	1	550.000	**5402868**
101 3B-5500	3000	1500	5500	1	630.000	**5402870**
101 3B-6000	4000	1000	6000	1	700.000	**5402872**
101 3B-6500	4500	1000	6500	1	780.000	**5402874**
101 3B-7000	5000	1000	7000	1	850.000	**5402876**
101 3B-7500	5500	1000	7500	1	930.000	**5402878**
101 3B-8000	5500	1000	8000	1	1,000.000	**5402880**

Alu Aluminium

- Suitable for wind loads according to Eurocode 1: DIN EN 1991-1-4
- Tapered air-termination rod
- Suitable for 40 mm isFang tripod stand and isFang support systems

Dimensions



Always indicate the item number when ordering.

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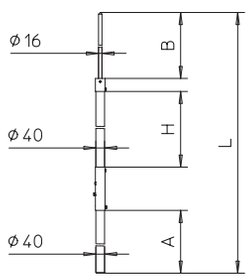
Insulated air-termination rod

Type	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang 4000 AL	1240	1500	1000	4000	1	580.000	**5408943**
isFang 6000 AL	3340	1500	1000	6000	1	600.000	**5408947**
isFang 4000	1240	1500	1000	4000	1	680.000	**5408942**
isFang 6000	3340	1500	1000	6000	1	680.000	**5408946**

GFK Fibre-glass-reinforced plastic

- For isolated creation of air-termination systems
- Suitable for isFang air-termination rod stands, type isFang 3B-100/150
- Suitable for wind loads according to Eurocode 1: DIN EN 1991-1-4
- For mounting on the building structure with isFang support
- Fastening of the OBO isCon® conductor possible using accessories
- Suitable for internally and externally-routed isCon® conductor

Dimensions

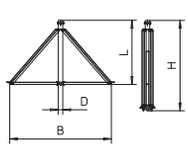


isFang air-termination rod stand

Type	Dimension B mm	Dimension D Ø mm	Dimension L mm	Dimension H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang 3B-100 AL	1000	40	600	885	1	380.000	**5408966**
isFang 3B-150 AL	1500	40	900	1275	1	560.000	**5408967**
isFang 3B-100	1000	40	600	885	1	620.000	**5408968**
isFang 3B-150	1500	40	900	1275	1	950.000	**5408969**

V2A Stainless steel, grade 304 Alu Aluminium

Folding tripod stand for screwless installation of free-standing air-termination rods with a diameter of 40 mm, e.g. for OBO isCon® conductors. Roof slope to max. 5 degrees. Incl. Rd 8–10 crossbar for rapid round conductor fastening. The concrete plinth and threaded rods are to be ordered separately.



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Always indicate the item number when ordering.

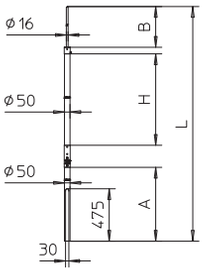
isFang, insulated air-termination rod for inner-routed isCon conductor with side exit

Type	Dimension D Ø mm	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang IN-A 4000	50	1325	1500	1000	4000	1	535.000	**5408938**
isFang IN-A 6000	50	3325	1500	1000	6000	1	835.000	**5408940**
isFang IN-A 8000	50	5335	1500	1000	8000	1	1,385.000	**5408888**
isFang IN-A10000	50	6000	1733	2000	10000	1	1,540.000	**5408890**

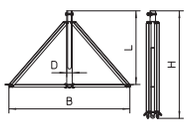
GFK Fibre-glass-reinforced plastic

- For installation of the OBO isCon® Pro+ conductor in the pipe
- With side conductor outlet matching isFang air-termination rod stand with side outlet, type isFang 3B-A
- Suitable for wind loads according to Eurocode 1: DIN EN 1991-1-4
- Inclusive connection element (type isCon IN connect)
- Inclusive potential connection (type IsCon In PAE)

Dimensions



isFang air-termination rod stand with side exit



Type	Dimension B mm	Dimension D Ø mm	Dimension L mm	Dimension H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang 3B-100-A	1026	50	600	885	1	610.000	**5408930**
isFang 3B-150-A	1500	50	900	1275	1	950.000	**5408932**
isFang 3B-250-A	2900	50	1450	2055	1	2,500.000	**5408902**

V2A Stainless steel, grade 304

- Screwless installation of freestanding air-termination rods as well as insulated air-termination rods with 50 mm diameter
- E.g. for internal OBO isCon® conductor
- Roof slope to max. 5 degrees
- Incl. Rd 8–10 crossbar for quick round conductor fastening
- Concrete plinths as well as threaded rods should be ordered separately

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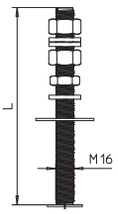
Always indicate the item number when ordering.

isFang-3B threaded rod

Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang 3B-G1	270	3	48.000	**5408971**
isFang 3B-G2	340	3	60.400	**5408972**
isFang 3B-G3	430	3	69.500	**5408973**
isFang 3B-G4	500	3	75.000	**5408905**

V2A Stainless steel, grade 304

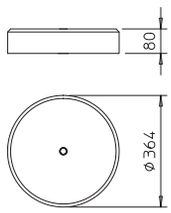


- For fastening on one, two, three or four FangFix concrete bases with tripod stand

Concrete block for FangFix-System 16 kg

Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-S16	365	1	1,700.000	**5403227**

BET Concrete

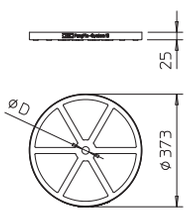


- 16 kg stone of Ø 365 mm, high level of stability
- Frost-resistant concrete
- Stackable

Base for FangFix system 16 kg for mounting the isFang tripod

Type	Nominal size Ø mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-B16 3B	373	25	10	15.800	**5403238**

PP Polypropylene



- Edge protection with through hole
- For mounting isFang-3B threaded rod and FangFix concrete block F-FIX-S16

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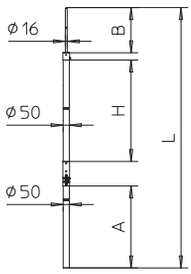
Insulated air-termination rod for inner-routed isCon conductor

Type	Dimension D Ø mm	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang IN 4000	50	1325	1500	1000	4000	1	535.000	**5408934**
isFang IN 6000	50	3325	1500	1000	6000	1	835.000	**5408936**
isFang IN 8000	50	5335	1500	1000	8000	1	1,315.000	**5408868**
isFang IN 10000	50	6000	1733	2000	10000	1	1,540.000	**5408870**

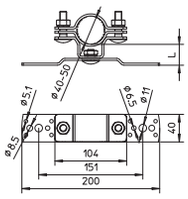
GFK Fibre-glass-reinforced plastic

- For installation of the OBO isCon® Pro+ conductor in the pipe
- For mounting on the building structure with isFang support
- Suitable for wind loads according to Eurocode 1: DIN EN 1991-1-4
- Inclusive connection element (type isCon IN connect)
- Inclusive potential connection (type IsCon In PAE)

Dimensions



isFang support for wall mounting, 30 mm spacing

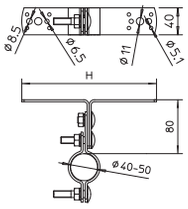


Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TW30	30	2	62.000	**5408952**

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.

isFang support for wall mounting, 80 mm spacing



Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TW80	80	2	63.000	**5408950**

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.

Always indicate the item number when ordering.

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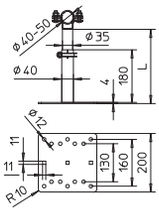
isFang support for wall mounting, 200–300 mm spacing

Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TW200	300	2	230.000	**5408954**

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.

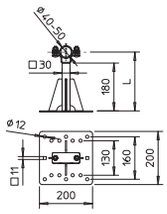


Support for wall mounting, 200 mm spacing

Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TW200 12	50	200	2	240.000	**5408910**

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.

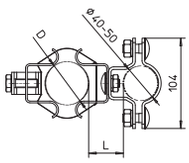


isFang support for pipe mounting, ø 50–300 mm

Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TR100	300	40	2	77.000	**5408956**

V2A Stainless steel, grade 304

Tightening strap clip to fasten the insulated support pipes on the structure to be protected or for construction-side pipes of ø 50–300mm.

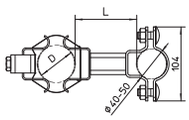


isFang support for spaced pipe mounting, ø 50–300 mm

Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TR100 100	300	100	2	95.500	**5408955**
isFang TR100 200	300	200	2	121.000	**5408957**
isFang TR100 300	300	300	2	146.000	**5408959**

V2A Stainless steel, grade 304

Tightening strap clip to fasten the insulated support pipes on the structure to be protected or for construction-side pipes of ø 50–300 mm.

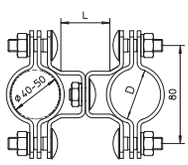


isFang support for pipe mounting, ø 40–50 mm

Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TS40-50	50	40	2	90.000	**5408958**

V2A Stainless steel, grade 304

Tightening strap clip to fasten the insulated support pipes on the structure to be protected or for construction-side pipes of ø 40–50 mm.

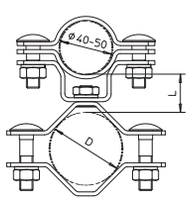


isFang support for pipe mounting, ø 50–60 mm

Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TS50-60	60	30	2	76.000	**5408960**

V2A Stainless steel, grade 304

Tightening strap clip to fasten the insulated support pipes on the structure to be protected or for construction-side pipes of ø 50–60 mm.



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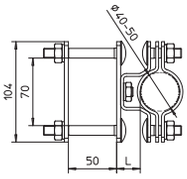
Always indicate the item number when ordering.

isFang support for corner pipe mounting, 50 x 50 mm



Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TS50x50	30	2	82.000	**5408964**

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or for construction-side corner pipes of 50x50 mm.

Always indicate the item number when ordering.

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10 m air-termination rod with 6-legged air-termination rod stand

Type	Dimension D Ø mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
irod 10	48.3	1800	10000	1	6,500.000	**5400810**

V2A Stainless steel, grade 304

- Tele lightning protection system against direct lightning strikes into plants, such as biogas plants
- Consisting of air-termination rod and air-termination rod stand
- Please order concrete foot, edge protection and threaded rods separately

12 m air-termination rod with 6-legged air-termination rod stand

Type	Dimension D Ø mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
irod 12	85	3000	12000	1	10,900.000	**5400812**

V2A Stainless steel, grade 304

- Tele lightning protection system against direct lightning strikes into plants, such as biogas plants
- Consisting of air-termination rod and air-termination rod stand
- Please order concrete foot, edge protection and threaded rods separately

14 m air-termination rod with 8-legged air-termination rod stand

Type	Dimension D Ø mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
irod 14	85	3200	14000	1	15,400.000	**5400814**

V2A Stainless steel, grade 304

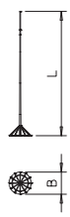
- Tele lightning protection system against direct lightning strikes into plants, such as biogas plants, gas pressure regulation plants, control and greenfield photovoltaic systems
- Consisting of air-termination rod and air-termination rod stand
- Please order concrete foot, edge protection and threaded rods separately

19 m air-termination rod with 12-legged air-termination rod stand

Type	Dimension D Ø mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
irod 19	198	3400	19500	1	41,500.000	**5400817**

V2A Stainless steel, grade 304

- Tele lightning protection system against direct lightning strikes into plants, such as biogas plants, gas-pressure regulation plants, control and greenfield photovoltaic systems
- Consisting of air-termination rod and air-termination rod stand
- Please order concrete foot and edge protection separately
- Including 800-mm threaded rods

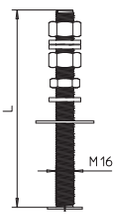


isFang-3B threaded rod

Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang 3B-G1	270	3	48.000	**5408971**
isFang 3B-G2	340	3	60.400	**5408972**
isFang 3B-G3	430	3	69.500	**5408973**
isFang 3B-G4	500	3	75.000	**5408905**

V2A Stainless steel, grade 304

- For fastening on one, two, three or four FangFix concrete bases with tripod stand



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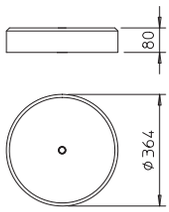
Always indicate the item number when ordering.

Concrete block for FangFix-System 16 kg

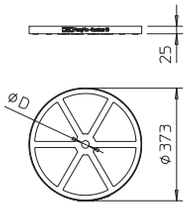


Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-S16	365	1	1,700.000	**5403227**

BET Concrete

- 16 kg stone of Ø 365 mm, high level of stability
- Frost-resistant concrete
- Stackable

Base for FangFix system 16 kg for mounting the isFang tripod



Type	Nominal size Ø mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-B16 3B	373	25	10	15.800	**5403238**

PP Polypropylene

- Edge protection with through hole
- For mounting isFang-3B threaded rod and FangFix concrete block F-FIX-S16

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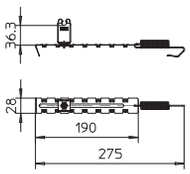
Always indicate the item number when ordering.

Ridge conductor holder with tensioning spring 35 mm

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
132 U 35	RD 8	35	20	6.800	**5203018**

V2A Stainless steel, grade 304

- For round conductor Rd 8
- Clamping range 280-380 mm

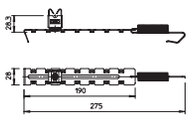


Ridge conductor holder with tensioning spring 8 mm

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
132 U	RD 8	20	20	6.000	**5203015**

V2A Stainless steel, grade 304

- For round conductor Rd 8
- Clamping range 280-380 mm



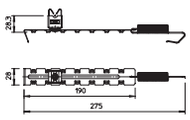
Ridge conductor holder with tensioning spring 8 mm copper-plated

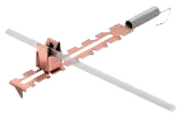
Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
132 U-CU	RD 8	20	10	0.600	**5203023**

V2A Stainless steel, grade 304

Cu Copper-plated

- For round conductor Rd 8
- Clamping range 280-380 mm



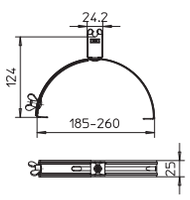


Roof conductor holder for ridge tiles, 185–260 mm, Rd 8, A2 35 mm

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
132 VA 35	Rd 8	35	20	13.700	**5202836**

V2A Stainless steel, grade 304

- Adjustable width from 185-260 mm
- Fast installation using wing screw

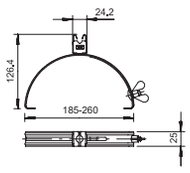


Roof conductor holder for ridge tiles, 185–260 mm, Rd 8, A2 8mm

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
132 VA	Rd 8	20	20	12.900	**5202833**

V2A Stainless steel, grade 304

- Adjustable width from 185-260 mm
- Fast installation using wing screw

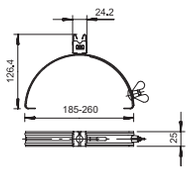


Roof conductor holder for ridge tiles, 185–260 mm, Rd 8. CU 8 mm

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
132 CU	Rd 8	20	10	13.400	**5202868**

Cu Copper

- Adjustable width from 185-260 mm
- Fast installation using wing screw



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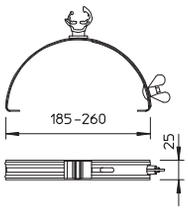
Always indicate the item number when ordering.

Roof conductor holder for ridge tiles, 185–260 mm, Rd 8–10, A2 8mm

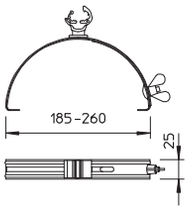


Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
132 K-VA	Rd 8-10	20	20	10.900	**5202515**

V2A Stainless steel, grade 304

- Adjustable width from 185-260 mm
- Bottom part made of non-rusting stainless steel (V2A)
- Infinitely adjustable conductor holder
- Conductor holder of polyamide
- Fast installation using wing screw

Roof conductor holder for ridge tiles, 185–260 mm, Rd 8–10, CU 8 mm

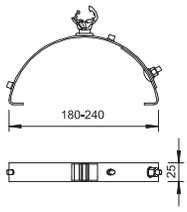


Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
132 K-CU	Rd 8-10	20	10	11.600	**5202590**

Cu Copper

- Adjustable width from 185-260 mm
- Bottom part made of copper
- Infinitely adjustable conductor holder
- Conductor holder of polyamide
- Fast installation using wing screw

Roof conductor holder for ridge tiles, 180–240 mm, Rd 8–10, FT 8 mm



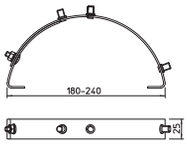
Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
132 N-DK	Rd 8-10	20	20	19.700	**5202566**

St Steel

FT Hot-dip galvanised

- Adjustable from 180–240 mm
- With conductor 177/20, polyamide, grey
- With 3 M8 threaded nipples for positioning the holder

Roof conductor holder for ridge tiles with M8 threaded bolts



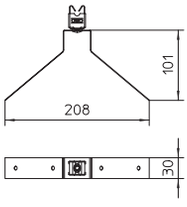
Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
132 GB-M8	–	20	20	18.700	**5202568**

St Steel

FT Hot-dip galvanised

- Adjustable from 180–240 mm
- With conductor 177/20, polyamide, grey
- With 3 M8 threaded nipples for positioning the holder

Roof conductor holder for ridge tiles, metal roofs, Rd 8



Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
132 P VA	Rd 8	20	20	8.420	**5202510**

V2A Stainless steel, grade 304

- For round conductors Rd 8
- Suitable for metal roofs

Always indicate the item number when ordering.

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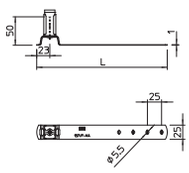
Roof conductor holder for tiled roofs, Rd 8, A2 35 mm

Type	Fit mm	Installation height mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 F-VA 230 35	Rd 8	50	230	20	8.300	**5215555**
157 F-VA 280 35	Rd 8	50	280	20	9.700	**5215582**

V2A Stainless steel, grade 304

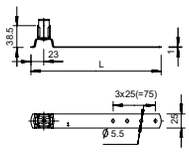


- Conductor holder from stainless steel (V2A)
- Including drill hole in bottom section for quick installation

Roof conductor holder for tiled roofs, Rd 8, A2 8 mm

Type	Fit mm	Installation height mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 F-VA 230	Rd 8	38.5	230	20	8.350	**5215552**
157 F-VA 280	Rd 8	38.5	280	20	10.170	**5215579**
157 F-VA 410	Rd 8	38.5	410	20	14.880	**5215595**

V2A Stainless steel, grade 304

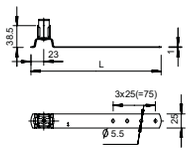


- Conductor holder from stainless steel (V2A)
- Including drill hole in bottom section for quick installation

Roof conductor holder for tiled roofs, Rd 8, CU 8mm

Type	Fit mm	Installation height mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 F-CU 230	Rd 8	38.5	230	10	10.300	**5216192**
157 F-CU 280	Rd 8	38.5	280	10	11.100	**5216206**
157 F-CU 410	Rd 8	38.5	410	10	14.500	**5216257**

Cu Copper

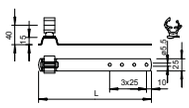


- Conductor holder from copper plated stainless steel (V2A)
- Including drill hole in bottom section for quick installation

Roof conductor holder for tiled roofs, Rd 8–10, A2 8 mm

Type	Fit mm	Installation height mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 FK-VA 230	Rd 8-10	40	230	20	7.800	**5215544**
157 FK-VA 280	Rd 8-10	40	280	20	10.170	**5215587**
157 FK-VA 410	Rd 8-10	40	410	20	14.880	**5215609**

V2A Stainless steel, grade 304

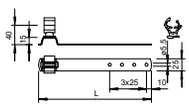


- Conductor holder of polyamide
- Including drill hole in bottom section for quick installation

Roof conductor holder for tiled roofs, Rd 8–10, CU 8 mm

Type	Fit mm	Installation height mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 FK-CU 230	Rd 8-10	40	230	10	8.800	**5216184**
157 FK-CU 280	Rd 8-10	40	280	10	9.600	**5216214**

Cu Copper

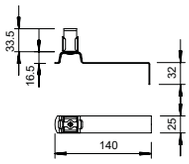


- Conductor holder of polyamide
- Including drill hole in bottom section for quick installation

Roof conductor holder for tiled roofs, angled, Rd 8, A2 8 mm

Type	Fit mm	Installation height mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 I-VA	Rd 8	26.5	140	20	7.150	**5215625**

V2A Stainless steel, grade 304



- Conductor holder high-grade stainless steel (V2A)
- Curved bottom strip for quick installation

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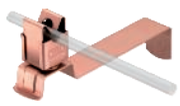
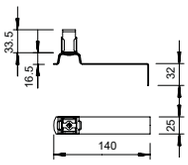
Always indicate the item number when ordering.

Roof conductor holder for tiled roofs, angled, Rd 8, CU 8mm



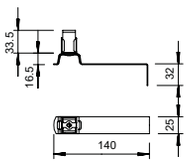


Type	Fit mm	Installation height mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 I-CU	Rd 8	26.5	140	10	7.800	**5215749**

Cu Copper

- Conductor holder copper plated high-grade stainless steel (V2A)
- Curved bottom strip for quick installation

Roof conductor holder for tiled roofs, angled, flexible, Rd 8, Aluminium

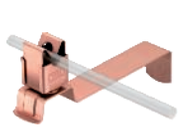


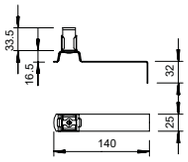
Type	Fit mm	Installation height mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 FX-AL	Rd 8	26.5	140	20	3.900	**5215875**

Alu Aluminium

- With flexible bottom section from aluminium for matching to roof tiles (easy to flex)
- Holder from stainless steel (V2A)
- Curved bottom section for quick installation

Roof conductor holder for tiled roofs, angled, flexible, Rd 8, CU



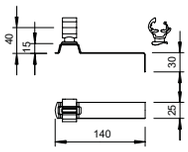


Type	Fit mm	Installation height mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 FX-CU	Rd 8	26.5	140	10	7.500	**5215879**

Cu Copper

- With flexible bottom section from copper for matching to roof tiles (easy to flex)
- Holder from copper plated stainless steel (V2A)
- Curved bottom section for quick installation

Roof conductor holder for tiled roofs, angled, Rd 8–10, A2



Type	Fit mm	Installation height mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 IK-VA	Rd 8-10	40	140	20	7.150	**5215668**

V2A Stainless steel, grade 304

- Conductor holder of polyamide
- Curved bottom strip for quick installation

Always indicate the item number when ordering.

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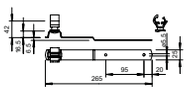
Roof conductor holder for slated roofs, crimped, Rd 8–10, A2

Type	Fit mm	Length mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 EK-VA	Rd 8-10	265	42	20	7.800	**5215838**

V2A Stainless steel, grade 304

- Conductor holder of polyamide
- With Ø 5.5 mm drill hole

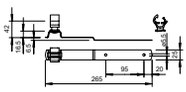


Roof conductor holder for slated roofs, crimped, Rd 8–10, CU

Type	Fit mm	Length mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 EK-CU	Rd 8-10	265	42	10	8.800	**5215854**

Cu Copper

- Conductor holder of polyamide
- With Ø 5.5 mm drill hole

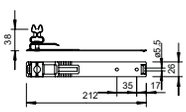


Roof conductor holder for slated roofs, Rd 8, A2

Type	Fit mm	Length mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 L-VA	Rd 8	212	32	20	8.000	**5215439**

V2A Stainless steel, grade 304

- With Ø 5.5 mm drill hole and beading

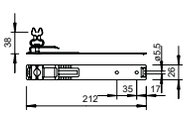


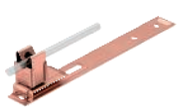
Roof conductor holder for slated roofs, Rd 8, CU

Type	Fit mm	Length mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 L-CU	Rd 8	212	32	10	9.900	**5215471**

Cu Copper

- With Ø 5.5 mm drill hole and beading



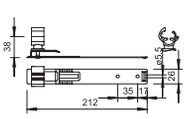


Roof conductor holder for slated roofs, Rd 8–10, A2

Type	Fit mm	Length mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 LK-VA	Rd 8-10	212	38	20	8.000	**5215374**

V2A Stainless steel, grade 304

- With Ø 5.5 mm drill hole and beading
- Conductor holder of polyamide

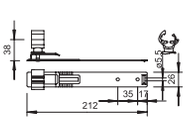


Roof conductor holder for slated roofs, Rd 8–10, CU

Type	Fit mm	Length mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 LK-CU	Rd 8-10	212	38	10	8.400	**5215382**

Cu Copper

- With Ø 5.5 mm drill hole and beading
- Conductor holder of polyamide



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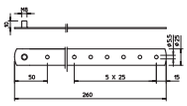
Always indicate the item number when ordering.

Roof conductor holder for slated roofs with M8 threaded bolts



Type	Fit mm	Length mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 GB-M8	Rd 8-10	260	27	20	5.000	**5202569**

V2A Stainless steel, grade 304

- With Ø 5.5 mm drill hole
- With 3 M8 threaded nipples for positioning the holder

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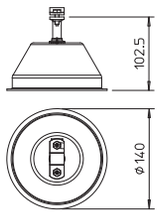
Always indicate the item number when ordering.

Roof cable holder for flat roofs, with raised cable bracket

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 KRB-I	FL 30	9	144.000	**5218888**

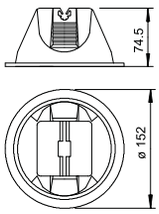


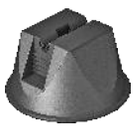
- Closed form with base
- With double conductor holder
- Filling weight 1 kg (frost-resistant concrete)
- Sleeve made of polyethylene, black, bottom polypropylene, black
- Base made of polyamide PA 6, black, UV-stabilised and weather-resistant
- Base can be used on almost roofing felt systems (bitumen, PVC)
- Types 165 MBG...FO: Packed in foil bag

Roof conductor holder for flat roofs, without base

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 OBG-8	Rd 8	12	100.000	**5218683**

PE Polyethylene





- Without bottom
- With double conductor holder
- Filling weight 1 kg (frost-resistant concrete)
- Sleeve from polyethylene, black

Flat conductor adapter for roof conductor holder, type 165/MBG

Type	Colour	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 MBG HFL	Black	Rd 8	12	0.670	**5218885**

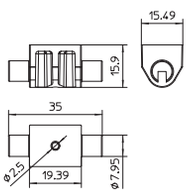
PP Polypropylene

- Flat conductor holder FL 30 x 3.5 mm
- For fastening to 165/MBG in fit Rd 8

Universal flat conductor adapter for roof conductor holder, type 165/MBG

Type	Colour	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 MBG UH	Black	Rd 8	25	0.254	**5218882**

PP Polypropylene

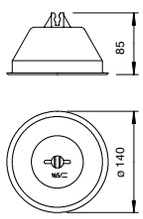


- Universal adapter with drill hole Ø 2.5 mm
- E.g. for OBO Golden Sprint screw, type 4758 4 x L (L = depending on application)
- For fastening to 165/MBG

Roof conductor holder for flat roofs, plastic sleeve

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 KR	Rd 8	50	5.449	**5218861**

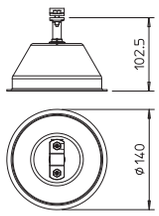
PE Polyethylene



- For self-filling with concrete
- Potential filling weight: approx. 1.3 kg
- Sleeve from polyethylene, black

Roof conductor holder for flat roofs, with raised cable bracket

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 KRB SO	Rd 8-10	9	144.000	**5218977**



- Filling weight 1.3 kg (frost-resistant concrete)
- With conductor holder, type 168 DIN-K
- Die-cast zinc conductor holder, electrogalvanised
- Polyethylene sleeve, black

Always indicate the item number when ordering.

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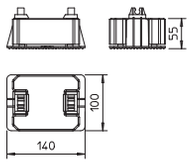
Roof conductor holder for flat roofs, recyclable

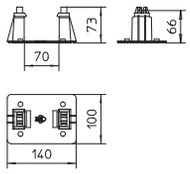


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 R-8-10	Rd 8-10	10	106.000	**5218997**

PE Polyethylene

- For round conductors Rd 8 to 10
- With polyethylene plastic holder, black
- Block made of frost-resistant concrete
- Weight 1 kg
- Block can be split into plastic and concrete (recyclable)

Roof conductor holder, for plastic film roofs

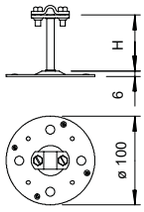


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 R-8-10 OBG	Rd 8-10	100	6.760	**5218999**

PE Polyethylene

- For flat roofs
- For round conductors Rd 8 to 10
- Polyethylene plastic holder, light grey
- For clamping in roof strips

Roof conductor holder, suitable for bonding straight to flat roofs



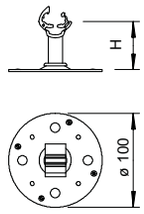
Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 B 60	Rd 8-10	60	50	26.100	**5218810**
165 B 100	Rd 8-10	100	50	27.700	**5218829**

St Steel

FT Hot-dip galvanised

- With conductor holder and bottom section, hot-dip galvanised steel
- Bottom section Ø 100 mm

Roof conductor holder, 55 mm, suitable for bonding straight to flat roofs



Type	Fit mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 NBK 55	Rd 8-10	100	75	17.060	**5218314**

PA Polyamide

- Suitable for bonding straight to flat roofs
- Conductor holder of polyamide
- Bottom section, hot-dip galvanised steel
- Bottom section Ø 100 mm

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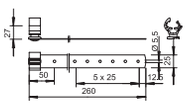
Always indicate the item number when ordering.

Roof conductor holder for tiled and slated roofs, Rd 8–10

Type	Fit mm	Length mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 NB-VA	Rd 8-10	260	27	20	6.000	**5215277**

V2A Stainless steel, grade 304

- With Ø 5.5 mm drill hole
- Conductor holder of polyamide

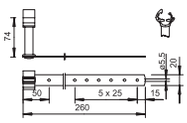


Roof conductor holder for tiled and slated roofs, 74 mm height

Type	Fit mm	Length mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
157 ND-VA	Rd 8-10	260	74	20	6.000	**5215307**

V2A Stainless steel, grade 304

- High roof conductor holder: 74 mm
- With perforation Ø 5.5 mm
- Polyamide cable bracket

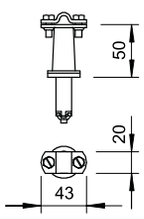


Roof conductor holder for tiled, slated and corrugated roofs, with crossbar

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
133 A	Rd 8-10	50	20	8.217	**5202248**

PA Polyamide

- With weatherproof clamping collar from soft PVC
- Required drill hole Ø = 16 mm
- Spacer from polyamide, grey

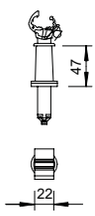


Roof conductor holder for tiled, slated and corrugated roofs, with cable bracket

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
133 NB	Rd 8-10	67	20	4.338	**5202213**

PA Polyamide

- With weather-proof clamping collar from soft-PVC
- Required drill hole Ø = 16 mm
- Spacer and conductor holder from polyamide, grey

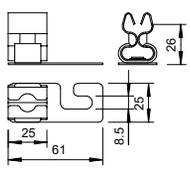


Roof conductor holder for tiled, slated and corrugated roofs, Rd 8

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
159 VA-V	Rd 8	21	20	3.900	**5217075**

V2A Stainless steel, grade 304

- Bottom section and conductor holder stainless steel (V2A)
- Bottom section with Ø 8.5 mm slot

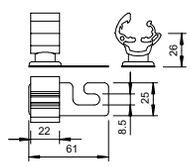


Roof conductor holder for tiled, slated and corrugated roofs, Rd 8–10

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
159 K-VA	Rd 8-10	21	20	2.540	**5216818**

V2A Stainless steel, grade 304

- Bottom section stainless steel (V2A)
- Bottom section with Ø 8.5 mm slot
- Conductor holder of polyamide



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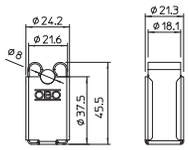
Always indicate the item number when ordering.

Screwless cable bracket, raised construction type, for Rd 8 mm, through-way Ø 5 mm

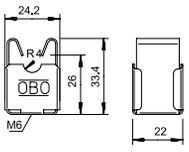


Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
177 35 VA M6	Rd 8	35	20	2.680	**5207342**

V2A Stainless steel, grade 304

- With female thread M6 or through hole Ø 5 mm
- From stainless steel (V2A)

Screwless cable bracket for Rd 8 mm, through-way Ø 5 mm

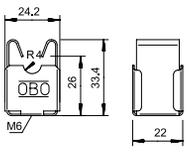


Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
177 20 VA M6	Rd 8	20	20	2.500	**5207339**

V2A Stainless steel, grade 304

- With female thread M6 or through hole Ø 5 mm
- From stainless steel (V2A)

Screwless cable bracket for Rd 8 mm, through-way Ø 5 mm copper-plated



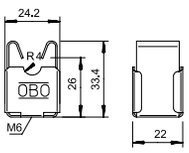
Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
177 20 VA-VK M6	Rd 8	20	20	2.500	**5207800**

V2A Stainless steel, grade 304

Cu Copper-plated

- With female thread M6 or through hole Ø 5 mm
- From stainless steel (V2A)
- VA-VK: copper-plated

Screwless cable bracket for Rd 8 mm, through-way Ø 7 mm

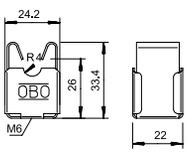


Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
177 20 VA M8	Rd 8	20	20	1.900	**5207347**

V2A Stainless steel, grade 304

- With female thread M8 or through hole Ø 5 mm
- From stainless steel (V2A)

Screwless cable bracket for Rd 8 mm, through-way Ø 7 mm copper-plated



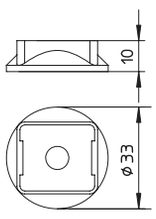
Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
177 20 VA-VK M8	Rd 8	20	20	1.900	**5207819**

V2A Stainless steel, grade 304

Cu Copper-plated

- With female thread M8 or through hole Ø 5 mm
- From stainless steel (V2A)
- VA-VK: copper-plated

Washer for cable bracket, type 177



Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
177 U	Light grey	20	0.286	**5207371**

PP Polypropylene

- For simple wall installation
- UV-resistant

Always indicate the item number when ordering.

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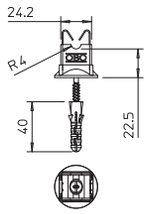
Screwless cable bracket for Rd 8 mm, fastening with screw and anchor

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
177 20 VA B-HD	Rd 8	20	50	2.900	**5207901**

V2A Stainless steel, grade 304

- With female thread M8 or through hole Ø 5 mm
- From stainless steel (V2A)
- With pre-mounted wood screws (5 x 60) and plastic dowels (8 x 40).

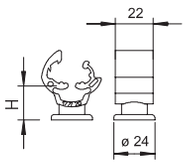


Universal cable bracket Rd 8–10 mm

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
177 20 M8	Rd 8-10	20	20	0.723	**5207444**
177 30 M8	Rd 8-10	30	20	0.790	**5207460**
177 55 M8	Rd 8-10	55	20	1.007	**5207487**

PA Polyamide

- With female thread M8 or through hole Ø 7 mm
- Weather and temperature-resistant from -35 °C to +90 °C

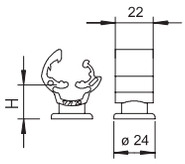


Universal cable bracket Rd 8–10 mm, copper-plated

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
177 20 CU	Rd 8-10	20	10	0.718	**5207746**
177 30 CU	Rd 8-10	30	10	0.784	**5207754**
177 55 CU	Rd 8-10	55	10	1.450	**5207762**

PA Polyamide

- With female thread M8 for screwing and through hole for wood screws
- Colour: copper
- Weather and temperature-resistant from -35 °C to +90 °C

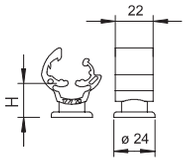


Universal cable bracket Rd 8–10 mm with pre-mounted wood screw

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
177 B-HD20	Rd 8-10	20	50	1.930	**5207851**
177 B-HD30	Rd 8-10	30	50	1.503	**5207878**

PA Polyamide

- With female thread M8 for screwing and through hole for wood screws
- For round conductor Rd 8-10
- Weather and temperature-resistant from -35 °C to +90 °C
- With pre-mounted wood screws (5 x 60) and plastic dowels (8 x 40).

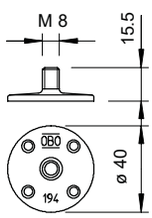


Bonding base

Type	Colour	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
194	Grey	M8	100	0.389	**5207258**

PA Polyamide

- With threaded stem M8
- For mounting conductor supports with M8 female thread
- For bonding to concrete, steel or brickwork



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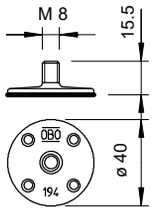
Always indicate the item number when ordering.

Bonding base including industrial bonding pad

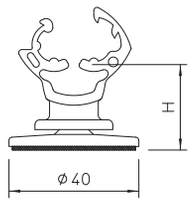


Type	Colour	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
194 K	Grey	M8	20	0.600	**5207266**

PA Polyamide

- With threaded pin M8
- To accept conductor supports with M8 internal thread
- For bonding to concrete, steel or smooth substrates
- Not suitable for rough surfaces such as plaster, wood, bitumen strips
- Processing at > +15 °C and on cleaned substrate
- To route the conductor, cannot be used on the roof
- Use on sheet roofs after agreement with the responsible roofing contractors

Cable bracket, Rd 8–10 mm with bonding base

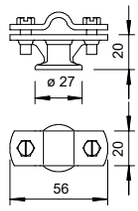


Type	Pack. pcs	Weight kg/100 pcs.	Item No.
177 20 KL	50	1.239	**5207451**

PA Polyamide

- For bonding to concrete, steel or smooth substrates
- Not suitable for rough surfaces such as plaster, wood, bitumen strips
- Processing at > +15 °C and on cleaned substrate
- To route the conductor, cannot be used on the roof
- Use on sheet roofs after agreement with the responsible roofing contractors

Cable bracket with crossbar Rd 8–10 mm



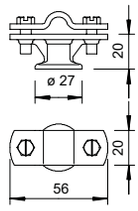
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
113 Z8-10	Rd 8-10	20	6.202	**5229960**

Zn Die-cast zinc

G Electrogalvanised

- With female thread M8 or through hole Ø 7 mm
- Over-piece installed with 2 hexagonal bolts
- Version HD with wood screws (5 x 60) and plastic dowels (8 x 40)

Cable bracket with crossbar Rd 8–10 mm copper-plated



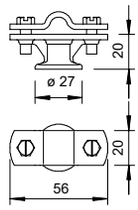
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
113 8-10	Rd 8-10	20	9.600	**5230217**

Zn Die-cast zinc

Cu Copper-plated

- With female thread M8 or through hole Ø 7 mm
- Over-piece installed with 2 hexagonal bolts

Cable bracket with crossbar, wood screw, plastic anchor Rd 8-10 mm galvanised



Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
113 B-Z-HD	Rd 8-10	100	6.580	**5230322**

Zn Die-cast zinc

VZ Galvanised

- With female thread M8 or through hole Ø 7 mm
- Over-piece installed with 2 hexagonal bolts
- Version HD with wood screws (5 x 60) and plastic dowels (8 x 40)

Always indicate the item number when ordering.

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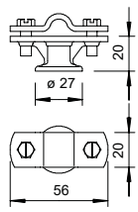
Cable bracket with crossbar, wood screw, plastic anchor Rd 8-10 mm copper-plated

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
113 B-MS-HD 8-10	Rd 8-10	100	7.280	**5230365**

Zn Die-cast zinc

Cu Copper-plated

- With female thread M8 or through hole Ø 7 mm
- Over-piece installed with 2 hexagonal bolts
- Version HD with wood screws (5 x 60) and plastic dowels (8 x 40)



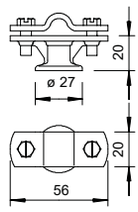
Cable bracket with hinged crossbar Rd 8–10 mm

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
113 Z-K 8-10	Rd 8-10	20	6.202	**5229961**

Zn Die-cast zinc

G Electrogalvanised

- With female thread M8 or through hole Ø 7 mm
- Hinge crossbar for quick swivel mounting
- Crossbar mounted with 2 hexagonal bolts



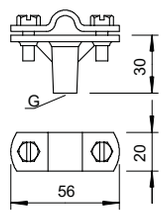
Cable bracket with hinged crossbar Rd 8–10, 30 mm mounting height, galvanised

Type	Fit mm	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
168 8-10 M6	Rd 8-10	M6	20	7.800	**5229162**
168 DIN-K-M8	Rd 8-10	M8	20	7.780	**5229839**

Zn Die-cast zinc

G Electrogalvanised

- With female thread (G)
- With over-piece and 2 hexagonal bolts
- Installed height 30 mm



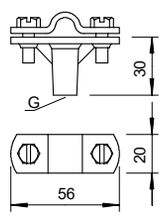
Cable bracket with hinged crossbar Rd 8–10, 30 mm mounting height, copper-plated

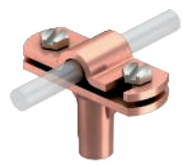
Type	Fit mm	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
168 ZN-M6	Rd 8-10	M6	20	8.660	**5229367**
168 DIN-K-M8	Rd 8-10	M8	20	8.440	**5229383**

Zn Die-cast zinc

Cu Copper-plated

- With female thread (G)
- With over-piece and 2 hexagonal bolts
- Installed height 30 mm





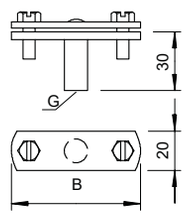
Cable bracket with crossbar FL, 30 mm mounting height FT

Type	Dimension B mm	Fit mm	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
168 FL40-M8	66	FL 40	M8	20	8.200	**5229553**

TG Cast iron

FT Hot-dip galvanised

- For flat strip
- With female thread (G)
- Installed height 30 mm



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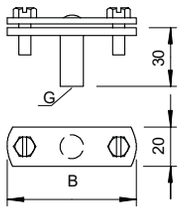
Always indicate the item number when ordering.

Cable bracket with crossbar FL, 30 mm mounting height galvanised



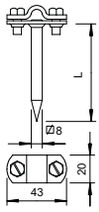
Type	Dimension B mm	Fit mm	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
168 FL30-M6	56	FL 30	M6	20	7.640	**5229464**
168 DIN 30	56	FL 30	M8	20	7.320	**5229480**

Zn Die-cast zinc

G Electrogalvanised VZ Galvanised

- For flat strip
- With female thread (G)
- Installed height 30 mm

Cable bracket with crossbar Rd 8–10 mm, with square pin



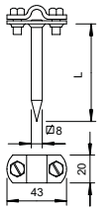
Type	Fit mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
163 70 FT	Rd 8-10	70	50	8.476	**5223075**
163 100 FT	Rd 8-10	100	50	10.056	**5223105**
163 150 FT	Rd 8-10	150	50	14.400	**5223156**
163 200 FT	Rd 8-10	200	20	18.880	**5223202**

St Steel

FT Hot-dip galvanised

- Complete with crossbar and hexagonal bolts
- With square pin for rapid mounting
- With hexagonal bolts made of VA

Cable bracket with crossbar Rd 8–10 mm, with square pin, copper-plated

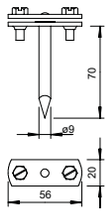


Type	Fit mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
163 100 CU	Rd 8-10	100	10	10.840	**5223601**

Cu Copper

- Complete with crossbar and hexagonal bolts
- With square pin for rapid mounting
- With hexagonal bolts made of VA

Cable bracket with crossbar FL 30 mm, with round pin



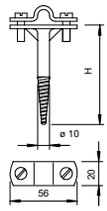
Type	Fit mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
166 LS 70	FL30	70	50	9.140	**5226570**

St Steel

FT Hot-dip galvanised

- With crossbar and 2 hexagonal bolts (VA)
- With loose round pin Ø 9 mm

Cable bracket with crossbar Rd 8–10 mm, with wood screw thread



Type	Fit mm	Dimension H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
176 A 65	Rd 8-10	65	50	9.536	**5227070**
176 A 80	Rd 8-10	80	50	10.025	**5227089**
176 A 100	Rd 8-10	100	50	11.500	**5227100**
176 A 150	Rd 8-10	150	20	13.100	**5227151**

TG Cast iron

F Hot-dip galvanised

- Also for flat conductor to FL 30
- With wood screw thread
- Bottom section, hot-dip galvanised cast iron
- Over-piece and screws, hot dipped galvanised steel

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Always indicate the item number when ordering.

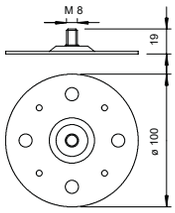
Base plate

Type	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
199 DIN	M8	10	14.200	**5208017**

St Steel

FS Strip-galvanised

- With threaded pin M8
- Suitable for direct bonding
- Threaded pin brass and base plate hot-dip galvanised steel



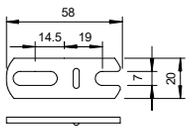
Hinge crossbar for FL 30 mm

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
156 FL	FL30	50	2.460	**5228328**

St Steel

FT Hot-dip galvanised

- With slot for quick installation



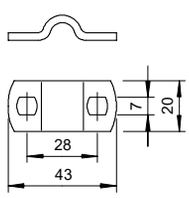
Crossbar for Rd 8–10 mm, steel

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
156 K8-10 ST	Rd 8-10	100	2.000	**5228123**

St Steel

FT Hot-dip galvanised

- For round conductor Rd 8-10

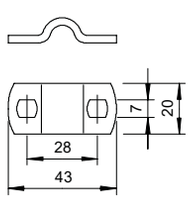


Crossbar for Rd 8–10 mm, stainless steel

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
156 K8-10 VA	Rd 8-10	100	2.100	**5228134**

V2A Stainless steel, grade 304

- For round conductor Rd 8-10

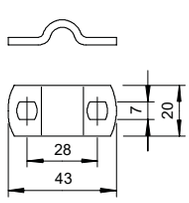


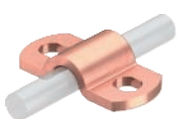
Crossbar for Rd 8–10 mm, copper

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
156 K8-10 CU	Rd 8-10	100	2.260	**5228131**

Cu Copper

- For round conductor Rd 8-10





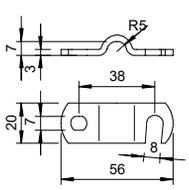
Hinge crossbar for Rd 8-10 mm

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
156 8-10	Rd 8-10	100	2.680	**5228026**

St Steel

FT Hot-dip galvanised

- With open slot for quick installation



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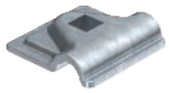
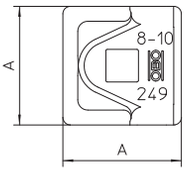
Always indicate the item number when ordering.

Connection terminal, equipotential bonding, Rd 8–10 mm





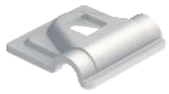
Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 ST-OT	Rd 8-10	40	100	3.240	**5311503**

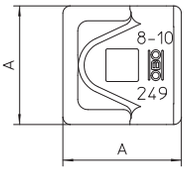
St Steel

FT Hot-dip galvanised

- For round conductor fastening RD 8-10
- Suitable for M10 bolts

Connection terminal, equipotential bonding, Rd 8–10 mm



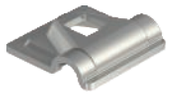


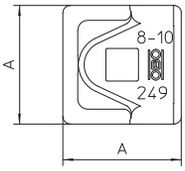
Type	Dimension A mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 ALU-OT	44	Rd 8-10	100	2.100	**5311585**

Alu Aluminium

- For round conductor fastening RD 8-10
- Suitable for M10 bolts

Connection terminal, equipotential bonding, Rd 8–10 mm



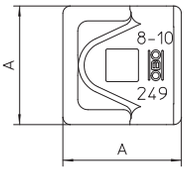


Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 VA-OT	Rd 8-10	40	100	3.130	**5311554**

V2A Stainless steel, grade 304

- For round conductor Rd 8-10
- Suitable for M10 bolts

Connection terminal, equipotential bonding, Rd 8–10 mm

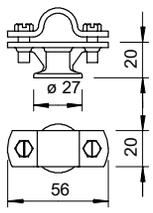


Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 CU-OT	Rd 8-10	40	100	3.580	**5311530**

Cu Copper

- For round conductor fastening RD 8-10
- Suitable for M10 bolts

Rod holder for 16 mm air-termination and earth entry rods, galvanised



Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
113 Z-16	Rd 16	10	6.000	**5412609**

Zn Die-cast zinc

VZ Galvanised

- For lightning and ground insertion rods Rd 16
- Installed with over-piece and hex-head screws M6 x 16
- With female thread M8 or through hole Ø 7 mm

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Always indicate the item number when ordering.

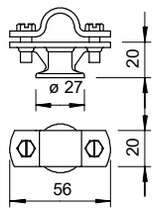
Rod holder for 16 mm air-termination and earth entry rods, copper-plated

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
113 ZN-16	Rd 16	10	10.100	**5412633**

Zn Die-cast zinc

Cu Copper-plated

- For lightning and ground insertion rods Rd 16
- Installed with over-piece and hex-head screws M6 x 16
- With female thread M8 or through hole Ø 7 mm



Cable and pipe spacer clip 733 V2A

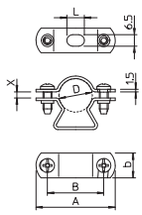
E30 E90

Type	Clamping range D mm	Hole size mm	Bolt	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
733 16 A2	14 - 16	6,5 x 10	M5 x 12	500	50	2.430	**1362011**

V2A Stainless steel, A2

* Size M16 is not suitable for nail device

* Sizes M16 - PG16 are not suitable for bolt-firing tool



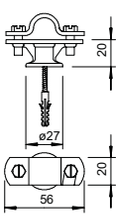
Rod holder for 16 mm air-terminationand earth entry rods, with screw and anchor

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
113 B-Z-HD	Rd 16	100	6.000	**5412803**

Zn Die-cast zinc

VZ Galvanised

- For lightning and ground insertion rods Rd 16
- Installed with over-piece and hexagonal bolts M6 x 16 (VA)
- Female thread M8 for screwing and through hole for wood screws
- Pre-mounted with wood screw 5 x 60 and plastic dowels 8 x 40



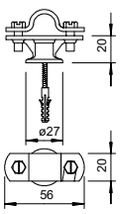
Rod holder for 16 mm air-termination and earth entry rods, with screw and anchor, copper-plated

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
113 B-HD-16	Rd 16	100	10.100	**5412811**

Zn Die-cast zinc

Cu Copper-plated

- For lightning and ground insertion rods Rd 16
- Installed with over-piece and hexagonal bolts M6 x 16 (VA)
- Female thread M8 for screwing and through hole for wood screws
- Pre-mounted with wood screw 5 x 60 and plastic dowels 8 x 40



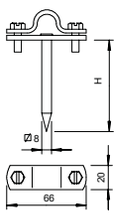
Rod holder for 16 mm air-termination and earth entry rods, with square pin

Type	Fit mm	Dimen-sion H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
112 DIN-100	Rd 16	100	10	12.412	**5410096**

St Steel

F Hot-dip galvanised

- For lightning and ground insertion rods
- Over-piece with 2 hexagonal bolts M6 x 16 (VA)
- With square pin



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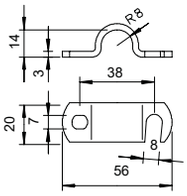
Always indicate the item number when ordering.

Crossbar, round conductors and interception rods 16 mm



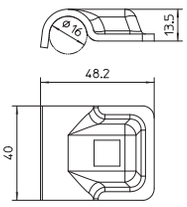
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
156 16	Rd 16	50	3.230	**5228220**

St Steel

FT Hot-dip galvanised

- With open slot for quick installation

Connection terminal, equipotential bonding, Rd 16 mm

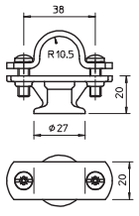


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 VA-OT	16	100	5.700	**5311573**

V2A Stainless steel, grade 304

- For round conductor fastening RD 16
- Suitable for M10 bolts

Rod holder



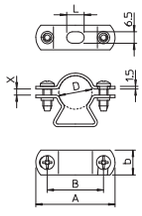
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
113 Z-20	Rd 20	20	8.200	**5230527**

Zn Die-cast zinc

VZ Galvanised

- Installed with over-piece and hex-head screws M6 x 16
- With female thread M8 or through hole Ø 7 mm

Conductor and pipe spacer clip 733 V2A



E30 E90

Type	Clamping range D mm	Hole size mm	Bolt	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
733 21 A2	19 - 21	6,5 x 10	M5 x 16	500	50	2.740	**1362046**

V2A Stainless steel, A2

* Size M16 is not suitable for nail device

* Sizes M16 - PG16 are not suitable for bolt-firing tool

Always indicate the item number when ordering.

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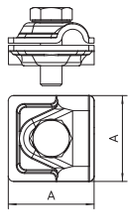
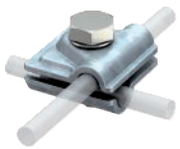
Vario quick connector





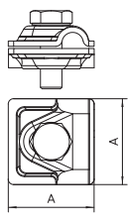
Type	Fit mm	Dimension A mm	Short-circuit current (50 HZ) (1 s;≤300°C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 ST	Rd 8-10	40	5.6	H/100	20	10.800	**5311500**
249 B ST	Rd 8-10	40	5.6	H/100	100	10.800	**5311705**

St Steel

FT Hot-dip galvanised

- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Vario quick connector

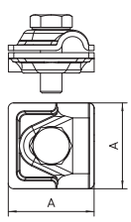


Type	Fit mm	Dimension A mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 ALU	Rd 8-10	44	H/100	30	6.600	**5311519**
249 B ALU	Rd 8-10	44	H/100	100	7.250	**5311713**

Alu Aluminium

- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Vario quick connector

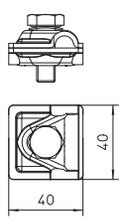


Type	Fit mm	Dimension A mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 VA	Rd 8-10	40	H/100	10	10.700	**5311551**

V2A Stainless steel, grade 304

- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Vario quick connector



Type	Fit mm	Dimension A mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 V4A	Rd 8-10	40	H/100	10	9.500	**5311404**

V4A Stainless steel, 316Ti / 316L

- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

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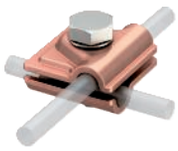
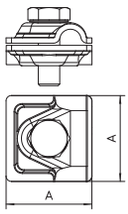
Always indicate the item number when ordering.

Vario quick connector



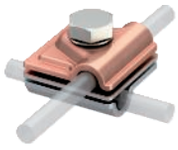


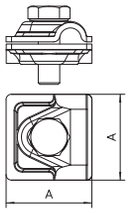
Type	Fit mm	Dimension A mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 CU	Rd 8-10	40	H/100	10	11.900	**5311527**

Cu Copper

- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Variable bi-metal quick connector



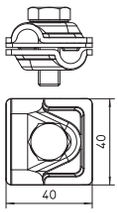


Type	Fit mm	Lightning current carrying capacity kA	Dimension A mm	Material symbol	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 ZV	Rd 8-10	H/100	44	Cu	10	14.220	**5311535**

Cu Copper

- Intermediate plate, copper/aluminium, top section copper and aluminium
- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- With spring washer according to DIN 137
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Variable earthing connector Rd 6-8 / 8-10 mm



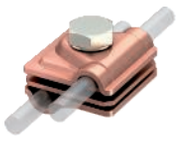
Type	Fit mm	Dimension A mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
249 6-10 ST	RD 6-8 / 8-10	40	H/100	20	13.100	**5311410**

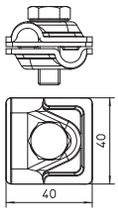
St Steel

FT Hot-dip galvanised

- For T, intersection and parallel connections with adapter plates
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel
- With sprung washer to DIN 137
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

Variable earthing connector Rd 6-8 / 8-10 mm





Type	Fit mm	Dimension A mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
249 6-10 CU	RD 6-8 / 8-10	40	H/100	10	14.540	**5311417**

Cu Copper

- For T, intersection and parallel connections with adapter plates
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel
- With sprung washer to DIN 137
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

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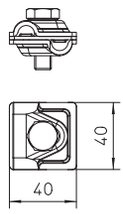
Always indicate the item number when ordering.

Vario quick connector Rd 6-8 / Rd 6-8 mm

Type	Fit mm	Dimension A mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
249 6-8 CU	RD 6-8 / 6-8	40	H/100	10	12.710	**5311407**

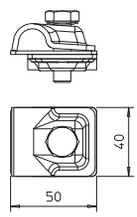


Cu Copper

- For T, intersection and parallel connections with adapter plates
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel
- With sprung washer to DIN 137
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

Vario quick connector Rd 8-10x16

Type	Fit mm	Dimension A mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10X16 VA	8-10X16	40	H/100	10	16.300	**5311590**

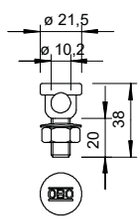


V2A Stainless steel, grade 304

- For T, intersection and parallel connections with adapter plates
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel
- With sprung washer to DIN 137
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

Connector, Rd 8–10 mm with M10 thread

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
5000	Rd 8-10	20	4.630	**5304008**



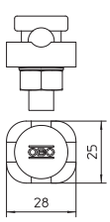
St Steel

F Hot-dip galvanised

- With bore hole 10.2 mm
- With thread M10
- Including pre-mounted nut M10 and serrated washer
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Connector Rd 8–10 mm, single

Type	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5001 DIN-FT	H/100	20	7.450	**5304105**
5001 DIN-FT+VA	H/100	20	7.450	**5304107**



St Steel

FT Hot-dip galvanised

- With fix contact clamping screw, nut and serrated washer
- With bore hole 10.2 mm
- With pre-mounted pressure piece, die-cast zinc
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

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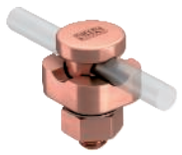
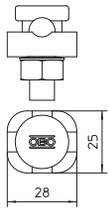
Always indicate the item number when ordering.

Connector Rd 8–10 mm, single, copper





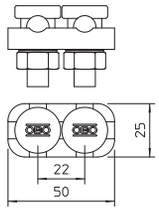
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5001 ZN-CU	Rd 8-10	H/100	10	8.760	**5304113**

Zn Die-cast zinc

Cu Copper-plated

- With fix contact clamping screw, nut and serrated washer
- With bore hole 10.2 mm
- With pre-mounted pressure piece, die-cast zinc
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Connector Rd 8–10 mm, double



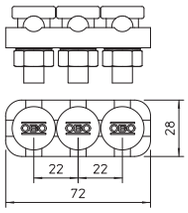
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5002 DIN-FT	Rd 8-10	H/100	20	14.240	**5304202**

St Steel

FT Hot-dip galvanised

- With 2 fix contact clamping screws, nut and serrated washer
- Including pre-mounted connecting pressure piece, die-cast zinc or copper-plated die-cast zinc
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Connector Rd 8–10 mm, triple



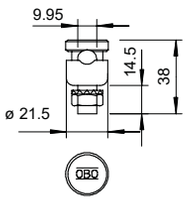
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5003	Rd 8-10	H/100	10	22.420	**5304318**

TG Cast iron

FT Hot-dip galvanised

- With 3 fix contact clamping screws, nut and serrated washer
- With pre-mounted connecting pressure piece, die-cast zinc
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Connector, Rd 8–10 mm with pressure trough



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5001 N-FT	Rd 8-10	N/50	20	5.900	**5304164**

St Steel

FT Hot-dip galvanised

- With 1 fix contact clamping screw, nut and serrated washer
- Including pre-mounted pressure sump, steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Always indicate the item number when ordering.

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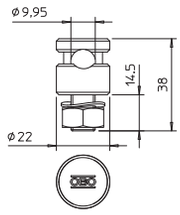
Connector, Rd 8–10 mm with pressure trough

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5001 N-VA	Rd 8-10	N/50	10	6.800	**5304176**

V2A Stainless steel, grade 304

- With 1 fix contact clamping screw, nut and serrated washer
- Including pre-mounted pressure sump, steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

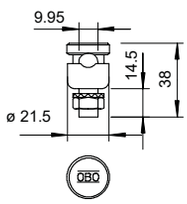


Connector, Rd 8–10 mm with pressure trough

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5001 N-CU	Rd 8-10	H/100	10	6.750	**5304172**

Cu Copper

- With 1 fix contact clamping screw, nut and serrated washer
- Including pre-mounted pressure sump, steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

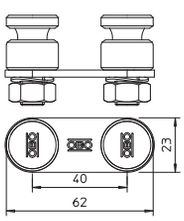


Connector, Rd 8–10 mm, double, with pressure trough

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5002 N-VA	Rd 8-10	N/50	10	16.200	**5304270**

V2A Stainless steel, grade 304

- With 2 Fix-Kontakt clamping bolts, nuts and serrated washers
- With pre-mounted pressure trough made of VA
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)



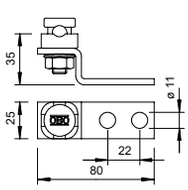
Connection and end piece with connector

Type	Material symbol	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5009	St	Rd 8-10	H/100	10	14.500	**5304970**

St Steel

F Hot-dip galvanised

- With 2 attaching holes Ø 11 mm
- Installed with connector (single-piece) type 5001 DIN-FT
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



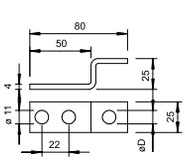
Connection and end piece

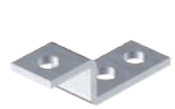
Type	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
5011	11	10	7.064	**5304997**

St Steel

FT Hot-dip galvanised

- For attaching to steel structures or bolting to fixed earthing terminals
- For attachments: Round conductor Rd 8-10 and flat conductor FL 30 x 3.5
- 2 attaching holes Ø 11 mm
- 1 attaching holes Ø D mm





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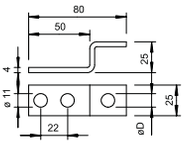
Connection and end piece

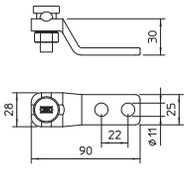


Type	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
5011 VA M10	11	10	7.064	**5334934**
5011 VA M12	13	10	7.048	**5334942**

V4A Stainless steel, grade 316 Ti

- For attaching to steel structures or bolting to fixed earthing terminals
- For attachments: Round conductor Rd 8-10 and flat conductor FL 30 x 3.5
- 2 attaching holes Ø 11 mm
- 1 attaching holes Ø D mm

Connection and end piece, DIN version



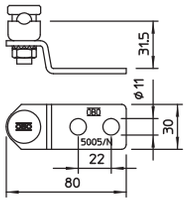
Type	Fit mm	Material symbol	Pack. pcs	Weight kg/100 pcs.	Item No.
5005 DIN-FT	Rd 8-10	St	10	15.518	**5304601**

St Steel

F Hot-dip galvanised

- With 2 attaching holes and 1 fix contact clamping screw 5000…
- With 2 attaching holes Ø 11 mm
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Connection and end piece with connector and pressure trough



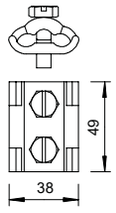
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
5005 N-FT	Rd 8-10	10	11.600	**5304660**

St Steel

FT Hot-dip galvanised

- With 2 attaching holes Ø 11 mm
- Including pre-mounted connector 5001 N
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Parallel connector Rd 8–10 mm, M8 x 25



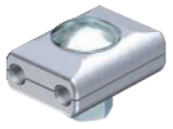
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
259 8-10	Rd 8-10	N/50	25	13.230	**5315506**

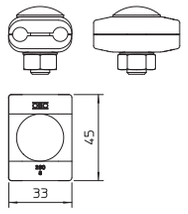
TG Cast iron

FT Hot-dip galvanised

- With 2 hex-head screws M8 x 25, hot-dip galvanised steel

Parallel connector Rd 8 mm, M10 x 30





Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
260 8	Rd 8	H/100	50	13.930	**5315700**

Zn Die-cast zinc

G Electrogalvanised

- With flat, round screw M10 x 30 and hexagonal nut, hot-dip galvanised steel

Always indicate the item number when ordering.

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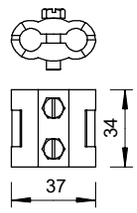
Parallel connector Rd 8–10 mm, M6 x 20

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
260 8-10 MS	Rd 8-10	50	15.820	**5315654**

CuZn Brass

Cu Copper-plated

- With 2 hexagonal bolts M6 x 20 from copper



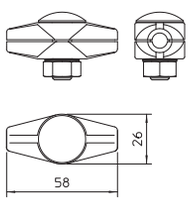
Straight connector Rd 8 mm

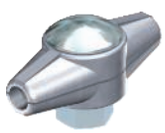
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
239	Rd 8	N/50	20	12.510	**5329078**

Zn Die-cast zinc

G Electrogalvanised

- With truss-head bolt M10 x 30 and hexagonal nut M10
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)





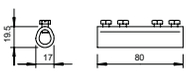
Straight connector Rd 8–10 mm

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
237 N FT	Rd 8-10	H/100	20	8.560	**5328209**

St Steel

F Hot-dip galvanised

- With 4 hexagonal bolts M6 x 10
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

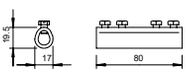


Straight connector Rd 8–10 mm

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
237 N CU	Rd 8-10	H/100	10	8.760	**5328284**

Cu Copper

- With 4 hexagonal bolts M6 x 10
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)



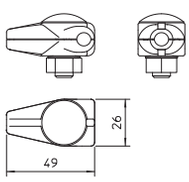
T connector Rd 8 mm

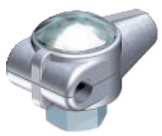
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
244	Rd 8	N/50	10	11.580	**5311039**

Zn Die-cast zinc

G Electrogalvanised

- With truss-head bolt M10 x 30 and hexagonal nut M10
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)





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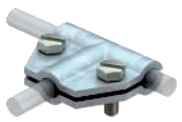
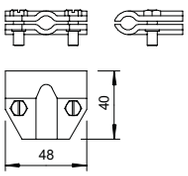
T connector Rd 8–10 mm





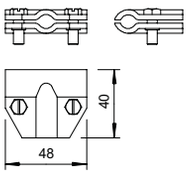
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
245 8-10 FT	Rd 8-10	N/50	10	9.401	**5311101**

St Steel

FT Hot-dip galvanised

- With 2 hexagonal bolts M6 x 16 (VA)
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

T connector Rd 8–10 mm

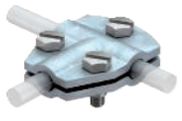


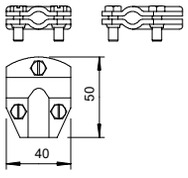
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
245 8-10 CU	Rd 8-10	N/50	10	11.560	**5311152**

Cu Copper

- With 2 hexagonal bolts M6 x 16 (VA)
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

T connector Rd 8-10 mm, triple-screwed





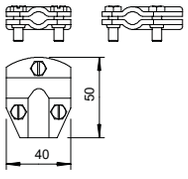
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
247 8-10 FT	Rd 8-10	N/50	10	10.934	**5311209**

St Steel

FT Hot-dip galvanised

- With 3 hexagonal bolts M6 x 16 (VA)

T connector Rd 8-10 mm, triple-screwed

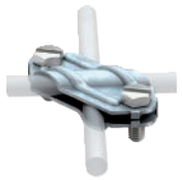


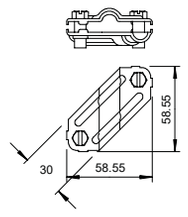
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
247 8-10 CU	Rd 8-10	N/50	10	10.750	**5311268**

Cu Copper

- With 3 hexagonal bolts M6 x 16 (VA)
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

Cross-connector for flat conductors and round conductors





Type	Fit mm	Short-circuit current (50 HZ) (1 s;≤300 °C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
250	Rd 8-10/FL30	5.6	N/50	25	10.260	**5312906**

St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10
- Fit: Rd 8-10 x FL 30
- Fit: FL 30 x FL 30
- Mounted with 2 hexagonal bolts M8 x 20 (F)

Always indicate the item number when ordering.

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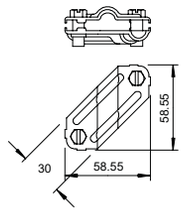
Cross-connector for flat conductors and round conductors

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
250 VA	Rd 8-10/FL30	H/100	25	10.260	**5312922**
250 V4A	Rd 8-10/FL30	H/100	10	10.260	**5312925**

V2A Stainless steel, grade 304 V4A Stainless steel, grade 316 Ti



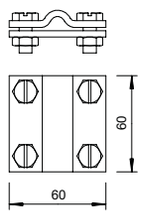
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10
- Fit: Rd 8-10 x FL 30
- Fit: FL 30 x FL 30
- Mounted with 2 hexagonal bolts M8 x 20

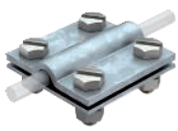
Cross-connector for round cables and flat conductors DIN

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10XFL30 FT	8-10 x FL30	H/100	25	28.500	**5312655**

St Steel

FT Hot-dip galvanised



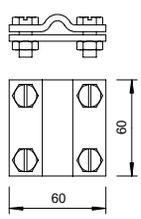


- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector for round cables and flat conductors

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10xFL30V4A	8-10 x FL30	H/100	10	28.500	**5312656**

V4A Stainless steel, grade 316 Ti



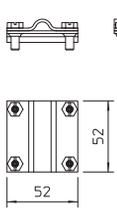
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector Rd 8–10 mm

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
251 8-10	Rd 8-10	H/100	25	11.690	**5312035**

St Steel

FT Hot-dip galvanised



- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- For round conductors, fit: Rd 8-10 x Rd 8-10
- With 4 hexagonal bolts M6 x 16 (VA)

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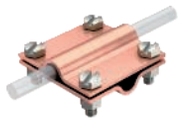
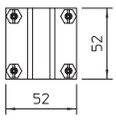
Cross-connector Rd 8–10 mm



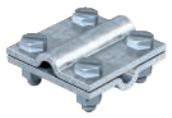


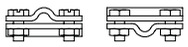
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
251 CU	Rd 8-10	H/100	10	12.400	**5312132**

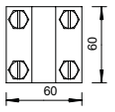
Cu Copper

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10
- With 4 hexagonal bolts M6 x 16, must of rust-proof steel (VA)

Cross-connector Rd 8–10 mm, wide version







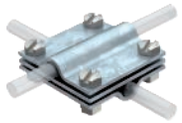
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
253 8X8	Rd 8-10	H/100	25	30.700	**5312604**

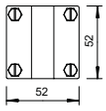
St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)

Cross-connector with intermediate plate for Rd 8–10 mm





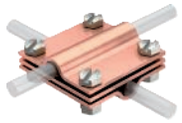
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
254 DIN 8-10 FT	Rd 8-10	H/100	25	16.660	**5314038**

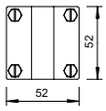
St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- For round conductors, fit: Rd 8-10 x Rd 8-10
- With adapter plate
- Mounted with 4 hexagonal bolts M6 x 20 and 4 hexagonal nuts M6

Cross-connector with intermediate plate for Rd 8–10 mm





Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
254 DIN 8-10 CU	Rd 8-10	H/100	10	17.410	**5314135**

Cu Copper

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10
- With adapter plate
- Mounted with 4 hexagonal bolts M6 x 20 and 4 hexagonal nuts M6 (F) made of rustproof steel (VA)

Always indicate the item number when ordering.

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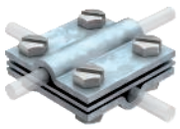
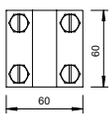
Cross-connector with intermediate plate for Rd 8–10 mm, wide version





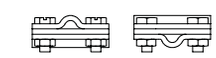
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10 FT	Rd 8-10	H/100	25	33.530	**5312310**

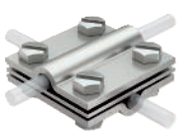
St Steel

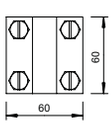
FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)

Cross-connector with intermediate plate for Rd 8–10 mm, wide version





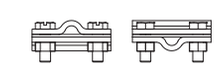


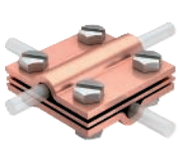
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10 V4A	Rd 8-10	H/100	10	33.530	**5312318**

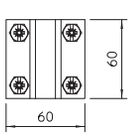
V4A Stainless steel, grade 316 Ti

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector with intermediate plate for Rd 8–10 mm, wide version





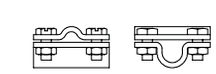


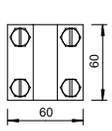
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10 CU	Rd 8-10	H/100	10	38.940	**5312418**

Cu Copper

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector for Rd 8–10 x Rd 16 mm





Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
253 10X16	Rd 8-10 x 16	H/100	25	29.800	**5312809**

St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 16 / FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)

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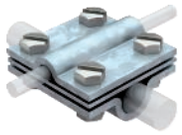
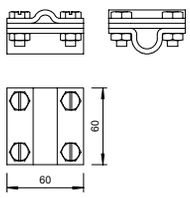
Cross-connector with intermediate plate for Rd 8–10 x Rd 16 mm





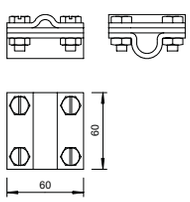
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10X16 FT	Rd 8-10 x 16	H/100	25	38.800	**5312345**

St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 16 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector with intermediate plate for Rd 8–10 x Rd 16 mm

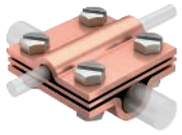


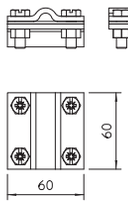
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10x16 V4A	Rd 8-10 x 16	H/100	10	39.000	**5312346**

V4A Stainless steel, grade 316 Ti

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 16 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector with intermediate plate for Rd 8–10 x Rd 16 mm



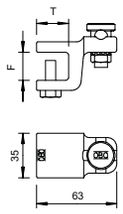


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 8-10X16 CU	Rd 8-10 x 16	H/100	10	43.985	**5312442**

Cu Copper

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 16 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Folding and construction clamp, 10–20 mm



Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5004 DIN-FT 12	Rd 8-10	max. 12	N/50	10	18.730	**5304407**
5004 DIN-FT 20	Rd 8-10	10 - 20	N/50	10	30.600	**5304504**

TG Cast iron

FT Hot-dip galvanised

- Flange thickness to 12 or 10–20 mm
- With pre-mounted Fix-Kontakt clamping screw 5000
- 2 hexagonal bolts M8 x 20, screws made of hot galvanised steel,
- Terminal block made of malleable iron, hot galvanised
- Mounting of the round conductors either vertical or transverse to structure
- Corresponds to the requirements of DIN VDE 0185-305-3

Always indicate the item number when ordering.

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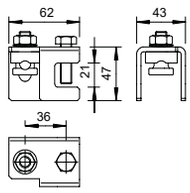
Construction clamp to 20 mm

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
5010 20 FT	Rd 8-10	4 - 20	N/50	10	30.600	**5304520**

St Steel

FT Hot-dip galvanised



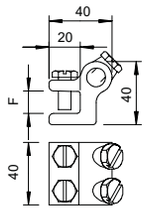
- Mounting of the round conductor possible vertically or transverse to construction
- For fastening to constructions up to a flange thickness of 20 mm
- Fastening to constructions using a hexagonal bolt M10
- Meets the requirements of VDE 0185-305 (IC 62305)

Connection terminal to 14 mm

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
272 8	Rd 8-10	max. 8	N/50	20	22.800	**5318084**
272 14	Rd 8-10	max. 14	N/50	20	25.230	**5318149**

TG Cast iron

FT Hot-dip galvanised



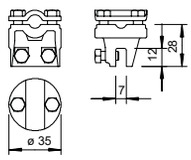
- Flange thickness to 8 and/or 14 mm
- With 4 hexagonal bolts M8
- Conforms to the requirements according to DIN V VDE V 0185-3, Section 4.5

Folding clamp up to 7 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
269 8-10	Rd 8-10	max. 7	N/50	20	14.460	**5317010**

Zn Die-cast zinc

G Electrogalvanised



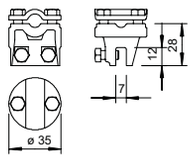
- Plate thickness to 7 mm
- For conductor arrangement transverse and parallel to plate with 4 hexagonal bolts M6 x 16
- Conforms to the requirements according to DIN VDE 0185-305 (IC 62305)

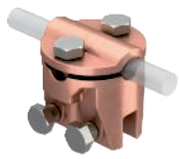
Folding clamp up to 7 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
269 MS	Rd 8-10	max. 7	H/100	10	14.480	**5317053**

Zn Die-cast zinc

Cu Copper-plated





- Plate thickness to 7 mm
- For conductor arrangement transverse and parallel to plate with 4 hexagonal bolts M6 x 16
- Conforms to the requirements according to DIN VDE 0185-305 (IC 62305)

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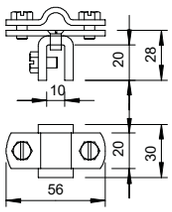
Always indicate the item number when ordering.

Folding clamp Rd 8-10 up to 10 mm plate thickness



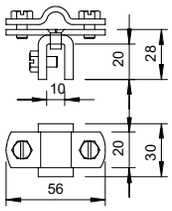
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
270 8-10 FT	Rd 8-10	max. 10	N/50	20	13.810	**5317207**

St Steel

FT Hot-dip galvanised

- Metal thickness to 10 mm
- For conductor routing transverse and in parallel to the plate
- Corresponds to the requirements to DIN V VDE V 0185-3 section 4.5

Folding clamp Rd 8-10 up to 10 mm plate thickness

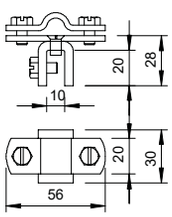


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
270 8-10 VA	Rd 8-10	max. 10	N/50	10	13.800	**5317208**

V2A Stainless steel, grade 304

- Metal thickness to 10 mm
- For conductor routing transverse and in parallel to the plate
- Corresponds to the requirements to DIN V VDE V 0185-3 section 4.5

Folding clamp Rd 8-10 up to 10 mm plate thickness

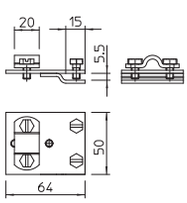


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
270 8-10 CU	Rd 8-10	max. 10	H/100	10	14.740	**5317258**

Cu Copper

- Metal thickness to 10 mm
- For conductor routing transverse and in parallel to the plate
- Corresponds to the requirements to DIN V VDE V 0185-3 section 4.5

Folding clamp up to 5 mm plate thickness



Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
271 8-10	Rd 8-10	max. 5	N/50	20	14.060	**5317401**

St Steel

FT Hot-dip galvanised

- Plate thickness to 5 mm
- For conductor routing transverse and longitudinal to plate
- With 4 hexagonal bolts M6 x 12
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)
- 271 Cu: with hexagonal bolts stainless steel (VA)

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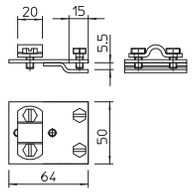
Always indicate the item number when ordering.

Folding clamp up to 5 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
271 8-10 VA	Rd 8-10	max. 5	N/50	10	15.000	**5317481**

V2A Stainless steel, grade 304

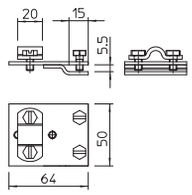


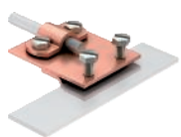
- Plate thickness to 5 mm
- For conductor routing transverse and longitudinal to plate
- With 4 hexagonal bolts M6 x 12
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)
- 271 Cu: with hexagonal bolts stainless steel (VA)

Folding clamp up to 5 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
271 CU	Rd 8-10	max. 5	N/50	10	15.230	**5317452**

Cu Copper





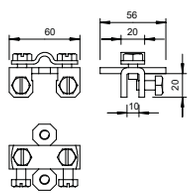
- Plate thickness to 5 mm
- For conductor routing transverse and longitudinal to plate
- With 4 hexagonal bolts M6 x 12
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)
- 271 Cu: with hexagonal bolts stainless steel (VA)

Folding clamp up to 10 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
273 8-10	Rd 8-10	max. 10	N/50	50	17.000	**5317223**

St Steel

FT Hot-dip galvanised

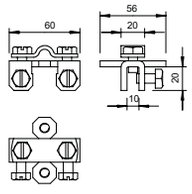


- Plate thickness to 10 mm
- Conductor routing transverse and longitudinal to plate with 2 hexagonal bolts M8 x 10 and 2 hexagonal bolts M8 x 16 (F)

Folding clamp up to 10 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
273 CU	Rd 8-10	max.10	N/50	10	18.500	**5317274**

Cu Copper



- Plate thickness to 10 mm
- Conductor routing transverse and longitudinal to plate with 2 hexagonal bolts M8 x 10 and 2 hexagonal bolts M8 x 16 (F)
- 273 Cu: with hexagonal bolts, stainless steel (VA)

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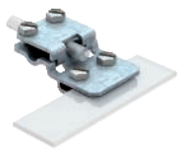
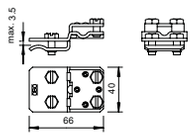
Always indicate the item number when ordering.

Folding clamp and connection terminal up to 10 mm plate thickness





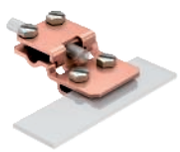
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
274 8-10	Rd 8-10	max. 10	N/50	20	10.400	**5317428**

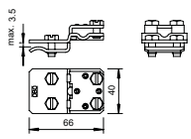
St Steel

FT Hot-dip galvanised

- Plate thickness to 10 mm
- For conductor routing transverse and longitudinal to plate
- 4 hexagonal bolts M6 x 16
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Folding clamp and connection terminal up to 10 mm plate thickness



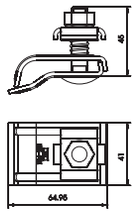


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
274 CU	Rd 8-10	max. 10	N/50	10	11.340	**5317479**

Cu Copper

- Plate thickness to 10 mm
- For conductor routing transverse and longitudinal to plate
- 4 hexagonal bolts M6 x 16
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Gutter clamp RK-FIX



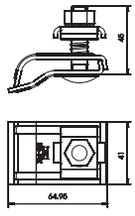
Type	Fit mm	Material symbol	Inter-face	Pack. pcs	Weight kg/100 pcs.	Item No.
RK-FIX	2 x Rd 8	St	FT	25	19.100	**5316450**

St Steel

FT Hot-dip galvanised

- For up to 2 conductors Rd 8
- With double crossbar
- Suitable for all bead thicknesses (15–25 mm)
- With 1 truss-head bolt M10 x 45
- Nut and bolt made of VA stainless steel
- With spring for prefixing for rain gutter

Gutter clamp RK-FIX



Type	Fit mm	Material symbol	Inter-face	Pack. pcs	Weight kg/100 pcs.	Item No.
RK-FIX VA	2 x Rd 8	V2A	–	10	19.100	**5316459**

V2A Stainless steel, grade 304

- For up to 2 conductors Rd 8
- With double crossbar
- Suitable for all bead thicknesses (15–25 mm)
- With 1 truss-head bolt M10 x 45
- Nut and bolt made of VA stainless steel
- With spring for prefixing for rain gutter
- Tested to DIN EN 50164-1

Always indicate the item number when ordering.

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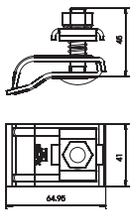
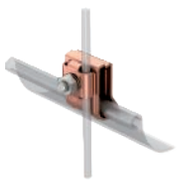
Gutter clamp RK-FIX

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
RK-FIX CU	2 x Rd 8	H/100	10	21.000	**5316468**

V2A Stainless steel, grade 304

Cu Copper-plated





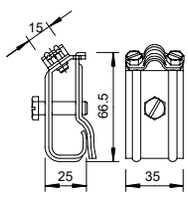
- For up to 2 conductors Rd 8
- With double crossbar
- Suitable for all bead thicknesses (15–25 mm)
- With 1 truss-head bolt M10 x 45
- Nut and bolt made of VA stainless steel
- With spring for prefixing for rain gutter
- Tested to DIN EN 50164-1

Gutter clamp for all bead thicknesses

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
267	Rd 8-10	25	13.950	**5316308**

St Steel

FT Hot-dip galvanised

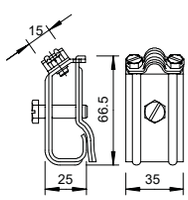


- Fits all bead thicknesses
- With 1 hexagonal bolt M8 x 30
- 2 hexagonal bolts M6 x 12

Gutter clamp for all bead thicknesses

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
267 VA	Rd 8-10	10	11.360	**5316324**

V2A Stainless steel, grade 304



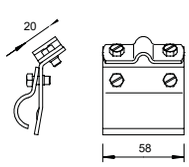
- Fits all bead thicknesses
- With 1 hexagonal bolt M8 x 30
- 2 hexagonal bolts M6 x 12
- VA version also for use as bimetal conductor (holder)

Gutter clamp for bead thickness 15–22 mm

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
262 A-DIN FT	Rd 8-10	25	19.610	**5316219**

St Steel

FT Hot-dip galvanised

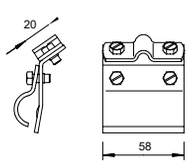


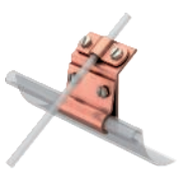
- Suitable for bulge thickness 15–22 mm
- With 4 hexagonal bolts M6 x 16 (VA)

Gutter clamp for bead thickness 15–22 mm

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
262 A-DIN CU	Rd 8-10	10	20.840	**5316251**

Cu Copper





- Suitable for bulge thickness 15–22 mm
- With 4 hexagonal bolts M6 x 16 (VA)

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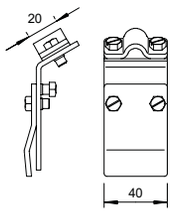
Roof gutter clamp for all bead thicknesses



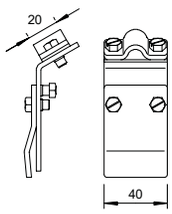
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
262	Rd 8-10	25	20.300	**5316014**

St Steel

FT Hot-dip galvanised

- With 4 hexagonal bolts M6 x 16
- Fits all bead thicknesses

Roof gutter clamp for all bead thicknesses

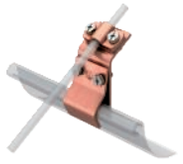


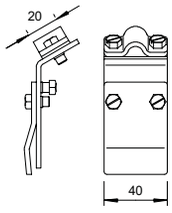
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
262 CU	Rd 8-10	10	20.940	**5316154**

Cu Copper

- With 4 hexagonal bolts M6 x 16
- Fits all bead thicknesses

Bi-metal roof gutter clamp for all bead thicknesses





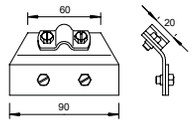
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
262 ZM	Rd 8-10	10	23.100	**5316170**

St Steel

FT Hot-dip galvanised

- Fits all bead thicknesses
- Bi-metal for attaching round conductors aluminium or steel to roof gutters without corrosion to different metals

Snow catching grate clamp



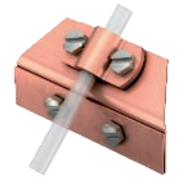
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
264	Rd 8-10	25	18.640	**5316510**

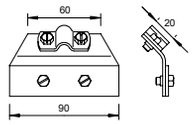
St Steel

F Hot-dip galvanised

- Plate thickness to 8 mm
- With 4 hexagonal bolts M6 x 16

Snow catching grate clamp



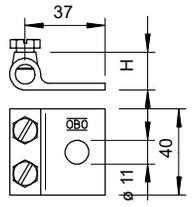


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
264 CU	Rd 8-10	10	21.140	**5316553**

Cu Copper

- Plate thickness to 8 mm
- With 4 hexagonal bolts M6 x 16

Clamping shoe



Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
319 8	Rd 8	25	7.800	**5325307**
319 10	Rd 10	25	9.650	**5325315**

TG Cast iron

F Hot-dip galvanised

- With Ø 11 mm attaching hole
- 2 hexagonal bolts M8 x 16
- Bolts hot-dip galvanised steel and clamping element hot dipped galvanised cast steel

Always indicate the item number when ordering.

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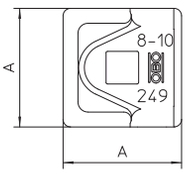
Connection terminal, equipotential bonding, Rd 8–10 mm

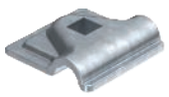
Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 ST-OT	Rd 8-10	40	100	3.240	**5311503**

St Steel

FT Hot-dip galvanised

- For round conductor fastening RD 8-10
- Suitable for M10 bolts



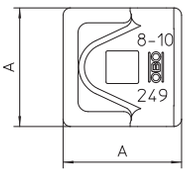


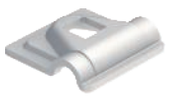
Connection terminal, equipotential bonding, Rd 8–10 mm

Type	Dimension A mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 ALU-OT	44	Rd 8-10	100	2.100	**5311585**

Alu Aluminium

- For round conductor fastening RD 8-10
- Suitable for M10 bolts



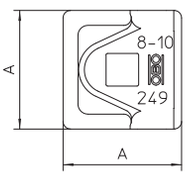


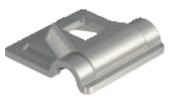
Connection terminal, equipotential bonding, Rd 8–10 mm

Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 VA-OT	Rd 8-10	40	100	3.130	**5311554**

V2A Stainless steel, grade 304

- For round conductor Rd 8-10
- Suitable for M10 bolts



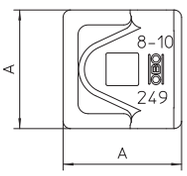


Connection terminal, equipotential bonding, Rd 8–10 mm

Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 CU-OT	Rd 8-10	40	100	3.580	**5311530**

Cu Copper

- For round conductor fastening RD 8-10
- Suitable for M10 bolts

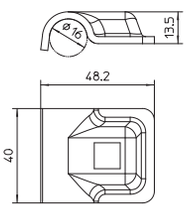


Connection terminal, equipotential bonding, Rd 16 mm

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 VA-OT	16	100	5.700	**5311573**

V2A Stainless steel, grade 304

- For round conductor fastening RD 16
- Suitable for M10 bolts



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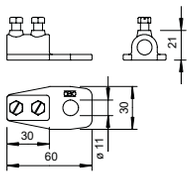
Always indicate the item number when ordering.

End piece



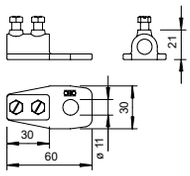
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
280 8-10	Rd 8-10	20	6.300	**5320011**

Zn Die-cast zinc

G Electrogalvanised

- With Ø 11 mm attaching hole
- 2 hexagonal bolts M6 x 12, bolts hot-dip galvanised steel or VA
- Clamping element from die-cast zinc or copper-plated die-cast zinc

End piece

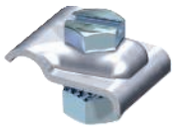


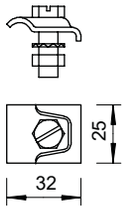
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
280 VK	Rd 8-10	20	9.000	**5320054**

Zn Die-cast zinc

- With Ø 11 mm attaching hole
- 2 hexagonal bolts M6 x 12, bolts hot-dip galvanised steel or VA
- Clamping element from die-cast zinc or copper-plated die-cast zinc

Universal clamping block Rd 8–10 mm





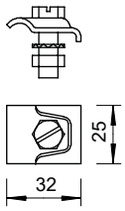
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
324 S-FT	Rd 8-10	20	3.400	**5326303**

St Steel

FT Hot-dip galvanised

- Including hexagonal bolt M8 x 25, washer and nuts

Universal clamping block Rd 8–10 mm

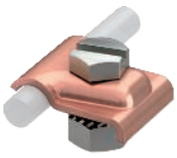


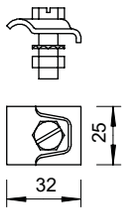
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
324 S-VA	Rd 8-10	10	3.400	**5326311**

V2A Stainless steel, grade 304

- Including hexagonal bolt M8 x 25, washer and nuts

Universal clamping block Rd 8–10 mm



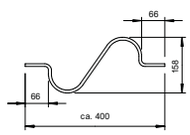


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
324 S-CU	Rd 8-10	10	3.660	**5326338**

Cu Copper

- Including hexagonal bolt M8 x 25, washer and nuts

Expansion piece



Type	Pack. pcs	Weight kg/100 pcs.	Item No.
172 AR	10	7.500	**5218926**

Alu Aluminium

- For equalising temperature-related length changes
- Necessary on conductor lengths over 20 m
- From round conductor Rd 8-Al

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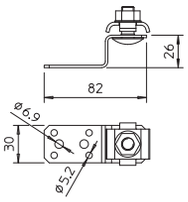
Always indicate the item number when ordering.

Connection component

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
287	20	1.600	**5320704**

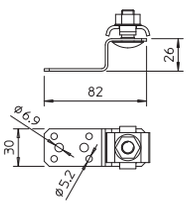


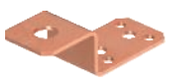
Alu Aluminium

- With 1 attaching hole Ø 11 mm
- 4 mounting holes Ø 5.2 mm
- 2 mounting holes Ø 6.9 mm

Connection component

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
287 CU	10	5.600	**5320690**



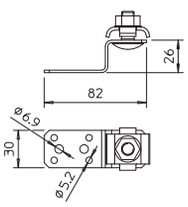


Cu Copper

- With 1 attaching hole Ø 11 mm
- 4 mounting holes Ø 5.2 mm
- 2 mounting holes Ø 6.9 mm

Connection component with double crossbar

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
287 DCT	Rd 8	N/50	10	6.450	**5320707**

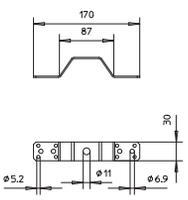


Alu Aluminium

- Conforming to VDE 0185-305 (IEC 62305) standards
- Quick mounting thanks to an M10x30 screw from rustproof stainless steel
- 4 mounting holes Ø 5.2 mm
- 2 mounting holes Ø 6.9 mm

Connection and bridging component

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
288 DIN	20	2.900	**5320712**

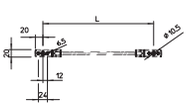


Alu Aluminium

- With 1 attaching hole Ø 11 mm
- With 2 x 4 mounting hole Ø 5.2 mm
- With 2 x 2 mounting hole Ø 6.9 mm

Bridging cable

Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
853 200	200	10	4.840	**5331008**
853 300	300	10	7.260	**5331013**
853 400	400	10	9.680	**5331017**



Cu Copper

- From flexible copper cable 16 mm²
- Coating: black, chlorinated India rubber mixture
- With 1 mounting hole Ø 10.5 mm per attachment side
- With 2 mounting holes Ø 7.3 mm per attachment side
- For applications outside or inside suitable

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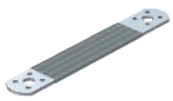
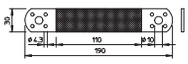
Always indicate the item number when ordering.

Connection and expansion strip



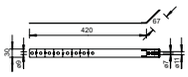


Type	Pack. pcs	Weight kg/100 pcs.	Item No.
856	10	8.125	**5331501**

Cu Copper

- Copper strip 35 mm², tin-plated
- Highly flexible with rigid ends
- Each end with 1 fastening hole Ø 10 mm and 4 fastening holes Ø 4.3 mm

Universal downspout clamp 60–130 mm



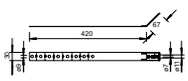
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
301 V	5	11.900	**5350867**

St Steel

FS Strip-galvanised

- Adjustable for pipes from 60-130 mm
- With 2x attaching holes Ø 7 mm
- With 1x attaching hole Ø 9 mm
- With 1x attaching hole Ø 11 mm
- Including hexagonal bolt M6 x 20 and nuts M6

Universal downspout clamp 60–130 mm

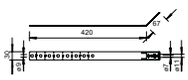


Type	Pack. pcs	Weight kg/100 pcs.	Item No.
301 V-VA	5	11.800	**5350905**

V2A Stainless steel, grade 304

- Adjustable for pipes from 60-130 mm
- With 2x attaching holes Ø 7 mm
- With 1x attaching hole Ø 9 mm
- With 1x attaching hole Ø 11 mm
- Including hexagonal bolt M6 x 20 and nuts M6

Universal downspout clamp 60–130 mm

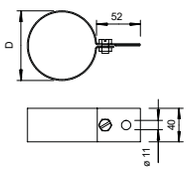


Type	Pack. pcs	Weight kg/100 pcs.	Item No.
301 V-CU	5	13.500	**5350883**

Cu Copper

- Adjustable for pipes from 60-130 mm
- With 2x attaching holes Ø 7 mm
- With 1x attaching hole Ø 9 mm
- With 1x attaching hole Ø 11 mm
- Including hexagonal bolt M6 x 20 and nuts M6

Downspout clamp



Type	For pipe mm	Pack. pcs	Weight kg/100 pcs.	Item No.
301 DIN-80	80	10	19.580	**5350085**
301 DIN-90	90	10	21.880	**5350093**
301 DIN-100	100	10	19.880	**5350107**
301 DIN-110	110	10	24.920	**5350115**
301 DIN-120	120	10	26.240	**5350123**

St Steel

FS Strip-galvanised

- To connect conductors and downspouts
- Similar to DIN 48818 C
- Strip galvanised (rd. 275 g/m² = 40 µm average value)
- With 1x hexagonal bolt M8 x 20
- With 1x hexagonal nut M8 and 1 stainless steel serrated washer
- With connection hole Ø 11 mm

Always indicate the item number when ordering.

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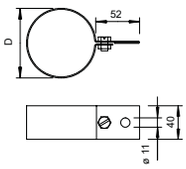
Downspout clamp

Type	For pipe mm	Pack. pcs	Weight kg/100 pcs.	Item No.
301 CU-80	80	10	22.500	**5350689**
301 CU-100	100	10	26.230	**5350700**
301 CU-110	110	10	30.400	**5350719**
301 CU-120	120	10	31.400	**5350727**



Cu Copper

- With 1x hexagonal bolt M8 x 20
- With 1x hexagonal nut M8 and 1 serrated disc made of rustproof steel
- With connection hole Ø 11 mm

Downspout clamp for routing Rd 8–10 mm behind pipe

Type	For pipe mm	Pack. pcs	Weight kg/100 pcs.	Item No.
301 S-100	100	10	5.200	**5351057**
301 S-120	120	10	5.950	**5351073**

St Steel

FS Strip-galvanised

- With beading
- For round conductor Rd 8-10
- Including hexagonal bolt M6 x 20 and nuts M6

Downspout clamp for routing Rd 8–10 mm behind pipe

Type	For pipe mm	Pack. pcs	Weight kg/100 pcs.	Item No.
301 S-AL-100	100	10	4.100	**5351359**
301 S-AL-120	120	10	4.600	**5351375**

Alu Aluminium

- With beading
- For round conductor Rd 8-10
- Including hexagonal bolt M6 x 20 and nuts M6

Downspout clamp for routing Rd 8–10 mm behind pipe

Type	For pipe mm	Pack. pcs	Weight kg/100 pcs.	Item No.
301 S-VA-100	100	10	5.200	**5351251**
301 S-VA-120	120	10	5.950	**5351286**

V2A Stainless steel, grade 304

- With beading
- For round conductor Rd 8-10
- Including hexagonal bolt M6 x 20 and nuts M6

Downspout clamp for routing Rd 8–10 mm behind pipe

Type	For pipe mm	Pack. pcs	Weight kg/100 pcs.	Item No.
301 S-CU-100	100	10	5.850	**5351456**
301 S-CU-120	120	10	6.700	**5351472**

Cu Copper

- With beading
- For round conductor Rd 8-10
- Including hexagonal bolt M6 x 20 and nuts M6

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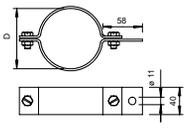
Always indicate the item number when ordering.

Pipe clamp



Type	For pipe mm	For pipe inch	Pack. pcs	Weight kg/100 pcs.	Item No.
303 DIN-3/8	17.2	3/8	5	22.600	**5102057**
303 DIN-1/2	21.3	1/2	5	23.280	**5102073**
303 DIN-3/4	26.9	3/4	5	25.640	**5102081**
303 DIN-1	33.7	1	5	28.300	**5102111**
303 DIN-1 1/4	42.4	11/4	5	31.300	**5102138**
303 DIN-1 1/2	48.3	11/2	5	33.220	**5102154**
303 DIN-2	60.3	2	5	36.840	**5102197**
303 DIN-2 1/2	76.1	21/2	10	39.400	**5102219**
303 DIN-3	88.9	3	10	43.300	**5102235**
303 DIN-3 1/2	100	31/2	10	64.900	**5102251**
303 DIN-4	114.3	4	10	66.800	**5102278**

St Steel

FT Hot-dip galvanised

- DIN 48818, Form D
- With Ø 11 mm mounting hole
- 2 hexagonal bolts M8 x 20 (4 inch = M10)
- 2 hex-head nuts M8 (4 inch = M10)

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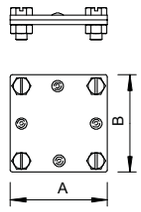
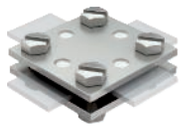
Always indicate the item number when ordering.

Cross-connector flat/flat ithout adapter plate A4





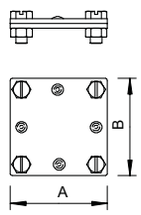
Type	Fit mm	Dimension A mm	Dimension B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
256 S6 V4A	max. FL30	60	60	H/100	3600	24.100	**5314574**

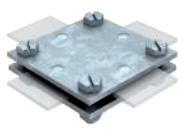
V4A Stainless steel, grade 316

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

- Fit: Max. FL 30 x FL 30
- Without adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector flat/flat ithout adapter plate FT





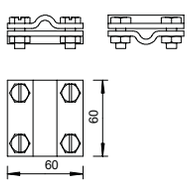
Type	Fit mm	Dimension A mm	Dimension B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
256 S6 FT	max. FL30	—	—	H/100	3600	24.100	**5314572**

St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Max. FL 30 x FL 30 or max. FL 40 x FL 40
- Without adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)

Cross-connector round/round without intermediate plate

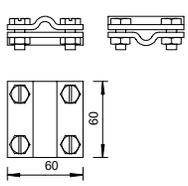


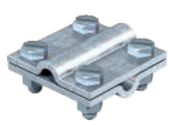
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
253 S3 V4A	Rd 8-10	H/100	3400	25.900	**5312594**

V4A Stainless steel, grade 316

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)

Cross-connector Rd 8–10 mm, wide version





Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
253 S3 FT	Rd 8-10	H/100	3400	23.300	**5312592**

St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)

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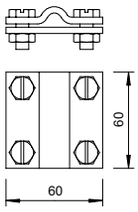
Always indicate the item number when ordering.

Cross-connector for round cables and flat conductors

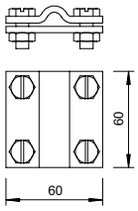


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 S4 V4A	8-10 x FL30	H/100	3600	25.000	**5312308**

V4A Stainless steel, grade 316

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector for round cables and flat conductors DIN



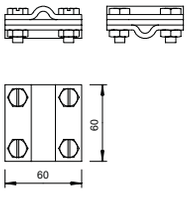
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 S4 FT	8-10 x FL30	H/100	3600	25.000	**5312302**

St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector with intermediate plate for Rd 8–10 mm, wide version

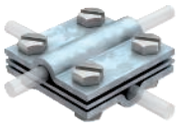


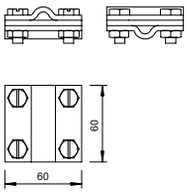
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 S1 V4A	Rd 8-10	H/100	2800	31.100	**5312294**

V4A Stainless steel, grade 316

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8

Cross-connector with intermediate plate for Rd 8–10 mm, wide version





Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
252 S1 FT	Rd 8-10	H/100	2800	28.600	**5312292**

St Steel

FT Hot-dip galvanised

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)

Always indicate the item number when ordering.

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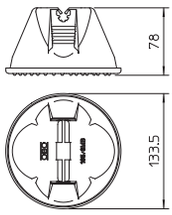
Roof conductor holder for flat roofs, black

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 MBL	Rd 8	100	7.679	**5218616**

PE Polyethylene

- Closed form with base
- With double conductor holder
- Filling weight 1 kg (frost-resistant concrete)
- Sleeve made of polyethylene, black, bottom polypropylene, black
- Base made of polyamide PA 6, black, UV-stabilised and weather-resistant
- Base can be used on almost roofing felt systems (bitumen, PVC)
- Types 165 MBG...FO: Packed in foil bag

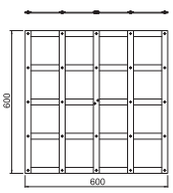


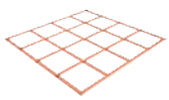
Earth mats

Type	Length mm	Width mm	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1816 CU 6	600	600	3	1	403.000	**5009250**
1816 CU 9	900	900	3	1	605.000	**5009256**

Cu Copper

- To reduce the step and contact voltage
- In accordance with IEC 62561-2 and IEC 62305-3



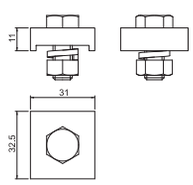


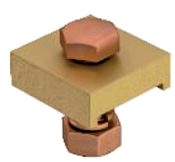
Connection terminal for round cable

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
1818 FL CU	FL 20 ÷ FL 26	–	10	10.000	**5012270**

Cu Copper

- For connecting round conductor Rd 8-10
- With 1 hexagonal bolt M12 x 40, 1 hexagonal nut M12 and 1 lock washer, stainless steel





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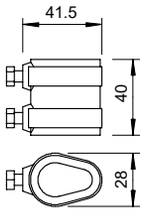
Always indicate the item number when ordering.

Separating piece, open



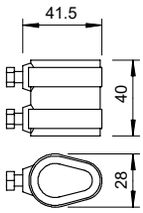
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
223 O DIN ZN	Rd 8-10/16	20	12.500	**5335140**

Zn Die-cast zinc

G Electrogalvanised

- With 2 hexagonal bolts, stainless steel (VA)
- Clamping element, die-cast zinc

Separating piece, open



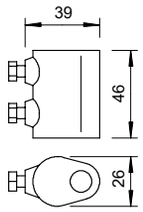
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
223 O DIN MS	Rd 8-10/16	20	14.900	**5335167**

Zn Die-cast zinc

Cu Copper-plated

- With 2 hexagonal bolts, stainless steel (VA)
- Clamping element, copper-plated die-cast zinc

Separating piece, closed



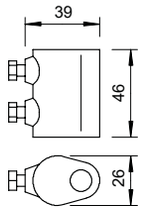
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
223 DIN ZN	Rd 8-10/16	20	10.500	**5335205**

Zn Die-cast zinc

G Electrogalvanised

- For fitting round conductors Rd 8-10 to ground insertion rods Rd 16
- Including 2 hexagonal bolts, high-grade stainless steel (V2A)
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Separating piece, closed



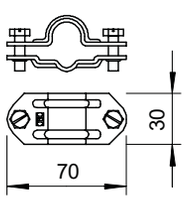
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
223 DIN MS	Rd 8-10/16	10	11.700	**5335256**

Zn Die-cast zinc

Cu Copper-plated

- For fitting round conductors Rd 8-10 to ground insertion rods Rd 16
- Including 2 hexagonal bolts, high-grade stainless steel (V2A)
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

Universal separating piece



Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
226 8-10	Rd 8-10/FL30 x 16	20	8.600	**5336007**

St Steel

FT Hot-dip galvanised

- For fitting round conductors Rd 8–10 to Rd 16 or flat conductors FL30
- Including 2 hexagonal bolts M8 x 20 high-grade stainless steel (V2A)
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)

Always indicate the item number when ordering.

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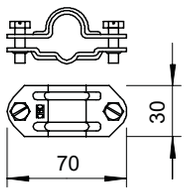
Universal separating piece

Type	Fit mm	Material upper part	Material lower part	Pack. pcs	Weight kg/100 pcs.	Item No.
226 VA	Rd 8-10/FL30 x 16			10	8.700	**5336058**

V2A Stainless steel, grade 304

- For fitting round conductors Rd 8–10 to Rd 16 or flat conductors FL30
- Including 2 hexagonal bolts M8 x 20 high-grade stainless steel (V2A)
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)

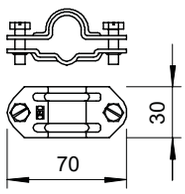


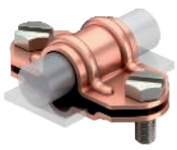
Universal separating piece

Type	Fit mm	Material upper part	Material lower part	Pack. pcs	Weight kg/100 pcs.	Item No.
226 CU	Rd 8-10/FL30 x 16			10	9.700	**5336023**

Cu Copper

- For fitting round conductors Rd 8–10 to Rd 16 or flat conductors FL30
- Including 2 hexagonal bolts M8 x 20 high-grade stainless steel (V2A)
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)



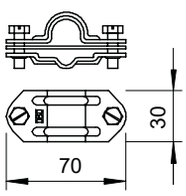


Universal bi-metal separating piece

Type	Fit mm	Material upper part	Material lower part	Pack. pcs	Weight kg/100 pcs.	Item No.
226 ZV VA	Rd 8-10/FL30 x 16	VA	Cu	10	11.000	**5336074**

Cu Copper

- Fit: Rd 8-10 x 16, FL 30 x Rd 16
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)
- Intermediate plate, aluminium/copper

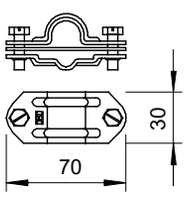


Universal bi-metal separating piece

Type	Fit mm	Material upper part	Material lower part	Pack. pcs	Weight kg/100 pcs.	Item No.
226 ZV CU	Rd 8-10/FL30 x 16	Cu	VA	10	11.900	**5336090**

V2A Stainless steel, grade 304

- Fit: Rd 8-10 x 16, FL 30 x Rd 16
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)
- Intermediate plate, aluminium/copper



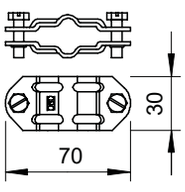
Separating piece for Rd 8–10 and FL 30 mm

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
233 8	Rd 8-10/FL30 x Rd 8-10/FL30	20	8.200	**5336309**

St Steel

FT Hot-dip galvanised

- To fit round conductors Rd 8-10 or flat conductors FL 30
- With 2 hexagonal bolts M8 x 20 made of rustproof steel (VA)
- Short-circuit current Ik (50 Hz), time 0.6 s, temp. max. 300 °C: 8.5 kA



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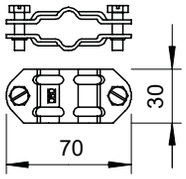
Always indicate the item number when ordering.

Separating piece for Rd 8–10 and FL 30 mm

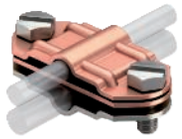


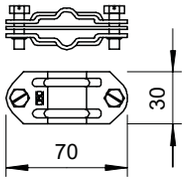
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
233 VA	Rd 8-10/FL30 x Rd 8-10/FL30	10	8.300	**5336341**

V2A Stainless steel, grade 304

- For fitting round conductors Rd 8-10 or flat conductors FL 30
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)

Bi-metal separating piece for Rd 8–10 and FL 30 mm



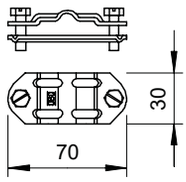


Type	Fit mm	Material upper part	Material lower part	Pack. pcs	Weight kg/100 pcs.	Item No.
233 ZV	Rd 8-10/FL30 x Rd 8-10/FL30	Cu	VA	10	10.100	**5336376**

V2A Stainless steel, grade 304

- For fitting round conductors Rd 8-10 to flat conductors FL 30
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)
- Intermediate plate aluminium/copper, top section copper, bottom section stainless steel

Separating piece for Rd 8–10 and FL 30–40 mm

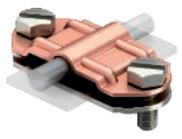


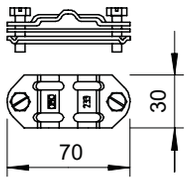
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
233 A VA	8-10xFL30-40	10	8.300	**5336457**

V2A Stainless steel, grade 304

- Fit: Rd 8-10 x FL 30-40
- With 2 hexagonal bolts M8 x 20 (VA)

Bi-metal separating piece for Rd 8–10 and FL 30–40 mm



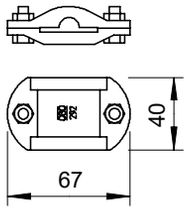


Type	Fit mm	Material upper part	Material lower part	Pack. pcs	Weight kg/100 pcs.	Item No.
233 A ZV	Rd 8-10 x FL30-40	Cu	VA	10	10.400	**5336503**

Cu Copper

- Fit: Rd 8-10 x FL 30-40, FL 30 x FL 30-40
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)
- Intermediate plate, aluminium/copper
- Top section copper, bottom section stainless steel

Malleable iron separating piece



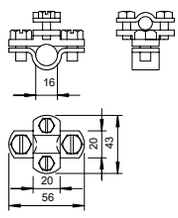
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
292 DIN	Rd 8-10 x FL30	10	19.259	**5340012**

TG Cast iron

F Hot-dip galvanised

- For round conductor/flat conductor
- Fit: Rd 8-10 x FL 30
- With 2 hexagonal bolts M8 x 25 and 2 hexagonal nuts M8, stainless steel (VA)
- Clamping parts, hot-dip galvanised cast iron

Rod clamp



Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
108 B DIN	Rd 8-10/16	10	13.970	**5416566**

St Steel

FT Hot-dip galvanised

- Rod clamp for connecting round conductors Rd 8–10 to connector rods Rd 16
- Mounted with 2 hexagonal bolts M8 x 16 and M6 x 12
- Adapter from malleable iron
- Crossbar and bolts from hot dip galvanized steel

Always indicate the item number when ordering.

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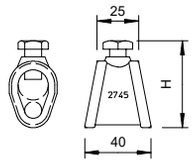
Connection clamp for earth rod or cables

Type	For earth rods Ø mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2745 20 MS	20	7-12,5/S95 mm²	5	16.000	**5001560**

CuZn Brass

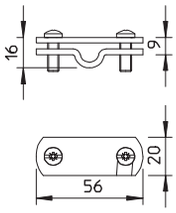
Cu Copper-plated



- For earth rod connectors Ø 20 or conductors 95 mm²
- For round conductor attachments Rd 7-12.5 with hexagonal bolts M10 x 25, copper (Cu)

Number plates

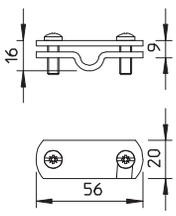
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
311 N-ALU 8-10	RD 8 - 10 / FL30	5	2.500	**3049256**
311 N-ALU 16	RD 16 - FL30	5	2.800	**3049345**



- To identify the point of separation to DIN 48821
- Suitable for universal labelling (e.g. stamped numbers)

Number plates

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
311 N-VA 8-10	RD 8 - 10 / FL30	5	5.600	**3049221**
311 N-VA 16	RD 16 - FL30	5	6.400	**3049329**

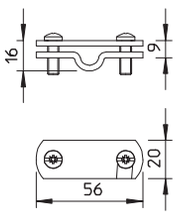


- To identify the point of separation to DIN 48821
- Suitable for universal labelling (e.g. stamped numbers)

Number plates

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
311 N-CU 8-10	RD 8 -10 / FL30	5	6.400	**3049205**

Cu Copper



- To identify the point of separation to DIN 48821
- Suitable for universal labelling (e.g. stamped numbers)

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Always indicate the item number when ordering.

Air-termination/earth entry rod, rounded-off on both ends

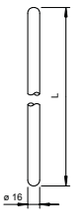
Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 A-1500	1500	16	10	240.000	**5400155**

St Steel

FT Hot-dip galvanised

- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system

Air-termination/earth entry rod, rounded-off on both ends



Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
200 V4A-1500	1500	16	10	242.000	**5420504**
200 V4A-2000	2000	16	10	320.000	**5420539**

V4A Stainless steel, grade 316 Ti

- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system

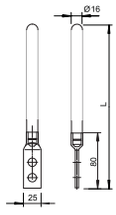
Air-termination/earth entry rod, rounded-off on both ends

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 A-CU	1500	16	10	272.100	**5400627**

Cu Copper

- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system

Air-termination/earth entry rod with connection tabs



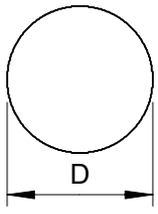
Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 F1500	1500	16	10	240.000	**5424151**
101 F2000	2000	16	10	320.000	**5424208**

St Steel

FT Hot-dip galvanised

- With 2 attaching holes Ø 12 mm
- One end rounded

Connection lug/earth entry rod made of stainless steel



Type	Nominal size Ø mm	Cross–section mm²	Pack. pcs	Weight kg/100 pcs.	Item No.
AF RD 10 V4A	10	75	5	123.600	**5430720**

V4A Stainless steel, 316Ti / 316L

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)
- RD 10-V4A for applications in the earth
- According to the foundation earther standard DIN 18014, V4A is required in the earth

Always indicate the item number when ordering.

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Earth entry rod, tapered and partially insulated

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
204 KS-2000	2000	16/10	1	230.000	**5430011**
204 KS-2500	2500	16/10	1	310.000	**5430062**

St Steel

F Hot-dip galvanised

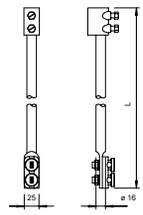
- 16 mm earth entry with 10 mm connection
- With mounted heat-shrinkable sleeve (corrosion protection)

Earth entry rod with separating piece and connector

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
204 KL-1500	Rd 8-10	10	260.700	**5430151**

St Steel

- With separating piece type 223 DIN and connector type 5002 DIN



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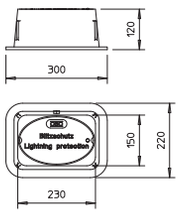
Always indicate the item number when ordering.

Underfloor test box

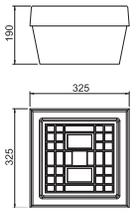


Type	Pack. pcs	Weight kg/100 pcs.	Item No.
5700	1	720.000	**5106002**

EN-GJL Cast iron

- Without base
- Cast iron, painted black
- Without cut-off unit
- To VDE 0185-561-5 (IEC 62561-5) suitable for heavy loads (up to 40 kN/ 4.0 t)

Underfloor test box

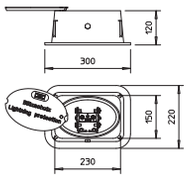


Type	Pack. pcs	Weight kg/100 pcs.	Item No.
5700 CIP	1	3,000.000	**5106041**

BET Concrete

- Made of concrete
- Without separating piece
- According to VDE 0185-561-5 (IEC 62561-5)

Inspection pit with integrated separation piece

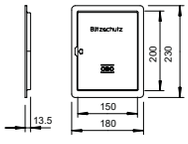


Type	Pack. pcs	Weight kg/100 pcs.	Item No.
5700 SP	1	770.000	**5106003**

EN-GJL Cast iron

- Without base
- Cast iron, painted black
- With built-in cut-off unit for round conductors Rd 8-10 and flat conductors to FL 40
- To VDE 0185-561-5 (IEC 62561-5) suitable for heavy loads (up to 40 kN/ 4.0 t)

Inspection door



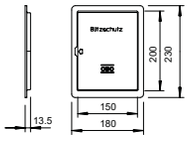
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
5800 VZ	1	46.000	**5106133**

St Steel

FS Strip-galvanised

- Lightweight design for flush-mounted separation points
- Claw length approx. 80 mm

Inspection door



Type	Pack. pcs	Weight kg/100 pcs.	Item No.
5800 VA	1	46.000	**5106141**

V2A Stainless steel, grade 304

- Lightweight design for flush-mounted separation points
- Claw length approx. 80 mm

Always indicate the item number when ordering.

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Magnetic card PCS

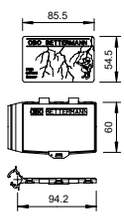
Type	Pack. PU	Weight kg/100 PUs	Item No.
PCS	1	5.000	**5091438**

Peak Current Sensor (PCS) card for recording pulsed/lightning currents. A continuous check of whether lightning has struck the lightning protection system and how high the most recent lightning current was in kA can thus be carried out in the simplest manner by the system operator, specialist lightning protection company or by a surveyor. Here, the printed maintenance circuit and the labelling panels support the maintenance work of the entire lightning protection system which must be performed at defined intervals according to VDE 0185-305-3 (IEC/EN 62305-3).

· Contents = 10 units
· Digital evaluation via the PCS card reading device
· Can be used in addition to the OBO lightning current meter LSC I+II
· With separate labelling panels: "Erected by", "Tested by", "Card code"
· Integrated maintenance circuit (year/month)

Magnetic card and holder MK-B

Type	Pack. PU	Weight kg/100 PUs	Item No.
MK-B	1	31.000	**5091322**

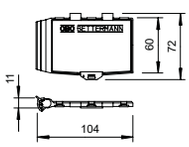


PCS magnetic card to record pulse/lightning currents including holder

• Holder can be leaded
• For mounting on round conductor Rd 8-10
• Simple holder mounting through clamping
• 1 PU = 10 units

Magnetic card holder PCS-H

Type	Pack. PU	Weight kg/100 PUs	Item No.
PCS-H	1	31.000	**5091527**

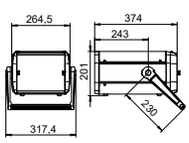


Magnetic card holder for mounting PCS cards.

• Sealable holder
• For installing on round conductor Rd 8-10
• Simple holder installation by means of clamp
• 1 PU = 10 pieces

Card reader PCS-CS..

Type	Country version	Nom. voltage V	Measuring range	Measuring tolerances	Pack. pcs	Weight kg/100 pcs.	Item No.
PCS-CS-D	EN	230	3 - - 120 kA	< 2 kA (< 2%)	1	750.000	**5091683**
PCS-CS-GB	GB	230	3 - - 120 kA	< 2 kA (< 2%)	1	750.000	**5091691**



Magnetic card reader for reading and analysing PCS cards.

• Inc. rechargeable battery for 4 h continuous, no-mains operation
• Large, clear display

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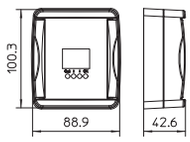
Always indicate the item number when ordering.

Lightning strike counter



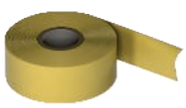
Type	Measuring range	Pack. pcs	Weight kg/100 pcs.	Item No.
LSC I+II	1 kA - 100 kA	1	32.500	**5091722**

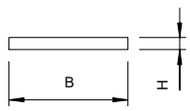
Plastic

The LSC I+II lightning current meter measures and permanently saves pulse currents, together with the date and time. This ensures constant monitoring in order to notice if any lightning has struck the lightning protection system. Should this be the case, then the lightning protection system must be maintained according to VDE 0185-305 (IEC 62305).

- Saving and display of time and date
- Usable both inside and outside due to its protection class of IP65
- Cable clip for round conductor or flat conductor
- Direct mounting on the conductor or the PE conductor of the surge protection device
- Long lifespan of the internal lithium batteries
- LCD display
- Internal battery
- Tested according to VDE 0185-561-6 (IEC 62561-6)

Plastic corrosion protection strip





Type	Width mm	Length m	Pack. pcs	Weight kg/100 pcs.	Item No.
356 50	50	10	1	71.500	**2360055**
356 100	100	10	1	122.200	**2360101**

PETRO Petrolatum

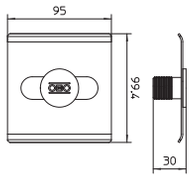
- Approx. 1.1 mm thick
- Width: 50 mm or 100 mm, made of petrolatum-coated chemical fibre fabric
- Can be processed cold

Zinc repairs

Type	Dimension	Pack. pcs	Weight kg/100 pcs.	Item No.
ZSF	400ml	1	45.000	**2362970**

Zinc spray for treatment of unprotected surfaces and cutting edges. Can contents: 400 ml.

TrayFix mounting adapter for mesh cable trays on FangFix system



Type	Dimension	Pack. pcs	Weight kg/100 pcs.	Item No.
TrayFix	ø20mm	25	9.850	**5403100**

- Mounting system for the fastening of mesh cable trays and cable trays on FangFix stone e.g. cable routing on a flat roof.
- Adapted to OBO cable tray systems MKSM, SKSM and IKSM
- Adapted to OBO mesh cable tray systems with a minimum width of 100 mm

Always indicate the item number when ordering.

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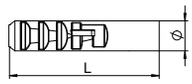
Angler spreading anchor

Type	Dowel Ø mm	Dimension L mm	Bore hole depth mm	Bore hole Ø mm	Wood screws Ø mm	Pull-out value N	Pack. pcs	Weight kg/100 pcs.	Item No.
910 N 5x25 GRW	5	25	30	5	2,5-4	2100	100	0.051	**2349043**
910 N 6x30 GRW	6	30	35	6	3,5-5	3300	100	0.052	**2349051**
910 N 6x60 GRW	6	60	65	6	3,5-5	3300	100	0.079	**2349078**
910 N 8x40 GRW	8	40	45	8	4,5-6	4500	100	0.140	**2349086**
910 N 10x50 GRW	10	50	55	10	6-8	9400	50	0.306	**2349108**
910 N 12x60 GRW	12	60	65	12	8-10	11600	25	0.459	**2349124**

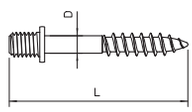


PA Polyamide

Required minimum bolt length = anchor length + component thickness + 1 x bolt Ø.
Withdrawal force applies to wood screws of the largest bolt diameter in concrete of class B25.
Our safety value recommendation: 5x

Screw-in anchor with M6 thread

Type	Shank-Ø mm	Wood thread outer-Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
985 M6 25	4.3	5	3000	100	0.412	**3133028**
985 M6 35	4.3	5	2000	100	0.533	**3133036**



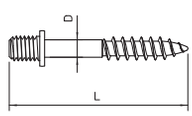
St Steel

G Electrogalvanised

With wood screw shank and M6 thread.

Screw-in anchor with M8 thread

Type	Wood thread outer-Ø mm	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
985 M8 35	6	1200	100	1.288	**3133230**



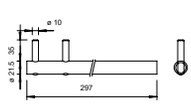
St Steel

G Electrogalvanised

With wood screw shank and M8 thread.

Directional irons

Type	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
364	297	1	35.000	**3051013**



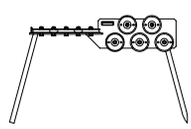
St Steel

FT Hot-dip galvanised

• Directional iron for bending and aligning conductors

Wire straightening machine

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
5900	1	3,300.000	**3059006**



St Steel

• Factory-set for round conductor Rd 8
• Structure, steel, painted
• Straightening rolls, galvanised cast iron

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Always indicate the item number when ordering.

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Insulated lightning protection

Insulated lightning protection 579

OBO isCon® system 587

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Insulated lightning protection

Set

Type	Item no.	Page
101 3-ES-16	5408976	579
101 VS-16	5408978	579
101 FS-16	5408980	579
101 VRS-16	5408982	579

Connector

Type	Item no.	Page
101 IT	5408156	580
101 IK	5408296	580
101 IDK	5408245	580
101 IW-M10	5408687	580
101 IES	5408393	581
101 A-M16	5408350	581
101 IAG	5408504	581
101 IGL-16	5408630	581
101 IV-16	5408557	582

Concrete blocks

Type	Item no.	Page
101 B2-16 M16	5402958	507
101 ST	5402891	507
F-FIX-S16	5403227	504
F-FIX-B16	5403235	505
F-FIX-S10	5403117	505

Fastening

Type	Item no.	Page
101 BP-16	5408984	583
101 WG-16	5408986	583
101 BB-16	5408988	583
101 HV-16	5408990	583
101 F-16	5408992	583
101 R-16	5408994	583

isCon® air-termination rod systems

Mast, without outlet

Length	Item no.	Page
4.0 m	5408934	514
6.0 m	5408936	514
8,0	5408868	514
10.0 m	5408870	514

Support system for mast without outlet

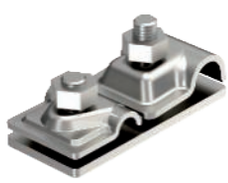
Mounting location	Item no.	Page
Wall	5408952	514
Wall	5408950	514
Wall	5408954	515
Wall	5408910	515
Pipe	5408956	515
Pipe	5408955	515
Pipe	5408957	515
Pipe	5408959	515
Pipe	5408958	515
Pipe	5408960	515
Corner pipe	5408964	516
Corner pipe	5408964	516

Stand, with outlet

Spr.	Item no.	Page
1.0 m	5408930	512
1.5 m	5408932	512
2.5 m	5408902	512

Mast

Length	Item no.	Page
4.0 m	5408943	511
6.0 m	5408947	511
4.0 m	5408942	511
6.0 m	5408946	511



Stand

Spr.	Item no.	Page
1.0 m	5408966	511
1.5 m	5408967	511
1.0 m	5408968	511
1.5 m	5408969	511

Connection plates

-pole	Item no.	Page
2	5408026	596
3	5408028	596

Accessories

	Item no.	Page
Tool	5408013	588
Cable tie	2381924	
Spacer	5408043	592
Concrete block	5403227	504
Threaded rod	5408971	513
Threaded rod	5408972	513
Threaded rod	5408973	513
Threaded rod	5408905	513
Basic	5403238	513

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Always indicate the item number when ordering.

isCon® lightning protection

Professional Plus

Ring size	Item no.	Page
25 m	5408002	587
100 m	5408004	587
250 m	5408006	587

Professional Plus light grey

Ring size	Item no.	Page
25 m	5407995	587
100 m	5407997	587

Premium

Ring size	Item no.	Page
100 m	5408018	587

Professional

Ring size	Item no.	Page
100 m	5408008	588

Basic

Ring size	Item no.	Page
100 m	5408014	588

Connection elements

	Item no.	Page
Rd 10	5408022	588
M 16	5408024	590

Potential connection

	Item no.	Page
Clip	5408036	589
Holder	5408056	590
Holder	5408064	590
Clip	5057599	596

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Always indicate the item number when ordering.

The plus of insulated lightning protection

+ Variable combination of components
+ Multifunctional
+ For conductors and insulation rods
+ For maintenance of the separation distance to VDE 0185-305 (IEC 62305)

Insulated lightning protection Components and sets

Isolated lightning protection systems allow standard-compliant lightning protection according to IEC 62305. The separation distance to electronic systems required by the standard can be maintained by the different versions of the insulated lightning protection. The individual components and systems allow the creation of different solutions, according to requirements.

The insulated lightning protection system consists of GFK rods with a diameter of 16 or 20 mm:

- There is a comprehensive range of system accessories available for both variants.
- Two material thicknesses
- Can be obtained as a set for different applications

Always indicate the item number when ordering.

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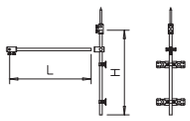
Insulated lightning protection set, 3-corner fastening

Type	Dimension D Ø mm	Dimension L mm	Dimension H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 3-ES-16	16	750	1500	1	207.100	**5408976**

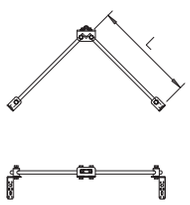


3-corner fastening for an insulated air-termination unit at the separating distance s.

- Mounting on walls and roof structures with two fastening plates
- For maintenance of the separation distance to electrically conductive parts according to VDE 0185-305-3 (IEC 62305-3)
- Acceptance of air-termination rods and round conductors with 8, 16 and 20 mm diameter
- UV-stabilised and weatherproof
- Continuous temperature range -50 °C to +100 °C
- Material factor km = 0.7

Insulated lightning protection set, V fastening

Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 VS-16	16	750	1	201.800	**5408978**

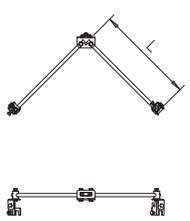


V fastening for an insulated air-termination unit at the separating distance s.

- Mounting on walls and roof structures with two wall connection brackets
- For maintenance of the separation distance to electrically conductive parts according to VDE 0185-305-3 (IEC 62305-3)
- Acceptance of air-termination rods and round conductors with 8, 16 and 20 mm diameter
- UV-stabilised and weatherproof
- Continuous temperature range -50 °C to +100 °C
- Material factor km = 0.7

Insulated lightning protection set, IR fastening

Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 FS-16	16	750	1	235.500	**5408980**

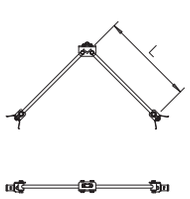


Fold fastening for an insulated air-termination unit at the separating distance s.

- Mounting on folds with a thickness of up to 20 mm
- For maintenance of the separation distance to electrically conductive parts according to VDE 0185-305-3 (IEC 62305-3)
- Acceptance of air-termination rods and round conductors with 8, 16 and 20 mm diameter
- UV-stabilised and weatherproof
- Continuous temperature range -50 °C to +100 °C
- Material factor km = 0.7

Insulated lightning protection set, VRS fastening

Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 VRS-16	16	750	1	209.400	**5408982**



Pipe V fastening for an insulated air-termination unit at the separating distance s.

- Mounting on pipes with two pipe clips
- Including 2 m tightening strip and tension jack
- For maintenance of the separation distance to electrically conductive parts according to VDE 0185-305-3 (IEC 62305-3)
- Acceptance of air-termination rods and round conductors with 8, 16 and 20 mm diameter
- UV-stabilised and weatherproof
- Continuous temperature range -50 °C to +100 °C
- Material factor km = 0.7

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Always indicate the item number when ordering.

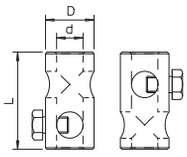
Insulating rod

Type	Nominal size Ø mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 20-3000	20	3000	5	190.000	**5408105**
101 20-6000	20	6000	5	380.000	**5408148**
101 16-750	16	750	5	30.000	**5408107**
101 16-1500	16	1500	5	60.000	**5408108**
101 16-3000	16	3000	5	120.000	**5408109**

GFK Fibre-glass-reinforced plastic

- For the erection of insulated air-termination systems to VDE 0185-305 (IEC 62305)
- UV-stabilised and weatherproof
- Continuous temperature range -50 °C to +100 °C
- Material factor km = 0.7

T connector

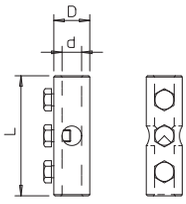


Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 IT	20	65	40	10	20.000	**5408156**
101 IT-16	16	60	30	10	11.475	**5408158**

Alu Aluminium

- T connector for installation of insulating rods
- With M10 bolts

K connector

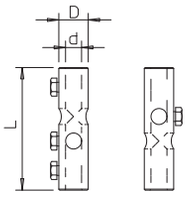


Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 IK	20	100	40	10	20.000	**5408296**
101 IK-16	16	100	30	10	17.500	**5408298**

Alu Aluminium

- K connector for installation of insulating rods
- With M10 bolts

DK connector

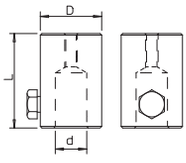


Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 IDK	20	125	40	10	40.000	**5408245**

Alu Aluminium

- DK connector link for installing insulating rods
- With M10 bolts

Wall connection



Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 IW-M10	20	60	40	10	20.000	**5408687**
101 W-16	16	60	30	10	14.200	**5408689**

Alu Aluminium

- For mounting insulating rods to structures or walls
- With M8 internal thread, e.g. for mounting the cable bracket type 177 (5207347) for loose conductor routing of round conductors
- Incl. M10 bolts

Always indicate the item number when ordering.

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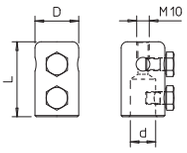
End piece

Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 IES	20	60	35	10	20.000	**5408393**
101 IES-16	16	60	30	10	10.000	**5408395**

Alu Aluminium

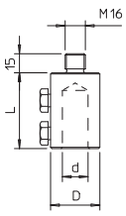


- End piece for attaching round conductors Rd 8-10 and air-termination tips, type 101 ISP
- With M10 internal thread, e.g. for mounting a Vario quick connector for fixed conductor routing at intersections
- With M10 bolts

Connection piece

Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 A-M16	20	60	40	10	20.000	**5408350**
101 A-16	16	60	30	10	13.000	**5408352**

Alu Aluminium

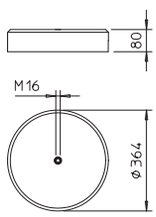


- Fitting with M16 thread
- For mounting on stands with M16 female thread such as type 101 (5402891,5402958)
- With M10 bolts

Stand 16 kg with female thread

Type	Nominal size Ø mm	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
101 B2-16 M16	364	M16	1	1,600.000	**5402958**

BET Concrete

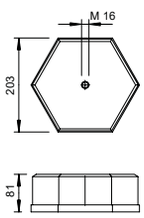


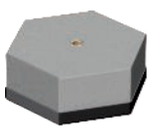
- Weight 16 kg
- Frost-resistant concrete
- Female thread M16
- Recommended air-termination rod length max. 3.0 m, depending on wind load zone

Stand 6.9 kg with female thread

Type	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
101 ST	M16	4	690.000	**5402891**

BET Concrete



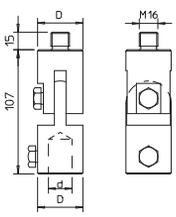


- Weight 6.9 kg
- Frost-resistant concrete
- Female thread M16
- Recommended air-termination rod length max. 1.0 m

Connection joint

Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 IAG	20	107	40	10	40.000	**5408504**

Alu Aluminium



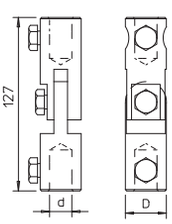
- Attaching link for installation on concrete stones
- With thread M16 on slanting roof surfaces
- With M10 bolts

Articulated connector

Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 IGL-16	16	127	30	10	32.000	**5408630**

Alu Aluminium

Link for installation of insulation pipes, including M10 screws.



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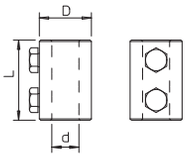
Always indicate the item number when ordering.

Extension

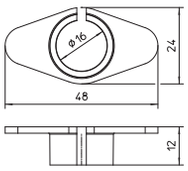


Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 IV-16	16	60	30	10	16.000	**5408557**

Alu Aluminium

- Extension of insulating rods
- With M10 bolts

FangFix reducing sleeve

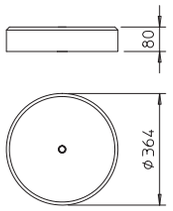


Type	Colour	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 RH-16	Black	16	25	0.182	**5408101**

PA Polyamide

Reduces the drill hole of the FangFix block from Ø 20 mm to Ø 16 mm. Suitable for the installation of GFK insulating rods of Ø 16 mm.

Concrete block for FangFix-System 16 kg

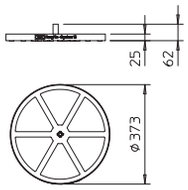


Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-S16	365	1	1,700.000	**5403227**

BET Concrete

- 16 kg stone of Ø 365 mm, high level of stability
- Frost-resistant concrete
- Stackable

Base for FangFix system 16 kg

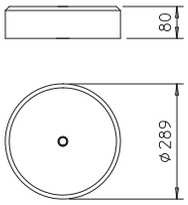


Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-B16	373	10	16.400	**5403235**

PP Polypropylene

Edge protection with integrated dowel (basic) suitable for FangFix system.

Concrete block for FangFix system 10 kg

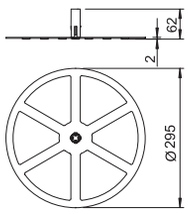


Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-S10	289	1	1,000.000	**5403117**

BET Concrete

- 10 kg stone of Ø 289 mm, high level of stability
- Frost-resistant concrete
- Stackable

Base for FangFix system 10 kg



Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-B10	295	10	7.600	**5403124**

PP Polypropylene

Edge protection with integrated dowel (basic) suitable for FangFix 10 system.

Always indicate the item number when ordering.

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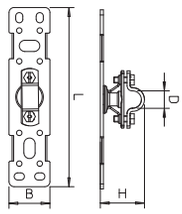
Fastening plate

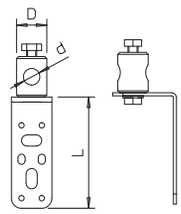
Type	Length mm	Dimension B mm	Dimension H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 BP-16	175	40	42	1	21.200	**5408984**



To mount insulating rods on constructions or walls
Plate made of VA stainless steel
Holder and crosspiece for 16 and 20 mm rods and Rd 8–10 mm

Wall connection, angled

Type	Dimension d Ø mm	Dimension L mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 WG-16	16	110	30	1	27.960	**5408986**

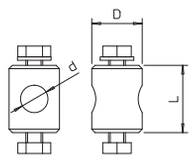


V2A Stainless steel, grade 304

- Wall connection for GFK rods
- Dimension D Ø: 16 mm

Fastening bolts

Type	Dimension d Ø mm	Dimension L mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 BB-16	16	40	30	1	13.920	**5408988**

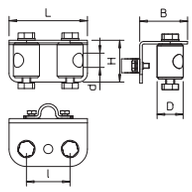


Alu Aluminium

For GFK rods, Dimension D Ø: 16 mm

Holder, V support

Type	Dimension d Ø mm	Dimension L mm	Dimension H mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 HV-16	16	90	55	48	1	50.700	**5408990**

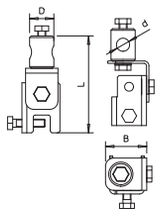


V2A Stainless steel, grade 304

- Rod holder to accept two GRP rods
- Bracket and crossbar for 16 and 20 mm rods and Rd 8-10 mm

Fold fastening

Type	Dimension d Ø mm	Dimension L mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 F-16	16	121	30	1	45.120	**5408992**

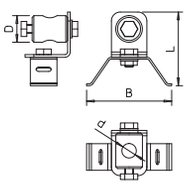


V2A Stainless steel, grade 304

To fasten a GFK rod on constructions of 4 to 20 mm, Dimension D Ø: 16 mm

Pipe fastening

Type	Dimension d Ø mm	Dimension L mm	Dimension D Ø mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 R-16	16	81	30	96	1	26.830	**5408994**



V2A Stainless steel, grade 304

- For pipe fastening of a GRP rod using a tightening strap
- Slot width (l x w) 17 x 6 mm

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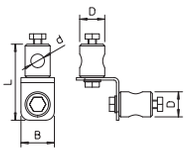
Always indicate the item number when ordering.

Multi adapter

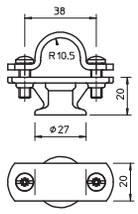


Type	Dimension d Ø mm	Dimension L mm	Dimension D Ø mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 MA-16	16	91	30	40	1	36.280	**5408996**

V2A Stainless steel, grade 304

- Connector for two GFK rods
- Dimension D Ø: 16 mm

Rod holder



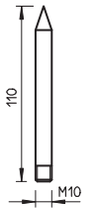
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
113 Z-20	Rd 20	20	8.200	**5230527**

Zn Die-cast zinc

VZ Galvanised

- Installed with over-piece and hex-head screws M6 x 16
- With female thread M8 or through hole Ø 7 mm

Air-termination tip

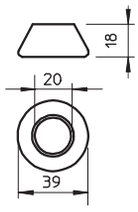


Type	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 ISP M10	110	10	10.000	**5408458**

Alu Aluminium

Air-termination tip for attaching to end piece, type 101 IES, with M10 thread

Water repellent



Type	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 IAB	18	10	2.000	**5408733**

Alu Aluminium

Water repellent for mounting on insulation rods with d = 20 mm

Adjustable insulating beam – pipe

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
ISAV1000R	1	130.000	**5408849**

GFK Fibre-glass-reinforced plastic

Variable spacer for conductors and air-termination rods to maintain the separation distance.

- Infinitely adjustable distance range (L = 550–1,000 mm)
- Made of fibre-glass-reinforced plastic (km = 0.7)
- For pipe mounting (including 2 m tightening strap and tension jack)

Always indicate the item number when ordering.

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Adjustable insulating beam – wall

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
ISAV1000W	1	130.000	**5408852**

GFK Fibre-glass-reinforced plastic

Variable spacer for conductors and air-termination rods to maintain the separation distance.

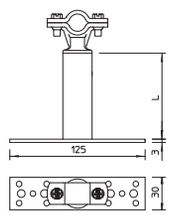
- Infinitely adjustable distance range (L = 550–1,000 mm)
- Made of fibre-glass-reinforced plastic (km = 0.7)
- For wall mounting with 10 fastening holes (4.2 mm) and 4 fastening holes (6.9 mm)

Insulated spacer

Type	Length mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
ISO-A-500	500	Rd 16	15	36.000	**5408806**
ISO-A-800	800	Rd 16	15	55.000	**5408814**
ISO-A-1030	1030	Rd 16	15	68.000	**5408820**
ISO-A-150 8	150	Rd 8	15	13.800	**5408800**

Alu Aluminium PA Polyamide

- Mounting foot with 10 connection holes Ø 6.5 mm and 4 connection holes Ø 8.5 mm
- Type ...150 8 with holder suitable for round conductor RD 8
- Application for shelters e.g. golf, barbecue or mountain huts



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Always indicate the item number when ordering.

The plus of the isCon® system

+ Unique structure
+ Equivalent separation distance ≤ 0.90 m (air) or ≤1.8 m (solid material)
+ isCon® air-termination rods fulfil the requirements to Eurocode + system test according to IEC TS 62564-8
+ Suitable for all lightning protection classes
+ Satisfies requirements according to VDE 0185-561-1/-2/-8
+ Satisfies requirements according to IEC 62561-1/-2/-8

isCon® lightning protection

Insulated conductors are used in the field of external lightning protection to reduce or avoid the separation distance according to VDE 0185-305 (IEC 62305). isCon® creates an equivalent separation distance of 0.90 m in air.
In contrast to standard shielded medium-voltage conductors with a metallic shield, insulated down-conductors possess a weakly conductive jacket for field control, de-energising the high voltage in the area of the supply point. This thus prevents arcing via the conductor jacketing of the insulated conductor.
After the first potential connection of the conductor jacket, the insulated conductor secures the specified equivalent separation distance.

The insulated air-termination rods protect electrical and metallic roof structures, taking the calculated separating distance (s) according to VDE 0185-305-3 (IEC 62305-3) into account. An insulated section of 1.5 metres made of fibre-glass reinforced plastic (GFK) ensures sufficient distance to all roof structures. Even complex building structures can be protected by the comprehensive system accessories.

The three-part aluminium and GRP air-termination rod with its insulated structure allows the isCon® conductor (black and light grey) to be routed inside the air-termination rod. Combining a perfect appearance with perfect functionality, it offers the following advantages:

- Tidy appearance through internal isCon® conductor
- 4 variants: 4 m to 10 m height
- Including connection element and potential connection in the rod
- For freestanding installation, can be combined with isFang air-termination rod stand with side exit

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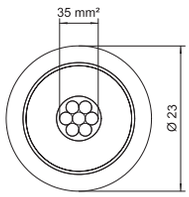
isCon® arrester, professional plus black

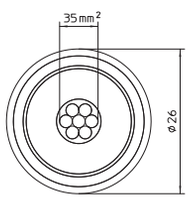


Type	Cross-section mm²	Nominal size Ø mm	Equivalent separation distance m	Pack. m	Weight kg/100 m	Item No.
isCon Pro+ 75 SW	35	23	0.75	25	69.400	**5408002**
isCon Pro+ 75 SW	35	23	0.75	100	69.400	**5408004**
isCon Pro+ 75 SW	35	23	0.75	250	69.400	**5408006**

Please refer to the mounting instructions for information on routing the OBO isCon® conductor.

- Highly voltage-resistant, insulated conductor
- Floating discharge-free
- Additional mechanical protection (black protective jacket)
- For maintenance of the separation distance according to IEC 62305 (VDE 0185-305-3)
- Tested according to IEC/EN 62561-1 (VDE 0185-561-1) with H1/150 kA
- Equivalent separation distance se ≤ 0.75 m (air) and se ≤ 1.5 (solid material)
- Tested according to IEC TS 62561-8
- Halogen-free
- Fire load 4.3 kWh/m
- Can be used in potentially explosive areas Ex zone 1/2 and 21/22 when taking the current mounting instructions into account

isCon® arrester, professional plus light grey

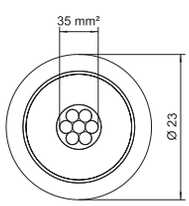


Type	Cross-section mm²	Nominal size Ø mm	Equivalent separation distance m	Pack. m	Weight kg/100 m	Item No.
isCon Pro+ 75 GR	35	26	0.75	25	86.800	**5407995**
isCon Pro+ 75 GR	35	26	0.75	100	86.800	**5407997**

Please refer to the mounting instructions for information on routing the OBO isCon® conductor.

- Highly voltage-resistant, insulated conductor
- Floating discharge-free
- Additional mechanical protection (double protective jacket)
- For maintenance of the separation distance according to IEC 62305 (VDE 0185-305-3)
- Tested according to IEC/EN 62561-1 (VDE 0185-561-1) with H1/150 kA
- Equivalent separation distance se ≤ 0.75 m (air) and se ≤ 1.5 (solid material)
- Tested according to IEC TS 62561-8
- Halogen-free
- Fire load 5.1 kWh/m
- Protection against contact voltage under sprinkling (VDE 0432-1 (IEC/EN 60060-1)
- Can be used in potentially explosive areas Ex zone 1/2 and 21/22 when taking the current mounting instructions into account

isCon® conductor, premium black



Type	Cross-section mm²	Nominal size Ø mm	Equivalent separation distance m	Pack. m	Weight kg/100 m	Item No.
isCon PR 90 SW	35	23	0.9	100	66.600	**5408018**

Please refer to the mounting instructions for information on routing the OBO isCon® Premium conductor.

- Highly voltage-resistant, insulated arrestor
- Floating discharge-free
- Tested according to IEC/EN 62561-1 (VDE 0185-561-1) with H2/200 kA
- Equivalent separation distance se ≤ 0.90 m (air) and se ≤ 1.8 m (solid material)
- Tested according to IEC TS 62561-8
- Halogen-free
- Fire load 4.2 kWh/m

Always indicate the item number when ordering.

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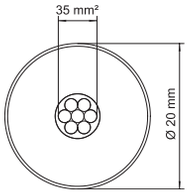
isCon® conductor, professional black

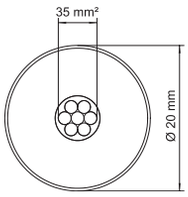


Type	Cross-section mm²	Nominal size Ø mm	Equivalent separation distance m	Pack. m	Weight kg/100 m	Item No.
isCon Pro 75 SW	35	20	0.75	100	57.000	**5408008**

Please refer to the mounting instructions for information on routing the OBO isCon® Pro conductor.

- Highly voltage-resistant, insulated conductor
- Floating discharge-free
- For maintenance of the separation distance according to IEC 62305 (VDE 0185-305-3)
- Tested according to IEC/EN 62561-1 (VDE 0185-561-1) with H1/150 kA
- Equivalent separation distance se ≤ 0.75 m (air) and se ≤ 1.5 m (solid material)
- Tested according to IEC TS 62561-8
- Halogen-free
- Fire load 3.3 kWh/m

isCon® conductor, basic black

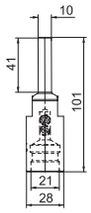


Type	Cross-section mm²	Nominal size Ø mm	Equivalent separation distance m	Pack. m	Weight kg/100 m	Item No.
isCon BA 45 SW	35	20	0.45	100	57.000	**5408014**

Please refer to the mounting instructions for information on routing the OBO isCon® Basic conductor.

- Highly voltage-resistant, insulated conductor
- For maintenance of the separation distance according to IEC 62305 (VDE 0185-305-3)
- Tested according to IEC/EN 62561-1 (VDE 0185-561-1) with H1/150 kA
- Equivalent separation distance se ≤ 0.45 m (air) and se ≤ 0.90 m (solid material)
- Tested according to IEC TS 62561-8
- Halogen-free
- Fire load 3.3 kWh/m

IsCon®-Connection element

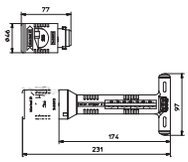


Type	Dimension D Ø mm	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon con 2	20	10	H1/150	2	21.500	**5408021**
isCon connect	23	10	H1/150	2	21.500	**5408022**
isCon con PRE	23	10	H2/200	2	21.500	**5408023**

V2A Stainless steel, grade 304

- Screw-on termination of the connection for the isCon® conductor
- Incl. heat-shrinkable sleeve, hexagonal
- Tested up to 200 kA (lightning protection class I)

Stripping tool for isCon conductor



Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon stripper 2	20 - 23	1	170.000	**5408013**

PA/PE Polyamide/Polyethylene

Stripping tool to remove the insulation of OBO isCon® conductor.

Always indicate the item number when ordering.

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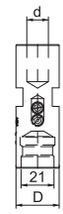
Connection element for installation in the insulated air-termination rod isFang IN

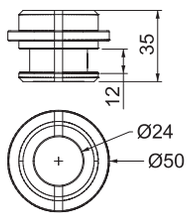


Type	Dimension D Ø mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon IN con 2	20	H1/150	1	27.800	**5408019**
isCon IN con PRE	23	H2/200	1	27.800	**5408020**

V2A Stainless steel, grade 304

- Screw-on termination of the connection for the isCon® conductor
- Connection and installation of the conductor in the insulated air-termination rod
- Tested up to 200 kA (lightning protection Class II)

Potential connection for installation in the insulated air-termination rod isFang IN

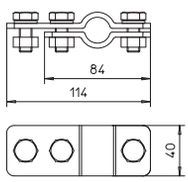


Type	Dimension D Ø mm	Dimension d Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon IN PAE	23	49.9	35	1	5.900	**5408031**

Alu Aluminium

- To avoid surface discharges on the isCon® conductor
- Installation takes place after the first 1.5 metres in the insulated air-termination rod type isFang IN

Potential connection

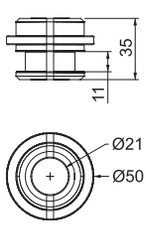


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon PAE	ø 17-25mm	2	36.500	**5408036**

V2A Stainless steel, grade 304

Potential connection
- To avoid floating discharges on the isCon® conductor
- With sprung discs to protect screws against loosening

Potential connection for installation in the insulated air-termination rod isFang IN



Type	Dimension D Ø mm	Dimension d Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon IN PAE 2	20	49.9	35	1	5.900	**5408032**

Alu Aluminium

- To avoid surface discharges on the isCon® conductor
- Installation takes place after the first 1.5 metres in the insulated air-termination rod type isFang IN

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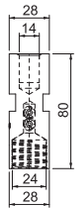
Always indicate the item number when ordering.

Connection element for installation in the insulated air-termination rod isFang IN

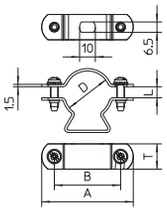


Type	Dimension D Ø mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon IN connect	23	H1/150	1	26.900	**5408024**

V2A Stainless steel, grade 304

- Screw-on termination of the connection for the isCon® conductor
- Connection and installation of the conductor in the insulated air-termination rod
- Tested up to 200 kA (lightning protection Class II)

VA cable bracket for isCon® conductor for mounting on roof/wall structures

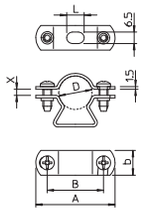


Type	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon H VA	21 - 23	50	2.850	**5408056**
isCon H 26 VA	26	20	3.400	**5408064**

V2A Stainless steel, grade 304

- For isCon® conductor for mounting on roof/wall structures
- With sprung discs to protect the screws against loosening

Conductor and pipe spacer clip 733 V2A



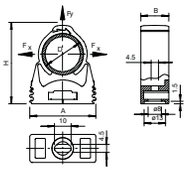
E30 E90

Type	Clamping range D mm	Hole size mm	Bolt	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
733 21 A2	19 - 21	6,5 x 10	M5 x 16	500	50	2.740	**1362046**

V2A Stainless steel, A2

* Size M16 is not suitable for nail device
* Sizes M16 - PG16 are not suitable for bolt-firing tool

Quick clip, black

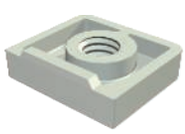


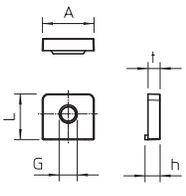
Type	Colour	Dimension D mm	Dimension A mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
SQ-20 SW	Jet black	23	29	17	50	0.848	**2146164**
SQ-25 LGR	Light grey	26	40	17	50	0.970	**2146207**

PP Polypropylene PA Polyamide

Cable brackets for isCon® conductors for mounting on the building structure. Can also be used in the first 1.5 m. Can be arranged next to each other. Made from a UV and weather-resistant polyamide.

starQuick nut





Type	Colour	Nominal size	Dimension L mm	Dimension h mm	Dimension t mm	Pack. pcs	Weight kg/100 pcs.	Item No.
SQ M6	Light grey	M6	15	5	4	100	0.070	**2146509**

PC Polycarbonate

The starQuick nut was developed especially for the starQuick clip. Simply push into the intended opening of the clip. The nut is captive in the clip. Suitable for M6 threads.

Always indicate the item number when ordering.

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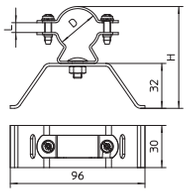
VA cable bracket with tightening strap

Type	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon HS VA	23	10	25.200	**5408052**
isCon HS 26 VA	26	10	25.900	**5408068**

V2A Stainless steel, grade 304

- For isCon® conductor for pipe mounting
- Including 2 m tightening strap
- Cable bracket with sprung discs to protect the screws against loosening

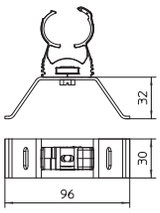


PA cable bracket with tightening strap

Type	Colour	Dimension	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon HS 26 PA	Light grey	ø 26mm	26	10	23.200	**5408066**

PA Polyamide

For isCon® conductor for pipe mounting including 2 m tightening strap.

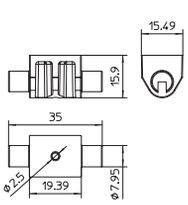


Universal flat conductor adapter for roof conductor holder, type 165/MBG

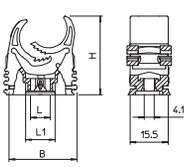
Type	Colour	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 MBG UH	Black	Rd 8	25	0.254	**5218882**

PP Polypropylene

- Universal adapter with drill hole Ø 2.5 mm
- E.g. for OBO Golden Sprint screw, type 4758 4 x L (L = depending on application)
- For fastening to 165/MBG



Multi-Quick clip, metric



Type	Clamping range D mm	Pull-out value N	Colour	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
M-Quick M32 LGR	25 - 32	60	Light grey	600	50	1.390	**2153734**

PA Polyamide

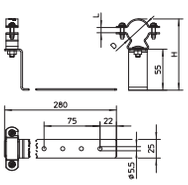
- Multi-quick metric
- Simple fastening
- Secure locking
- Radial arrangement
- Simplified storage
- Universally applicable

VA roof conductor holder, sloping roof

Type	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon H280 VA	55	25	16.100	**5408047**
isCon H280 26 VA	55	25	16.900	**5408074**

V2A Stainless steel, grade 304

- For routing of the isCon® conductor on pitched roofs
- Cable bracket with sprung discs to protect the screws against loosening



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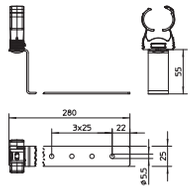
Always indicate the item number when ordering.

PA roof conductor holder, sloping roof

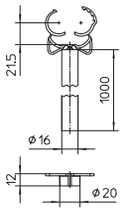


Type	Colour	Dimension	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon H280 PA	Black	280mm	25	13.950	**5408049**
isCon H280 26 PA	Light grey	280mm	25	14.060	**5408072**

PA Polyamide

To route the isCon® conductor on pitched roofs.

Spacer



Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon DH	23 - 26	2	41.400	**5408043**

GFK Fibre-glass-reinforced plastic

For stand-off installation of the isCon® conductor in the area of the connection, incl. reducing sleeve for mounting on FangFix concrete block 10 Kg.

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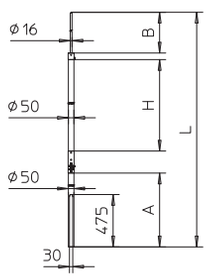
isFang, insulated air-termination rod for inner-routed isCon conductor with side exit

Type	Dimension D Ø mm	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang IN-A 4000	50	1325	1500	1000	4000	1	535.000	**5408938**
isFang IN-A 6000	50	3325	1500	1000	6000	1	835.000	**5408940**
isFang IN-A 8000	50	5335	1500	1000	8000	1	1,385.000	**5408888**
isFang IN-A10000	50	6000	1733	2000	10000	1	1,540.000	**5408890**

GFK Fibre-glass-reinforced plastic

- For installation of the OBO isCon® Pro+ conductor in the pipe
- With side conductor outlet matching isFang air-termination rod stand with side outlet, type isFang 3B-A
- Suitable for wind loads according to Eurocode 1: DIN EN 1991-1-4
- Inclusive connection element (type isCon IN connect)
- Inclusive potential connection (type IsCon In PAE)

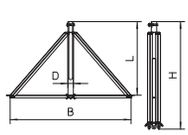
Dimensions



isFang air-termination rod stand with side exit

Type	Dimension B mm	Dimension D Ø mm	Dimension L mm	Dimension H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang 3B-100-A	1026	50	600	885	1	610.000	**5408930**
isFang 3B-150-A	1500	50	900	1275	1	950.000	**5408932**
isFang 3B-250-A	2900	50	1450	2055	1	2,500.000	**5408902**

V2A Stainless steel, grade 304



- Screwless installation of freestanding air-termination rods as well as insulated air-termination rods with 50 mm diameter
- E.g. for internal OBO isCon® conductor
- Roof slope to max. 5 degrees
- Incl. Rd 8–10 crossbar for quick round conductor fastening
- Concrete plinths as well as threaded rods should be ordered separately

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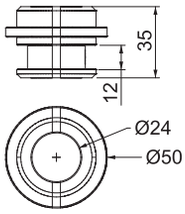
Always indicate the item number when ordering.

Potential connection for installation in the insulated air-termination rod isFang IN

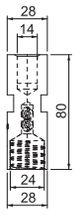


Type	Dimension D Ø mm	Dimension d Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon IN PAE	23	49.9	35	1	5.900	**5408031**

Alu Aluminium

- To avoid surface discharges on the isCon® conductor
- Installation takes place after the first 1.5 metres in the insulated air-termination rod type isFang IN

Connection element for installation in the insulated air-termination rod isFang IN



Type	Dimension D Ø mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon IN connect	23	H1/150	1	26.900	**5408024**

V2A Stainless steel, grade 304

- Screw-on termination of the connection for the isCon® conductor
- Connection and installation of the conductor in the insulated air-termination rod
- Tested up to 200 kA (lightning protection Class II)

Always indicate the item number when ordering.

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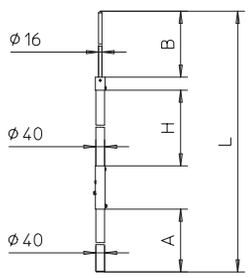
Insulated air-termination rod

Type	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang 4000 AL	1240	1500	1000	4000	1	580.000	**5408943**
isFang 6000 AL	3340	1500	1000	6000	1	600.000	**5408947**
isFang 4000	1240	1500	1000	4000	1	680.000	**5408942**
isFang 6000	3340	1500	1000	6000	1	680.000	**5408946**

GFK Fibre-glass-reinforced plastic

- For isolated creation of air-termination systems
- Suitable for isFang air-termination rod stands, type isFang 3B-100/150
- Suitable for wind loads according to Eurocode 1: DIN EN 1991-1-4
- For mounting on the building structure with isFang support
- Fastening of the OBO isCon® conductor possible using accessories
- Suitable for internally and externally-routed isCon® conductor

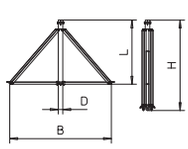
Dimensions



isFang air-termination rod stand

Type	Dimension B mm	Dimension D Ø mm	Dimension L mm	Dimension H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang 3B-100 AL	1000	40	600	885	1	380.000	**5408966**
isFang 3B-150 AL	1500	40	900	1275	1	560.000	**5408967**
isFang 3B-100	1000	40	600	885	1	620.000	**5408968**
isFang 3B-150	1500	40	900	1275	1	950.000	**5408969**

V2A Stainless steel, grade 304 Alu Aluminium

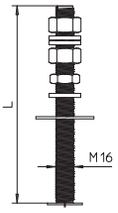


Folding tripod stand for screwless installation of free-standing air-termination rods with a diameter of 40 mm, e.g. for OBO isCon® conductors. Roof slope to max. 5 degrees. Incl. Rd 8–10 crossbar for rapid round conductor fastening. The concrete plinth and threaded rods are to be ordered separately.

isFang-3B threaded rod

Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang 3B-G1	270	3	48.000	**5408971**
isFang 3B-G2	340	3	60.400	**5408972**
isFang 3B-G3	430	3	69.500	**5408973**
isFang 3B-G4	500	3	75.000	**5408905**

V2A Stainless steel, grade 304



- For fastening on one, two, three or four FangFix concrete bases with tripod stand

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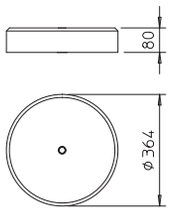
Concrete block for FangFix-System 16 kg

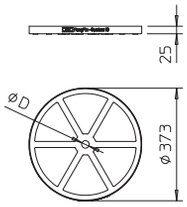


Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-S16	365	1	1,700.000	**5403227**

BET Concrete

- 16 kg stone of Ø 365 mm, high level of stability
- Frost-resistant concrete
- Stackable

Base for FangFix system 16 kg for mounting the isFang tripod

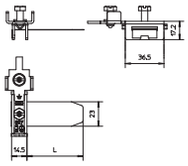


Type	Nominal size Ø mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
F-FIX-B16 3B	373	25	10	15.800	**5403238**

PP Polypropylene

- Edge protection with through hole
- For mounting isFang-3B threaded rod and FangFix concrete block F-FIX-S16

Potential connection clamp for mounting on isFang

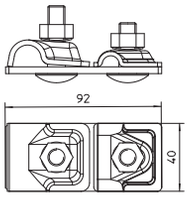


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
927 2 6-K	3/8-4mm	10	5.500	**5057599**

V2A Stainless steel, grade 304

Potential connection for isCon® conductor for mounting on insulated air-termination rods of type isFang.

Connection plate for one isCon® conductor

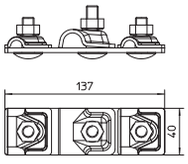


Type	Dimension	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon AP1-16 VA	16x8-10mm	1	27.400	**5408026**

V2A Stainless steel, grade 304

Connection plate to connect an isCon® conductor with air-termination rod Ø 16 mm, tested up to 150 kA (lightning protection class II)

Connection plate for two isCon® conductors



Type	Dimension	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon AP2-16 VA	16x8-10mm	1	39.500	**5408028**

V2A Stainless steel, grade 304

Connection plate to connect two isCon® conductors with air-termination rod Ø 16 mm, tested up to 150 kA (lightning protection class II)

Cable tie, black, UV and weather-resistant

Type	Dimension B mm	Dimension L mm	Dimension t mm	Max. bundle Ø mm	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
565 7.6x380 SWUV	7.6	380	1.8	105	Black	100	0.533	**2331924**

PA Polyamide

Cable ties are used for quick, uncomplicated fixing or bundling of cables and pipes to cable support systems or other mounting structures.

Always indicate the item number when ordering.

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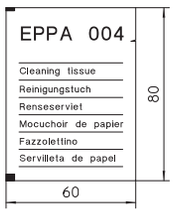
Cleaning cloth

Type	Width mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon EPPA 004	140	200	50	0.420	**5408060**

Z-PP-P Cellulose-polypropylene paper

- Cellulose polypropylene paper with abrasive sections, folded multiple times
- Doused with 2.8 ml impregnation solution
- For cleaning the external jacket of the OBO isCon® conductor



Information panel

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon HWS	1	2.000	**5408058**
isCon HWS EN	1	2.000	**5408059**

PS Polystyrene

Label: "NOTE! Insulated lightning protection with the OBO isCon® system. Only a lightning protection specialist may carry out changes"

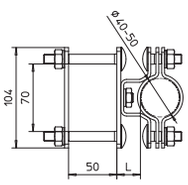
- To label the lightning protection system
- Self-adhesive and with 4 fastening holes ø 6.5 mm

isFang support for corner pipe mounting, 50 x 50 mm

Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TS50x50	30	2	82.000	**5408964**

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or for construction-side corner pipes of 50x50 mm.

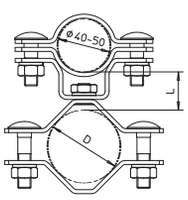


isFang support for pipe mounting, ø 50–60 mm

Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TS50-60	60	30	2	76.000	**5408960**

V2A Stainless steel, grade 304

Tightening strap clip to fasten the insulated support pipes on the structure to be protected or for construction-side pipes of ø 50–60 mm.

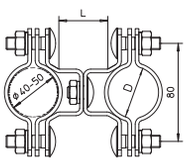


isFang support for pipe mounting, ø 40–50 mm

Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TS40-50	50	40	2	90.000	**5408958**

V2A Stainless steel, grade 304

Tightening strap clip to fasten the insulated support pipes on the structure to be protected or for construction-side pipes of ø 40–50 mm.

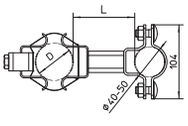


isFang support for spaced pipe mounting, ø 50–300 mm

Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TR100 100	300	100	2	95.500	**5408955**
isFang TR100 200	300	200	2	121.000	**5408957**
isFang TR100 300	300	300	2	146.000	**5408959**

V2A Stainless steel, grade 304

Tightening strap clip to fasten the insulated support pipes on the structure to be protected or for construction-side pipes of ø 50–300 mm.



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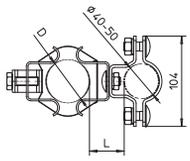
Always indicate the item number when ordering.

isFang support for pipe mounting, ø 50–300 mm

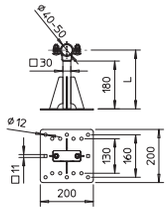


Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TR100	300	40	2	77.000	**5408956**

V2A Stainless steel, grade 304

Tightening strap clip to fasten the insulated support pipes on the structure to be protected or for construction-side pipes of ø 50–300mm.

Support for wall mounting, 200 mm spacing

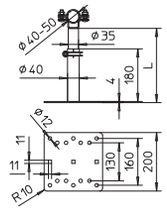


Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TW200 12	50	200	2	240.000	**5408910**

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.

isFang support for wall mounting, 200–300 mm spacing

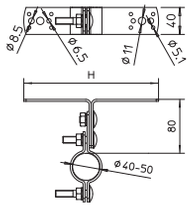


Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TW200	300	2	230.000	**5408954**

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.

isFang support for wall mounting, 80 mm spacing

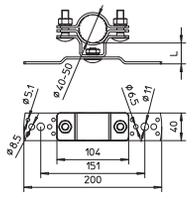


Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TW80	80	2	63.000	**5408950**

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.

isFang support for wall mounting, 30 mm spacing



Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TW30	30	2	62.000	**5408952**

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.

Always indicate the item number when ordering.

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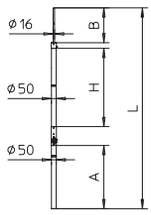
Insulated air-termination rod for inner-routed isCon conductor



Type	Dimension D Ø mm	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang IN 4000	50	1325	1500	1000	4000	1	535.000	**5408934**
isFang IN 6000	50	3325	1500	1000	6000	1	835.000	**5408936**
isFang IN 8000	50	5335	1500	1000	8000	1	1,315.000	**5408868**
isFang IN 10000	50	6000	1733	2000	10000	1	1,540.000	**5408870**

GFK Fibre-glass-reinforced plastic

- For installation of the OBO isCon® Pro+ conductor in the pipe
- For mounting on the building structure with isFang support
- Suitable for wind loads according to Eurocode 1: DIN EN 1991-1-4
- Inclusive connection element (type isCon IN connect)
- Inclusive potential connection (type IsCon In PAE)

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5432616	**1167049**	457
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5116837	**1362046**	536
5655367	**2146164**	590
5595717	**2146207**	590
5016069	**2146509**	590
5741671	**2153734**	591
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5228912	**2349051**	573
5228974	**2349078**	573
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5229155	**2349108**	573
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6421053	**2360043**	487
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5230595	**2360101**	494
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5388630	**5057523**	453
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6415748	**5081001**	355
6415755	**5081003**	356
6415762	**5081005**	357
6607020	**5081064**	408
6607051	**5081066**	409
6034352	**5081690**	316
6087723	**5081694**	318
6427444	**5081698**	315
5614364	**5081800**	348

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6415663	**5081977**	322
6415670	**5081982**	323
6415687	**5081984**	324
6415694	**5081990**	349
5685333	**5082382**	353
6415717	**5082430**	350
6415724	**5082432**	351
6415731	**5082434**	352
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5525134	**5084008**	330
5525196	**5084012**	330
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5525318	**5084020**	327
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5525554	**5084036**	330
5525615	**5084040**	331
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6329854	**5088568**	289
6037421	**5088573**	302
6037438	**5088576**	292
6037476	**5088579**	293
6037483	**5088582**	290
6037490	**5088585**	295
6423170	**5088591**	286
6423187	**5088593**	287
5872658	**5088629**	291
5981176	**5088635**	299
6422654	**5088640**	298
5780717	**5088651**	296
6148561	**5088654**	297
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5237341	**5089650**	216
5299400	**5089652**	216
5709350	**5089660**	227
5709367	**5089662**	228
5759782	**5089748**	73
5405528	**5089754**	76
5806813	**5089755**	78
5405535	**5089756**	77
5816614	**5089757**	79
5405542	**5089761**	74
5405559	**5089763**	75
5405566	**5089768**	82
5405573	**5089770**	80
5405580	**5089775**	83
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6426768	**5092426**	253
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6515431	**5092433**	234
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5247098	**5092460**	248
5475804	**5092466**	247
5613596	**5092472**	249
6439034	**5092478**	232
6035441	**5092480**	231
6035496	**5092482**	231
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5390671	**5093015**	334
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5390978	**5093236**	336
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6098583	**5093382**	215
5126041	**5093384**	213
5299448	**5093391**	214
5158103	**5093400**	221
5012825	**5093402**	222
5012832	**5093404**	223
5004660	**5093406**	224
5382799	**5093418**	219
6398638	**5093440**	34
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6398645	**5093446**	35
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6398676	**5093452**	38
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6398690	**5093460**	39
6398706	**5093462**	41
6412952	**5093500**	42
6412969	**5093502**	43
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6159598	**5093508**	68
6334674	**5093509**	68
6334681	**5093510**	68
6159604	**5093511**	44
6159628	**5093513**	46
6159642	**5093516**	45
6159659	**5093518**	47
6159666	**5093522**	48
6159680	**5093524**	50
6159697	**5093526**	51
6159703	**5093531**	49
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6398447	**5093540**	54
6398461	**5093542**	56
6398454	**5093546**	55
6398508	**5093548**	57
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6398522	**5093554**	60
6398539	**5093560**	59
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6398553	**5093572**	62
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5708872	**5094605**	284

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5382898	**5094704**	184
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5406662	**5094713**	191
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6159864	**5095173**	134
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6159932	**5095194**	148
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6159963	**5095212**	152
6160006	**5095213**	154
6160013	**5095214**	156
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6161638	**5095263**	138
6161706	**5095271**	143
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6162888	**5095303**	147
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6162901	**5095312**	153
6162949	**5095313**	155
6162956	**5095314**	157
6163007	**5095321**	117
6162963	**5095322**	113
6163014	**5095331**	129
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6163427	**5095333**	131
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6163496	**5095343**	139
6163502	**5095353**	145
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6163557	**5095364**	161
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5393252	**5096278**	182
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5578116	**5097453**	259
5736561	**5097454**	369
5578123	**5097607**	260
5578130	**5097615**	261
5578147	**5097623**	262
5578154	**5097631**	263
5578161	**5097650**	264
5578185	**5097820**	265
5812258	**5097822**	371
5578215	**5097858**	266

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5787372	**5098415**	403
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5406860	**5098422**	396
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5578345	**5098571**	376
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5578376	**5098603**	385
5578383	**5098611**	386
5578390	**5098630**	387
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5578451	**5098816**	390
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5396734	**5099579**	198
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5409458	**5223075**	532
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5835349	**5311554**	446
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5885580	**5331017**	557
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5959663	**5334942**	488
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5427872	**5401836**	507
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5331575	**5420539**	475
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5430216	**5424151**	475
5430339	**5424208**	475
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101 3B-4000	5674733	5402864	510
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101 3B-5000	5674757	5402868	510
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101 3B-7000	5674818	5402876	510
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101 A-16	5613268	5408352	581
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101 A-CU	5629054	5400627	475
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101 ALU-1500	5427810	5401801	507
101 ALU-2000	5427872	5401836	507
101 ALU-2500	5898399	5401852	507
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101 F1000	5430094	5424100	507
101 F1500	5430216	5424151	475
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101 F2000	5430339	5424208	475
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101 FS-16	5613343	5408980	579
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101 G1000	5428053	5402107	508
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101 HV-16	5613411	5408990	583
101 IAB	5673750	5408733	584
101 IAG	5674290	5408504	581
101 IDK	5895817	5408245	580
101 IES	5674412	5408393	581
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101 IGL-16	5613312	5408630	581
101 IK	5895879	5408296	580
101 IK-16	5613251	5408298	580
101 ISP M10	5674351	5408458	584
101 IT	5681496	5408156	580
101 IT-16	5613237	5408158	580
101 IV-16	5613299	5408557	582
101 IW-M10	5673811	5408687	580
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101 MA-16	5613442	5408996	584
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101 RH-16	5674924	5408101	582
101 ST	5428534	5402891	507
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113 B-HD-16	5752295	5412811	535
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113 B-Z-HD	5629535	5230322	530
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157 FK-CU 230	5902652	5216184	521
157 FK-CU 280	5813071	5216214	521
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157 FK-VA 410	5812418	5215609	521
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177 55 CU	5905110	5207762	529
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1802 AH 10	5033677	5015884	445
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1804 AP	5477839	5015557	441
1804 UP	5378433	5015545	441
1805 2 FT	5379096	5016029	446
1805 2 FT	5379096	5016029	489
1805 2 VA	5922216	5016096	447
1805 2 VA	5922216	5016096	489
1805 4 FT	5379157	5016037	446
1805 4 FT	5379157	5016037	489
1805 4 VA	5800354	5016118	447
1805 4 VA	5800354	5016118	489
1805 6 FT	5379218	5016045	446
1805 6 FT	5379218	5016045	489
1805 6 VA	5922278	5016126	447
1805 6 VA	5922278	5016126	489
1807	5379270	5016142	489
1807 DB	6561063	5016160	492
1808	5378075	5015014	440
1809	5378259	5015073	439
1809 30 AH	5800118	5015200	439
1809 A	5959427	5015111	443
1809 AM	6587292	5015105	443
1809 BG	5378372	5015502	440
1809 M	5378310	5015081	439
1809 NR	5931669	5015075	440
1809 UP	5378198	5015065	441
1810	5378136	5015057	443
1811	5377894	5014018	489
1811 L	5377955	5014026	489
1813 DIN	5378013	5014212	488
1813 KL	5901938	5014425	486
1814 FT	5105015	5014468	487
1814 FT D37	6391059	5014469	487
1814 ST	5105077	5014476	487
1814 ST D37	6391042	5014477	487
1816 CU 6	6431298	5009250	563
1816 CU 9	6431304	5009256	563
1816 F-1000X1000	5376996	5009235	477
1816 F-500X1000	5376934	5009227	477
		/100 pc.	
1818	5377719	5012015	486
1818 FL CU	6431113	5012270	563
		/pc.	
1819 20	5242710	3041204	472
1819 20BP	5242772	3041212	471
1819 25	5242833	3041255	472
1819 25BP	5242956	3041956	471
1820 16	6431243	3042270	472
		/pc.	
1820 20	5243137	3042200	472
1820 25	5243199	3042251	472
		/100 pc.	
194	5404651	5207258	529
194 K	5110392	5207266	530
199 DIN	5405252	5208017	533
200 V4A-1500	5751571	5420504	475
200 V4A-1500	5751571	5420504	504

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		/100 pc.	
200 V4A-1500	5751571	5420504	568
200 V4A-2000	5331575	5420539	475
200 V4A-2000	5331575	5420539	504
200 V4A-2000	5331575	5420539	568
2019 16	6431236	5001190	472
		/100 pc.	
204 KL-1500	5430575	5430151	476
204 KL-1500	5430575	5430151	569
		/pc.	
204 KS-2000	5901457	5430011	476
204 KS-2000	5901457	5430011	569
204 KS-2500	5901570	5430062	476
204 KS-2500	5901570	5430062	569
205 B-M10 VA	5900498	5420008	487
205 B-M12 VA	5629290	5420016	487
205 DG L180 FT	6505906	5420024	488
205 DG L180 V4A	6505890	5420022	488
205 DG V4A	6505869	5420020	488
		/100 pc.	
2056N SAS 12 A2	5432432	1167014	457
2056N SAS 16 A2	5432494	1167022	457
2056N SAS 22 A2	5432555	1167030	457
2056N SAS 28 A2	5432616	1167049	457
2056N SAS 8 A2	5432371	1167006	457
		/pc.	
213 1000 DIN	5373575	5003008	476
213 1000 DIN HS	6527069	5003081	476
213 1500 DIN	5373636	5003016	476
213 1500 F	5374718	5003776	477
213 1500 M	5374053	5003261	477
213 2000 DIN	5373698	5003024	476
213 2000 F	5374770	5003784	477
213 2000 M	5374114	5003288	477
213 2500 DIN	5373759	5003032	476
213 2500 M	5374176	5003296	477
213 3000 DIN	5373810	5003040	476
213 3000 M	5374237	5003318	477
219 16 CU	6431229	5000481	470
		/pc.	
219 20 BP CU	6336340	5000500	470
219 20 BP FT	5371892	5000947	470
219 20 BP V4A	5740650	5000858	470
219 20 BP V4A	5371830	5000866	470
219 20 OMEX FT	5371298	5000017	471
219 20 OMEX FT	5371472	5000203	471
219 20 ST FT	5018049	5000742	469
219 20 ST FT	5814450	5000750	469
219 25 BP FT	5371953	5000955	470
219 25 OMEX FT	5371359	5000025	471
219 25 ST FT	5111047	5000769	469
		/100 pc.	
223 DIN MS	5423676	5335256	564
223 DIN ZN	5423614	5335205	564
223 O DIN MS	5890119	5335167	564
223 O DIN ZN	5890058	5335140	564
226 8-10	5424215	5336007	564
226 CU	5424277	5336023	565
226 VA	5424338	5336058	565
226 ZV CU	5424451	5336090	565
226 ZV VA	5424390	5336074	565
233 8	5424635	5336309	565
233 A VA	5424871	5336457	566
233 A ZV	5424932	5336503	566
233 VA	5424758	5336341	566
233 ZV	5424819	5336376	566
237 N CU	5453673	5328284	543
237 N FT	5453611	5328209	543
239	5423195	5329078	543
244	5417316	5311039	543
245 8-10 CU	5417439	5311152	544
245 8-10 FT	5417378	5311101	544

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		/100 pc.	
247 8-10 CU	5417552	5311268	544
247 8-10 FT	5417491	5311209	544
249 6-10 CU	5816591	5311417	538
249 6-10 ST	5816584	5311410	538
249 6-8 CU	6416912	5311407	539
249 8-10 ALU	5417736	5311519	537
249 8-10 ALU-OT	5466192	5311585	456
249 8-10 ALU-OT	5466192	5311585	534
249 8-10 ALU-OT	5466192	5311585	555
249 8-10 CU	5417798	5311527	538
249 8-10 CU-OT	5835394	5311530	446
249 8-10 CU-OT	5835394	5311530	451
249 8-10 CU-OT	5835394	5311530	456
249 8-10 CU-OT	5835394	5311530	534
249 8-10 CU-OT	5835394	5311530	555
249 8-10 ST	5417675	5311500	537
249 8-10 ST-OT	5737063	5311503	455
249 8-10 ST-OT	5737063	5311503	534
249 8-10 ST-OT	5737063	5311503	555
249 8-10 V4A	6466283	5311404	537
249 8-10 VA	5417910	5311551	451
249 8-10 VA	5417910	5311551	537
249 8-10 VA-OT	5835349	5311554	446
249 8-10 VA-OT	5835349	5311554	450
249 8-10 VA-OT	5835349	5311554	456
249 8-10 VA-OT	5835349	5311554	534
249 8-10 VA-OT	5835349	5311554	555
249 8-10 ZV	5417859	5311535	538
249 8-10X16 VA	5925446	5311590	451
249 8-10X16 VA	5925446	5311590	539
249 B ALU	5452058	5311713	537
249 B ST	5451990	5311705	537
249 VA-OT	5693789	5311573	456
249 VA-OT	5693789	5311573	536
249 VA-OT	5693789	5311573	555
250	5418696	5312906	484
250	5418696	5312906	544
250 A	5237372	5313058	485
250 A-BO	5806530	5313066	485
250 A-FT	5740537	5313015	485
250 AS-FT	5543015	5313031	485
250 A-VA	5740476	5313023	485
250 V4A	5700876	5312925	484
250 V4A	5700876	5312925	545
250 VA	5418757	5312922	484
250 VA	5418757	5312922	545
		/pc.	
2500 20	5243311	3043207	473
2500 25	5243373	3043258	473
		/100 pc.	
251 8-10	5417972	5312035	545
251 CU	5418030	5312132	546
		/pc.	
2510 20	5717492	3043312	473
		/100 pc.	
252 8-10 CU	5418214	5312418	482
252 8-10 CU	5418214	5312418	547
252 8-10 FT	5418092	5312310	482
252 8-10 FT	5418092	5312310	547
252 8-10 V4A	5700869	5312318	482
252 8-10 V4A	5700869	5312318	547
252 8-10X16 CU	5418276	5312442	483
252 8-10X16 CU	5418276	5312442	548
252 8-10X16 FT	5418153	5312345	483
252 8-10X16 FT	5418153	5312345	548
252 8-10x16 V4A	5893103	5312346	483
252 8-10x16 V4A	5893103	5312346	548
252 8-10XFL30 FT	5418399	5312655	483
252 8-10XFL30 FT	5418399	5312655	545
252 8-10xFL30V4A	5893141	5312656	484
252 8-10xFL30V4A	5893141	5312656	545
252 GB 10x45	6454563	5312657	484
252 GB 10x45	6454563	5312657	485
252 S1 FT	6428038	5312292	562
252 S1 V4A	6428045	5312294	562
252 S4 FT	6428106	5312302	562
252 S4 V4A	6428113	5312308	562

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		/pc.	
2520 20	5243793	3043703	473
2520 25	5243854	3043754	473
		/100 pc.	
253 10X16	5418573	5312809	482
253 10X16	5418573	5312809	547
253 8-10 V4A	6466306	5312582	481
253 8X8	5418337	5312604	481
253 8X8	5418337	5312604	546
253 S3 FT	6428083	5312592	561
253 S3 V4A	6428090	5312594	561
		/pc.	
2530 20	5243557	3043401	473
2530 25	5243618	3043452	473
2531 20	5642312	3043908	473
2535 20	5453796	3043916	474
2535 25	5453970	3044912	474
2536 20	5643036	3044904	474
2536 25	5642978	3044831	474
		/100 pc.	
254 DIN 8-10 CU	5419112	5314135	546
254 DIN 8-10 FT	5418993	5314038	546
255 30	5419174	5314518	480
255 A-FL30 FT	5419235	5314534	480
256 A-DIN 30 FT	5419471	5314658	480
256 A-DIN 30 V4A	5893080	5314659	480
256 A-DIN 30 VA	5925873	5314720	480
256 A-DIN 40 FT	5419532	5314666	480
256 DIN 30 FT	5419297	5314615	481
256 DIN 30 V4A	5893097	5314616	481
256 DIN 40 FT	5419358	5314623	481
256 S6 FT	6428120	5314572	561
256 S6 V4A	6428137	5314574	561
259 8-10	5419716	5315506	542
259 A FT	5740414	5315514	486
259 A ST	5237198	5315557	486
259 A VA	5740353	5315522	486
260 8	5419839	5315700	542
260 8-10 MS	5419778	5315654	543
262	5419891	5316014	554
262 A-DIN CU	5420071	5316251	553
262 A-DIN FT	5420019	5316219	553
262 CU	5419952	5316154	554
262 ZM	5818359	5316170	554
264	5420316	5316510	554
264 CU	5420378	5316553	554
267	5420132	5316308	553
267 VA	5420194	5316324	553
269 8-10	5420439	5317010	549
269 MS	5420491	5317053	549
270 8-10 CU	5420675	5317258	550
270 8-10 FT	5420552	5317207	550
270 8-10 VA	5893158	5317208	550
271 8-10	5420798	5317401	550
271 8-10 VA	5850861	5317481	551
271 CU	5420910	5317452	551
		/pc.	
2710 20	5372370	5001218	478
2710 25	5372431	5001226	478
		/100 pc.	
272 14	5421092	5318149	549
272 8	5421030	5318084	549
273 8-10	5420613	5317223	551

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		/100 pc.	
273 CU	5420736	5317274	551
		/pc.	
2730 20 FT	5372554	5001404	478
2730 20 VA	5635475	5001366	478
2730 25 FT	5372615	5001412	478
2730 25 M12 FT	6560837	5001416	493
		/100 pc.	
274 8-10	5420859	5317428	552
274 CU	5420972	5317479	552
2740 16	6431168	5001511	479
2740 16 KL	6431205	5001513	479
2745 16 25	6431120	5001590	479
2745 16 30	6431212	5001592	479
2745 16 70	6431267	5001594	479
		/pc.	
2745 20 MS	5372851	5001560	479
2745 20 MS	5372851	5001560	567
2760 16	6431274	5001601	492
		/pc.	
2760 20 FT	5372912	5001641	478
2760 20 V4A	5862697	5001633	479
2760 20 VA	5635239	5001617	479
2760 25 FT	5372974	5001668	478
2760 25 V4A	5901259	5001672	479
2760 8	5721123	5001612	486
		/100 pc.	
2760 8-10 V4A	6466290	5313013	486
		/pc.	
2760 B-20 FT	5754879	5001749	478
2760 B-20 VA	5752653	5001625	479
		/100 pc.	
2760 S8 V4A	6428151	5313012	492
280 8-10	5421276	5320011	556
280 VK	5421337	5320054	556
287	5421573	5320704	557
287 CU	5421511	5320690	557
287 DCT	6127504	5320707	557
288 DIN	5421634	5320712	557
292 DIN	5424994	5340012	566
301 CU-100	5426370	5350700	559
301 CU-110	5426431	5350719	559
301 CU-120	5426493	5350727	559
301 CU-80	5426257	5350689	559
301 DIN-100	5425717	5350107	558
301 DIN-110	5425779	5350115	558
301 DIN-120	5425830	5350123	558
301 DIN-80	5425595	5350085	558
301 DIN-90	5425656	5350093	558
301 S-100	5426974	5351057	559
301 S-120	5427032	5351073	559
301 S-AL-100	5890652	5351359	559
301 S-AL-120	5890713	5351375	559
301 S-CU-100	5427216	5351456	559
301 S-CU-120	5427278	5351472	559
301 S-VA-100	5427094	5351251	559
301 S-VA-120	5427155	5351286	559
301 V	5426790	5350867	558
301 V-CU	5426851	5350883	558
301 V-VA	5426912	5350905	558
303 DIN-1	5399971	5102111	560
303 DIN-1 1/2	5400097	5102154	560
303 DIN-1 1/4	5400035	5102138	560
303 DIN-1/2	5399858	5102073	560
303 DIN-2	5400158	5102197	560
303 DIN-2 1/2	5400219	5102219	560
303 DIN-3	5400271	5102235	560
303 DIN-3 1/2	5400332	5102251	560
303 DIN-3/4	5399919	5102081	560
303 DIN-3/8	5399797	5102057	560
303 DIN-4	5400394	5102278	560
311 N-ALU 16	5631392	3049345	494

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311 N-ALU 16	5631392	3049345	567
311 N-ALU 8-10	5631576	3049256	494
311 N-ALU 8-10	5631576	3049256	567
311 N-CU 8-10	5631699	3049205	494
311 N-CU 8-10	5631699	3049205	567
311 N-VA 16	5631453	3049329	494
311 N-VA 16	5631453	3049329	567
311 N-VA 8-10	5631637	3049221	494
311 N-VA 8-10	5631637	3049221	567
319 10	5421931	5325315	554
319 8	5421870	5325307	554
324 S-CU	5422532	5326338	556
324 S-FT	5422419	5326303	556
324 S-VA	5422471	5326311	556
330 K	5401599	5201101	509
		/pc.	
356 100	5230595	2360101	494
356 100	5230595	2360101	572
356 50	5230533	2360055	494
356 50	5230533	2360055	572
364	5244219	3051013	573
		/100 pc.	
366 35	5388876	5059356	494
366 50	5389057	5059496	494
370 H	5382690	5025206	491
470 4-16	5389231	5064015	457
471 4-16 P	5668565	5064017	457
		/pc.	
480 180	5412571	5240034	426
480 250	5412755	5240077	426
480 350	5412694	5240069	426
481	5412816	5240085	427
482	5412632	5240050	427
484 M12	5412991	5240220	426
484 M16	5413059	5240239	426
484 M20	5413110	5240247	426
484 M24	5413172	5240255	426
485 M10	5413233	5240301	426
485 M12	5413295	5240328	426
485 M16	5413356	5240336	426
		/100 pc.	
5000	5415695	5304008	539
5001 DIN-FT	5415879	5304105	539
5001 DIN-FT+VA	5858034	5304107	539
5001 N-CU	5817574	5304172	541
5001 N-FT	5817512	5304164	540
5001 N-VA	5892809	5304176	447
5001 N-VA	5892809	5304176	451
5001 N-VA	5892809	5304176	541
5001 ZN-CU	5415930	5304113	540
5002 DIN-FT	5416050	5304202	540
5002 N-VA	5892847	5304270	451
5002 N-VA	5892847	5304270	541
5003	5416234	5304318	540
5004 DIN-FT 12	5416357	5304407	548
5004 DIN-FT 20	5416418	5304504	548
5005 DIN-FT	5416470	5304601	542
5005 N-FT	5817758	5304660	542
5009	5416951	5304970	541
5010 20 FT	5503057	5304520	549
5011	5417071	5304997	488

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		/100 pc.	
5011	5417071	5304997	541
5011 VA M10	5629115	5334934	488
5011 VA M10	5629115	5334934	542
5011 VA M12	5959663	5334942	488
5011 VA M12	5959663	5334942	542
		price/100	
5052 DIN 20X2.5	5680468	5019340	464
5052 DIN 20X2.5	5680468	5019340	500
5052 DIN 25X3	5694007	5019342	464
5052 DIN 25X3	5694007	5019342	500
5052 DIN 30X3	5694014	5019344	464
5052 DIN 30X3	5694014	5019344	500
5052 DIN 30X3.5	5680475	5019345	464
5052 DIN 30X3.5	5680475	5019345	500
5052 DIN 30X3.5	5680482	5019347	464
5052 DIN 30X3.5	5680482	5019347	500
5052 DIN 30X4	5680499	5019350	464
5052 DIN 30X4	5680499	5019350	500
5052 DIN 40X4	5680505	5019355	464
5052 DIN 40X4	5680505	5019355	500
5052 DIN 40X5	5680512	5019360	464
5052 DIN 40X5	5680512	5019360	500
5052 V2A 30X3.5	5800415	5018501	464
5052 V2A 30X3.5	5800415	5018501	500
5052 V4A 30X3.5	5800477	5018706	464
5052 V4A 30X3.5	5800477	5018706	500
5052 V4A 30X3.5	5022015	5018730	464
5052 V4A 30X3.5	5022015	5018730	500
		/100 pc.	
565 7.6x380 SWUV	6417353	2331924	596
		/pc.	
5700	6089505	5106002	570
5700 CIP	6431137	5106041	570
5700 SP	6089512	5106003	570
5800 VA	5900436	5106141	570
5800 VZ	5900375	5106133	570
5900	5244813	3059006	573
		/100 pc.	
708 30 HG	5383659	5030234	491
708 30 SP	5383413	5030021	491
708 40 HG	5383710	5030242	491
710 30	5383055	5028035	491
710 40	5383116	5028043	491
733 16 A2	5116714	1362011	535
733 21 A2	5116837	1362046	536
733 21 A2	5116837	1362046	590
831 30	5383833	5032032	490
831 30 M6	5383956	5032237	490
831 40	5383895	5032040	490
831 40 M6	5384014	5032245	490
832 30	5384137	5032539	490
832 40	5384199	5032547	490
833 35	5384434	5033039	491
835	5433750	5033209	490
853 200	5885573	5331008	557
853 300	5423379	5331013	557
853 400	5885580	5331017	557
856	5423430	5331501	558
910 N 10x50 GRW	5229155	2349108	573
910 N 12x60 GRW	5229216	2349124	573
910 N 5x25 GRW	5228851	2349043	573
910 N 6x30 GRW	5228912	2349051	573
910 N 6x60 GRW	5228974	2349078	573
910 N 8x40 GRW	5229032	2349086	573
925 1	5385455	5040116	454
925 1 1/2	5385578	5040159	454
925 1 1/4	5385516	5040132	454
925 1/2	5385332	5040078	454

Always indicate the item number when ordering.

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925 3/4	5385394	5040094	454
925 3/8	5385271	5040051	454
927 0	5388517	5057507	453
927 1	5388579	5057515	453
927 2	5388630	5057523	453
927 2 6-K	5699651	5057599	596
927 4	5388692	5057558	453
		price/100	
927 BAND-VA	5805458	5057922	453
		/100 pc.	
927 SCH-K-VA	5805519	5057930	453
928	5385936	5040507	454
937 50	5385998	5043018	456
939	5386056	5043107	457
942 11	5384557	5038014	454
942 15	5384618	5038030	454
942 18	5384670	5038057	454
942 22	5384731	5038073	454
942 28	5384793	5038081	454
942 35	5384854	5038111	454
942 43	5384915	5038138	454
942 49	5384977	5038154	454
950 Z 1	5386353	5050111	455
950 Z 1 1/2	5386476	5050154	455
950 Z 1 1/4	5386414	5050138	455
950 Z 1 3/4	5386537	5050170	455
950 Z 1/2	5386230	5050073	455
950 Z 1/4	5386117	5050030	455
950 Z 2	5386599	5050197	455
950 Z 3/4	5386292	5050081	455
950 Z 3/8	5386179	5050057	455
951	5386650	5051509	455
952 Z 1	5386957	5052114	455
952 Z 1 1/2	5387077	5052157	455
952 Z 1 1/4	5387015	5052130	455
952 Z 1/2	5386834	5052076	455
952 Z 2	5387190	5052181	455
952 Z 3/4	5386896	5052092	455
985 M6 25	5250395	3133028	573
985 M6 35	5250456	3133036	573
985 M8 35	5250579	3133230	573
		/pc.	
AB EX ISG S M10	6524181	5240360	424
AB EX ISG S M12	6524242	5240362	424
AB EX ISG S M16	6524259	5240366	424
AB EX ISG S M20	6524273	5240370	424
AB EX ISG S M24	6524297	5240374	424
AB EX ISG SW M10	6524433	5240380	425
AB EX ISG SW M12	6524457	5240382	425
AB EX ISG SW M16	6524464	5240386	425
AB EX ISG SW M20	6524471	5240390	425
AB EX ISG SW M24	6524488	5240394	425
AF RD 10 V4A	6456161	5430720	475
AF RD 10 V4A	6456161	5430720	568
AL EX ISG 100	6521159	5240102	425
AL EX ISG 200	6521166	5240104	425
AL EX ISG 300	6521173	5240106	425
		/100 pc.	
AS 3x16	6190386	5012010	206
AS 3x16	6190386	5012010	229
AS 3x16	6190386	5012010	285
		/pc.	
C 25-B+C 0	5919391	5095603	200
C 25-B+C 1	5542957	5095606	173
C 25-B+C 1	5542957	5095606	200
C20-0-255	6329694	5095600	164
C50-0-255	6337620	5095609	69

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		price/100	
CL2512UP2000FS	5046578	1117033	458
CL2512UP2000FT	5046516	1117025	458
		/pc.	
CNS 3-D-D	5952817	5092701	246
DLS-BS	5685333	5082382	353
DS-7 16 M/W	5030881	5093171	342
DS-BNC M/M	5391098	5093260	337
DS-BNC M/W	5391036	5093252	335
DS-BNC W/W	5390978	5093236	336
DS-F M/W	5022732	5093275	343
DS-F W/W	5022619	5093272	344
DS-N M/W	5805991	5093996	338
DS-N W/W	5962243	5093988	339
DS-N-6 M/W	6463831	5093998	340
DS-SMA W/W	5867050	5093277	345
DS-TNC M/W	5087250	5093270	341
		/100 pc.	
DW FL30x3,5	6421053	2360043	487
DW RD10	6421046	2360041	487
EKL 25 M6	6049080	6404006	457
EKL 25 M8	6040438	6404001	457
EKL 35 M6	6049202	6404014	457
		/pc.	
EX ISG H	6517381	5240030	424
EX ISG H 350	6521180	5240031	424
EX PAS 10	6427680	5015270	449
EX PAS 5	6427628	5015265	449
FC-D	5035053	5092800	240
FC-ISDN-D	5047223	5092812	244
FC-RJ-D	5047254	5092828	245
FC-SAT-D	5035176	5092816	242
FC-TAE-D	5035237	5092824	243
FC-TV-D	5035114	5092808	241
FDB-2 24-M	5683339	5098380	417
FDB-2 24-N	5683384	5098390	419
FDB-3 24-M	5683346	5098382	418
FDB-3 24-N	5683391	5098392	420
		/100 pc.	
F-FIX-10	5070054	5403103	505
F-FIX-10B	5070061	5403110	505
		/pc.	
F-FIX-132	5613572	5403330	508
F-Fix-132-300	5813903	5403333	508
		/100 pc.	
F-FIX-16	5548713	5403200	504
F-FIX-16B	5110637	5403205	504
F-FIX-B10	5070085	5403124	505
F-FIX-B10	5070085	5403124	582
F-FIX-B16	5548959	5403235	505
F-FIX-B16	5548959	5403235	582
F-FIX-B16 3B	5926320	5403238	513
F-FIX-B16 3B	5926320	5403238	518
F-FIX-B16 3B	5926320	5403238	596
		/pc.	
F-FIX-BASIS	5034933	5403324	503
F-FIX-JUNIOR	5034872	5403308	503
		/100 pc.	
F-FIX-KL	5548775	5403219	505
F-FIX-S10	5070078	5403117	505
F-FIX-S10	5070078	5403117	582
F-FIX-S16	5548898	5403227	504
F-FIX-S16	5548898	5403227	513

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		/100 pc.	
F-FIX-S16	5548898	5403227	518
F-FIX-S16	5548898	5403227	582
F-FIX-S16	5548898	5403227	596
		price/100	
FL 20-CU	5382331	5021804	464
FL 20-CU	5382331	5021804	500
FL 25-CU	6431199	5021830	500
		/pc.	
FLD 110	5578413	5098646	388
FLD 12	5578376	5098603	385
FLD 2-110	5578512	5098859	391
FLD 2-12	5578444	5098808	389
FLD 2-24	5578451	5098816	390
FLD 24	5578383	5098611	386
FLD 48	5578390	5098630	387
FLD 5	5578369	5098600	384
FRD 110	5578338	5098557	382
FRD 12	5578291	5098506	379
FRD 2-24	5578420	5098727	383
FRD 24	5578307	5098514	380
FRD 24 HF	5578352	5098575	377
FRD 48	5578314	5098522	381
FRD 5	5578284	5098492	378
FRD 5 HF	5578345	5098571	376
FS-V20	5397458	5099803	427
irod 10	6219339	5400810	517
irod 12	6219346	5400812	517
irod 14	6219353	5400814	517
irod 19	6219360	5400817	517
ISAV1000R	5004608	5408849	584
ISAV1000W	5009733	5408852	585
isCon AP1-16 VA	5674696	5408026	596
isCon AP2-16 VA	5674702	5408028	596
		price/100	
isCon BA 45 SW	6591664	5408014	588
		/pc.	
isCon con 2	6591671	5408021	588
isCon con PRE	6591688	5408023	588
isCon connect	5674689	5408022	588
isCon DH	5674863	5408043	592
		/100 pc.	
isCon EPPA 004	5813781	5408060	597
		/pc.	
isCon H 26 VA	5872696	5408064	590
isCon H VA	5699668	5408056	590
isCon H280 26 PA	5872757	5408072	592
isCon H280 26 VA	5872764	5408074	591
isCon H280 PA	5674887	5408049	592
isCon H280 VA	5674870	5408047	591
isCon HS 26 PA	5872702	5408066	591
isCon HS 26 VA	5872740	5408068	591
isCon HS VA	5674726	5408052	591
isCon HWS	5813774	5408058	597
isCon HWS EN	6586981	5408059	597
isCon IN con 2	6591695	5408019	589
isCon IN con PRE	6591701	5408020	589
isCon IN connect	5864172	5408024	590
isCon IN connect	5864172	5408024	594
isCon IN PAE	5871569	5408031	589
isCon IN PAE	5871569	5408031	594
isCon IN PAE 2	6591633	5408032	589
isCon PAE	5674719	5408036	589
		price/100	
isCon PR 90 SW	6591657	5408018	587
isCon Pro 75 SW	6591640	5408008	588
isCon Pro+ 75 GR	5888123	5407995	587
isCon Pro+ 75 GR	5888154	5407997	587
isCon Pro+ 75 SW	5674573	5408002	587
isCon Pro+ 75 SW	5674627	5408004	587
isCon Pro+ 75 SW	5854265	5408006	587
		/pc.	
isCon stripper 2	6095346	5408013	588
isFang 3B-100	5670148	5408968	511
isFang 3B-100	5670148	5408968	595
isFang 3B-100 AL	5802433	5408966	511
isFang 3B-100 AL	5802433	5408966	595

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		/pc.	
isFang 3B-100-A	5859550	5408930	512
isFang 3B-100-A	5859550	5408930	593
isFang 3B-150	5674931	5408969	511
isFang 3B-150	5674931	5408969	595
isFang 3B-150 AL	5802440	5408967	511
isFang 3B-150 AL	5802440	5408967	595
isFang 3B-150-A	5859567	5408932	512
isFang 3B-150-A	5859567	5408932	593
isFang 3B-250-A	6219452	5408902	512
isFang 3B-250-A	6219452	5408902	593
isFang 3B-G1	5674948	5408971	513
isFang 3B-G1	5674948	5408971	517
isFang 3B-G1	5674948	5408971	595
isFang 3B-G2	5674979	5408972	513
isFang 3B-G2	5674979	5408972	517
isFang 3B-G2	5674979	5408972	595
isFang 3B-G3	5674986	5408973	513
isFang 3B-G3	5674986	5408973	517
isFang 3B-G3	5674986	5408973	595
isFang 3B-G4	6219469	5408905	513
isFang 3B-G4	6219469	5408905	517
isFang 3B-G4	6219469	5408905	595
isFang 4000	5670056	5408942	511
isFang 4000	5670056	5408942	595
isFang 4000 AL	5785330	5408943	511
isFang 4000 AL	5785330	5408943	595
isFang 6000	5670063	5408946	511
isFang 6000	5670063	5408946	595
isFang 6000 AL	5785347	5408947	511
isFang 6000 AL	5785347	5408947	595
isFang IN 10000	6219407	5408870	514
isFang IN 10000	6219407	5408870	599
isFang IN 4000	5871613	5408934	514
isFang IN 4000	5871613	5408934	599
isFang IN 6000	5871620	5408936	514
isFang IN 6000	5871620	5408936	599
isFang IN 8000	6219391	5408868	514
isFang IN 8000	6219391	5408868	599
isFang IN-A 4000	5871668	5408938	512
isFang IN-A 4000	5871668	5408938	593
isFang IN-A 6000	5871675	5408940	512
isFang IN-A 6000	5871675	5408940	593
isFang IN-A 8000	6219414	5408888	512
isFang IN-A 8000	6219414	5408888	593
isFang IN-A10000	6219421	5408890	512
isFang IN-A10000	6219421	5408890	593
isFang TR100	5670100	5408956	515
isFang TR100	5670100	5408956	598
isFang TR100 100	5849360	5408955	515
isFang TR100 100	5849360	5408955	597
isFang TR100 200	5849391	5408957	515
isFang TR100 200	5849391	5408957	597
isFang TR100 300	5849407	5408959	515
isFang TR100 300	5849407	5408959	597
isFang TS40-50	5670117	5408958	515
isFang TS40-50	5670117	5408958	597
isFang TS50-60	5670124	5408960	515
isFang TS50-60	5670124	5408960	597
isFang TS50x50	5670131	5408964	516
isFang TS50x50	5670131	5408964	597
isFang TW200	5670094	5408954	515
isFang TW200	5670094	5408954	598
isFang TW200 12	6219476	5408910	515
isFang TW200 12	6219476	5408910	598
isFang TW30	5670087	5408952	514
isFang TW30	5670087	5408952	598
isFang TW80	5670070	5408950	514
isFang TW80	5670070	5408950	598
ISO-A-1030	5770497	5408820	585
ISO-A-150 8	6036226	5408800	585
ISO-A-500	5542773	5408806	585
ISO-A-800	5542834	5408814	585
ISOLAB	5921738	5096812	430
KB MB	5709350	5089660	227
KB MB	5709367	5089662	228
KOAX B-E2 FF-F	6415731	5082434	352
KOAX B-E2 MF-C	6415717	5082430	350
KOAX B-E2 MF-F	6415724	5082432	351
LC 63	5509899	5096970	101

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		/pc.	
LE ERDER FT	5617358	5000300	469
LE ERDER V4A	5708834	5000335	469
LE HAMMER-AC	5111641	3043618	474
LE HAMMER-B	5087137	3043614	474
LE HAMMER-B-II	5421627	3043628	474
LE HAMMER-H	5087076	3043610	474
LE HAMMER-SDS-M	5111160	3043602	474
LE HAMMER-W	5617419	3043606	474
LE KOPF	5617297	3042308	472
LE SPITZE	5617235	3041409	471
LFC	5425182	5096786	430
LSA-A-LEI	5525134	5084008	330
LSA-BF-180	5525370	5084024	328
LSA-BF-24	5525431	5084028	329
LSA-B-MAG	5525318	5084020	327
LSA-E	5525493	5084032	330
LSA-E-LEI	5525257	5084016	330
LSA-G	5110750	5084048	331
LSA-M	5525554	5084036	330
LSA-T-LEI	5525196	5084012	330
LSA-TOOL	5525615	5084040	331
LSC I+II	6465644	5091722	431
LSC I+II	6465644	5091722	572
MB 1	5415732	5096648	204
MB 1+FS	5415749	5096649	204
MB 1+FS	5415749	5096649	225
MB 1+NPE	5415770	5096650	204
MB 1+NPE	5415770	5096650	225
MB 1+NPE+FS	5415787	5096651	204
MB 1+NPE+FS	5415787	5096651	226
MB 2	5415794	5096653	204
MB 2+FS	5415800	5096654	204
MB 2+FS	5415800	5096654	225
MB 2+NPE	5067481	5096655	204
MB 2+NPE	5067481	5096655	225
MB 2+NPE+FS	5067498	5096657	204
MB 2+NPE+FS	5067498	5096657	226
MB 3	5067504	5096665	204
MB 3+FS	5067535	5096667	204
MB 3+FS	5067535	5096667	225
MB 3+NPE	5067542	5096669	204
MB 3+NPE	5067542	5096669	225
MB 3+NPE+FS	5067559	5096671	204
MB 3+NPE+FS	5067559	5096671	226
MB 4	5067566	5096680	204
MB 4+FS	5067597	5096682	204
MB 4+FS	5067597	5096682	225
MB25-3+NPE	5871200	5096672	196
MB-FS	5813484	5096693	206
MB-FS	5813484	5096693	228
MC 125-B NPE	5966449	5096863	92
MC 50-B 0 VDE	5480730	5096820	100
MC 50-B 0-OS	5051428	5096825	100
MC 50-B 3	5077046	5096876	91
MC 50-B 3+1	5077084	5096878	93
MC 50-B U VDE	5480792	5096839	72
MC 50-B U VDE	5480792	5096839	101
MC 50-B VDE	5966388	5096847	89
MC 50-B-OS	5051411	5096851	90
MC V3	5531135	5096884	72
MC V3	5531135	5096884	101
MC V4	5531197	5096886	72
MC V4	5531197	5096886	101
MCD 125-B NPE	5541394	5096865	30
MCD 50-B	5541158	5096849	28
MCD 50-B 0	5544517	5096822	72
MCD 50-B 0-OS	5051473	5096827	72
MCD 50-B 3	5077077	5096877	26

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		/pc.	
MCD 50-B 3+1	5077091	5096879	24
MCD 50-B 3+1-OS	5288299	5096836	25
MCD 50-B 3+1-VG	5362036	5096875	31
MCD 50-B 3-OS	5288282	5096835	27
MCD 50-B 3-VG	5362029	5096874	32
MCD 50-B-OS	5051466	5096852	29
MCF 35-1+FS-440	5990116	5096974	95
MCF 35-P3+FS-440	5995012	5096976	96
MCF100-3+NPE+FS	6487332	5096987	21
MCF75-3+FS	6487325	5096981	22
MCF-MS-M10	5995029	5096990	102
MCF-MS-P1	5995036	5096992	102
MCF-MS-P3	5995043	5096994	102
MDP-2 D-12-T-10	5787372	5098415	403
MDP-2 D-24-T	5406860	5098422	396
MDP-2 D-24-T-10	5787389	5098425	405
MDP-2 D-48-T	5406891	5098442	399
MDP-2 D-5-T	5406839	5098404	393
MDP-3 D-24-T	5406877	5098427	397
MDP-3 D-48-T	5406907	5098446	400
MDP-3 D-5-T	5406846	5098407	394
MDP-4 D-12-T-10	5773610	5098419	404
MDP-4 D-24-EX	5848523	5098432	414
MDP-4 D-24-T	5406884	5098431	398
MDP-4 D-24-T-10	5625131	5098433	406
MDP-4 D-48-EX	5848530	5098452	415
MDP-4 D-48-T	5406914	5098450	401
MDP-4 D-5-EX	5848516	5098412	413
MDP-4 D-5-T	5406853	5098411	395
MDP-4 D-5-T-10	5625124	5098413	402
		/VPE	
MK-B	5461111	5091322	431
MK-B	5461111	5091322	571
		/100 pc.	
M-Quick M32 LGR	5741671	2153734	591
		/pc.	
ND-CAT6/E-B	6532773	5081804	354
ND-CAT6/E-F	6532766	5081802	354
ND-CAT6A/EA	5614364	5081800	348
OEC 25	6427925	5009200	494
		/VPE	
PCS	5461296	5091438	430
PCS	5461296	5091438	571
		/pc.	
PCS-CS-D	5461654	5091683	431
PCS-CS-D	5461654	5091683	571
PCS-CS-GB	5896111	5091691	431
PCS-CS-GB	5896111	5091691	571
		/VPE	
PCS-H	5461470	5091527	431
PCS-H	5461470	5091527	571
		/pc.	
PND-2in1-C-RS	6607020	5081064	408
PND-3in1-C-RS	6607051	5081066	409
		/100 pc.	
ProtectionBall	6409327	5018014	464
		/pc.	
PS 2-B+C/TT+TNS	5759782	5089748	73
PS3-B+C TNC	5405528	5089754	76
PS3-B+C TNC+FS	5405535	5089756	77
PS3-B+C-320	5806813	5089755	78
PS3-B+C-320+FS	5816614	5089757	79
PS3-VA TNC	5405566	5089768	82
PS3-VA TNC+FS	5405580	5089775	83
PS4-B+C TNS+FS	5405559	5089763	75
PS4-B+C TT+TNS	5405542	5089761	74
PS4-VA TT+FS	5405597	5089777	81
PS4-VA TT+TNS	5405573	5089770	80

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		price/100	
RD 10	5381617	5021103	465
RD 10	5381617	5021103	500
RD 10-ALU	5381976	5021308	465
RD 10-ALU	5381976	5021308	501
RD 10-CU	5382096	5021502	466
RD 10-CU	5382096	5021502	502
RD 10-PVC	5381730	5021162	465
RD 10-PVC	5381730	5021162	501
RD 10-V2A	5801375	5021227	466
RD 10-V2A	5801375	5021227	501
RD 10-V2A	5680567	5021239	466
RD 10-V2A	5680567	5021239	501
RD 10-V4A	5902058	5021642	466
RD 10-V4A	5902058	5021642	501
RD 10-V4A	5680581	5021647	466
RD 10-V4A	5680581	5021647	501
RD 10-V4A 20	6282425	5021640	466
RD 10-V4A 20	6282425	5021640	501
RD 8-ALU	5381914	5021286	465
RD 8-ALU	5381914	5021286	501
RD 8-ALU-T	5901273	5021294	465
RD 8-ALU-T	5901273	5021294	501
RD 8-ALU-T 75	6286232	5021296	465
RD 8-ALU-T 75	6286232	5021296	501
RD 8-CU	5382034	5021480	466
RD 8-CU	5382034	5021480	502
RD 8-FT	5381556	5021081	465
RD 8-FT	5381556	5021081	500
RD 8-FT 50	5423898	5021050	465
RD 8-FT 50	5423898	5021050	500
RD 8-PVC	5067474	5021332	465
RD 8-PVC	5067474	5021332	501
RD 8-V2A	5680529	5021235	466
RD 8-V2A	5680529	5021235	501
RD 8-V4A	5680574	5021644	466
RD 8-V4A	5680574	5021644	501
		/pc.	
RJ11-TELE 4-C	6415656	5081975	321
RJ11-TELE 4-F	6415663	5081977	322
RJ45 S-ATM 8-F	6415694	5081990	349
RJ45 S-E100 4-B	6415748	5081001	355
RJ45 S-E100 4-C	6415755	5081003	356
RJ45 S-E100 4-F	6415762	5081005	357
RJ45-TELE 4-C	6415670	5081982	323
RJ45-TELE 4-F	6415687	5081984	324
		/100 pc.	
RK-FIX	5433682	5316450	552
RK-FIX CU	5433736	5316468	553
RK-FIX VA	5433729	5316459	552
		price/100	
S 11-CU	5836209	5021654	466
S 11-CU	5836209	5021654	502
S 9-CU	6033768	5021652	466
S 9-CU	6033768	5021652	502
S-11-CU SN	5938668	5021656	466
S-11-CU SN	5938668	5021656	502
		/pc.	
SD09-V11 9	5916277	5080061	360
SD09-V24 9	5915973	5080053	358
SD15-V24 15	5916031	5080150	359
SD-Fix	5670735	5403335	508
		/100 pc.	
SQ M6	5016069	2146509	590
SQ-20 SW	5655367	2146164	590
SQ-25 LGR	5595717	2146207	590
		/pc.	
S-UHF M/W	5390732	5093023	333
S-UHF W/W	5390671	5093015	334
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		/100 pc.	
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		/pc.	
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ÜSM-10-230I2P+PE	6426768	5092426	253
ÜSM-10-230I2P-0	6426751	5092424	254
ÜSM-20-230I1P+PE	6515400	5092431	233
ÜSM-20-230I1P+PE	6515400	5092431	257
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V10-C 1+NPE-280	5382799	5093418	219
V10-C 3+NPE	5363903	5094920	217
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Sale and delivery conditions
of the companies OBO Bettermann Vertrieb Deutschland GmbH & Co. KG, OBO Bettermann Projekt und Systemtechnik GmbH, OBO Bettermann Export GmbH & Co. KG, OBTEC GmbH, Flugplatzgesellschaft Arnsberg – Menden mbH, FAM Holding GmbH, OBO JET-CHARTER GmbH, Grundstücksverwaltung Bettermann GmbH & Co. KG, OBO Bettermann Produktion Deutschland GmbH & Co. KG as well as OBO Bettermann Holding GmbH & Co. KG

§ 1 General
(1.1) The general terms and conditions of business given below (hereinafter referred to as "AGB" or "VLB") are applicable in the respectively latest version for all contracts signed and to be signed in future between the OBO Bettermann Vertrieb Deutschland GmbH & Co. KG, OBO Bettermann Projekt und Systemtechnik GmbH, OBO Bettermann Export GmbH & Co. KG, OBTEC GmbH, Flugplatzgesellschaft Arnsberg – Menden mbH, FAM Holding GmbH, OBO JET-CHARTER GmbH, Grundstücksverwaltung Bettermann GmbH & Co. KG, OBO Bettermann Produktion Deutschland GmbH & Co. KG, as well as the OBO Bettermann Holding GmbH & Co. KG (hereinafter referred to as "sellers") and the respective (possibly future) contractual partners (hereinafter referred to as "Customer") regarding the sale and / or delivery of goods, as far as these are used against entrepreneurs, legal entities under public law and special assets governed by public law as defined in § 310 I BGB.
(1.2) It is pointed out explicitly that the local AGB also contain the additional conditions for plant engineering, if the contract is / should be signed with the OBO Bettermann Projekt und Systemtechnik GmbH. The additional conditions for plant engineering in this case are attached with the offer or with the acceptance of the offer and can also be viewed and stored in the Internet at http://cdn.obo.de/mailings/downloads/AGB_PuS_Anlagenbau.pdf.
(1.3) It is pointed out explicitly that AGB of the customer become an integral part of the contract only when these have been acknowledged in writing by the sellers. In particular, an inclusion through a conclusive behaviour is not effected to the extent that the customer discernibly refers to his AGB and the sellers do not contradict their validity.
(1.4) Insofar as the AGB of the customer have also become a part of the contract and contradict the AGB, the AGB of both parts become a part of the contract only when they match (principle of congruency). Disagreement arising from the contradicting AGB is to be interpreted primarily under consideration of the interests of both parties and a solution satisfying the interests of both the parties is to be found. If this is not possible, the legal regulations are applicable. Disagreements do not impact the effectiveness of the contract and of the AGB.
(1.5) Contracts or amendments of the contracts are effective only when they have been agreed upon in writing; to this extent, the written form not only serves the purpose of a proof, but is also a rightconstitutive pre-requisite for effectiveness of the declaration of intent (constitutive written form). This also applies to an amendment of this written form clause. Informally signed contracts and contractual amendments are effective only when they have been signed by means of individually negotiated terms as defined in§ 305b BGB. It is clarified explicitly that the written form requirement is maintained by transmission through telecommunication (e-mail, fax) (see § 127 II, S.1 BGB).
(1.6) These VLB can be amended at any time for adaptation to changes in law, changes in judicature or in the event of essential changes to the economic situation. The amendments shall become effective to the extent that seller has notified customer of the new version of the VLB in a textual form with clear emphasis of the changes, seller makes reference as early as the notification of the new version that the changes also become effective without customer's consent if customer does not contradict the changes in good time and a contradiction from customer is not made in good time within 2 weeks of receipt of the notification.
(1.7) The seller reserves the right to make technical changes in design, shape and material even during the delivery period, if the changes are reasonable for the customer and nothing on the contrary has been agreed upon.
§ 2 Offers
(2.1) Offers from the seller always are not binding and represent only a request for submitting a binding offer from the interested parties.
(2.2) Offers of the seller are, in case they do not contain any deviating data - subject to an adequate assurance of the order sum (e.g. through credit insurance or bank guarantee) - valid four weeks starting from the day of the proposal submittal.
(2.3) The documents belonging to the Offers such as diagrams, leaflets, drawings, dimensions, load capacity values and weight data are subject to deviations, which are usual in the industry and / or lie in the framework of the normal production tolerances.
(2.4) Samples are non-binding approval samples. Deviations, which are customary to trade and/or lie in the framework of the normal production tolerances, are reserved in case of purchase after sample. After receipt, samples are to be returned to the seller in a flawless state within four weeks, unless agreed upon otherwise. If the return is not done within this period or not in a proper way, the seller has the right to invoice the purchase price of the sample according to the latest price list.
§ 3 Protection rights
(3.1) The seller reserves the copyright for drawings and other design documents and data. These may not be made accessible to third parties, unless agreed upon otherwise, such as for the case that the data / drawings / images are also to be used for a web-shop.
(3.2) The customer guarantees vis-à-vis the seller that the manufacture and delivery of the goods made according to his instructions do not violate any third party protection rights. In case third party protection rights are asserted vis-à-vis the seller, the seller has the right without a legal check to withdraw from the corresponding contracts after hearing the customer; unless the third party declares the non-assention of protection rights vis-à-vis the seller within eight days in writing.
(3.3) The customer must exempt the seller from the claims in the context of the assertion of protection rights of third parties. Services and expenses of the seller already made are to be compensated or reimbursed in case of assertion of third-party protection rights regardless of their maturity.
§ 4 Prices and payment modalities, notification duties
(4.1) The prices mentioned in the offers and documents of the seller are the ex-factory or the exwarehouse prices of the seller. The prices do not include the respectively applicable value-added tax, the cost of packing, loading and unloading, freight, customs, insurance, dismantling, return and proper disposal of electrical and electronic old devices for commercial purposes as defined in the ordinance for waster electrical and electronic equipment, unless agreed upon otherwise. Fees, taxes or other expenses in the context of the delivery will be borne by the customer. Unless agreed upon otherwise, the delivery taken over from the seller does not include the unloading and bringing the goods.
(4.2) The unit prices mentioned in the offer in an offer are valid only upon placing a purchase order for the complete delivery scope given in the respective offer or for the actual service offer. In case of a purchase order deviating in quantity or in scope from the offer of the seller, the prices listed in the offer are not applicable to the seller.
(4.3) Payments for invoices as well as credits, which are made within 10 (ten) days after receiving, with the exception of payments made by means of exchange are to be made with 2 (two) percent net cash discount; later incoming payments within 30 (thirty) days from the date of the invoice are to be made net without cash discount. Mounting services as well as all wage work are to be paid without cash discount within 10 (ten) days. Incoming payments are credited at first against costs, then against interest and then against the longest due liability.
(4.4) All invoices and credits - subject to different written agreements in the individual case - are payable by within 30 (thirty) days of the invoice without deduction; a default of payment occurs after this. Payments are to be made only to the accounts of the seller mentioned in the invoice in the agreed upon currency by mentioning the account number. For payments of all kinds, fulfilment is said to occur on the day, on which the payment becomes available to the seller without restriction. The seller is not committed to accept bills of exchange or cheques. However, if these are acknowledged, they are then accepted only subject to the possibility of discounting against the payment of all expenses on account of performance (see § 364 II BGB). Similarly, the seller is also not obliged to provide timely notification of changes and checks as well as to raise protests.
(4.5) The customer ensures the correctness of his sales tax identification number, which is to be informed immediately and without being asked. The customer is committed to inform immediately about each change in his company name, his address, the delivery address and his sales tax identification number to the seller as well as to the responsible financial authority of the country.
(4.6) The seller has the right to adjust his prices, if needed, to the normal level in the market, if wages, material prices or taxes increase in the period between signing the contract and executing the order. In case of an increase in stock exchange listing for NE metals, the seller has the right to charge the difference applicable on the day of receipt of the order in the form of a surcharge for products containing copper, silver or brass. In case of further changes in stock exchange listings, the seller has the right to correct the calculated basis for the list prices.
(4.7) The prices of the products containing brass and copper are subject to certain fluctuations, which are based on the respective DEL quotations. The prices of brass articles are based on a DEL quotation of Euro 150.00 for Ms 58, those of copper products are based on a DEL value of Euro 200.00 for electrolyte copper. In case of an upward or downward change of these rates by more than Euro 15.00, a five percent surcharge or deduction is credited for each 15 (fifteen) points. For calculating the surcharge or the deduction the respective DEL note of the date is taken as the basis, on which the seller received the offer.
(4.8) In case of payment default by the customer, the seller has the right to charge default interest amounting to 9 (nine) percentpoints p.a. over and above the respective base interest rate as per § 247 BGB. The asserting of a further damage caused by delay remains reserved.
(4.9) The customer is entitled to the rights of set-off or rights of retention only when counter-claims have been recognised by declaratory judgement or are undisputed.
(4.10) If an application has been filed for initiating insolvency proceedings over the assets of the customer, the customer has initiated an out-of-court process for debt settlement, has stopped his payments or else the seller is aware of other circumstances, which essentially reduce the creditworthiness of the customer and which jeopardise the rendering of the services by the customer, the seller has the right to demand security through advance payment or bank (choice of the customer) guarantee for the deliveries still pending by setting a notice period of one week and to refuse the rendering of his services till the security is paid. After a suitable notice period has elapsed in vain, the seller further has the right to withdraw from the contract as well as to demand indemnity. Moreover, in this case, the seller can also demand the resale authorisation along with direct debit authorisation as per § 8.8 as well as the revoke the right of processing, bonding and mixing the already delivered goods according to §§ 8.4-8.5 as well as demand the return of the delivered goods according to §§ 8.8-8.9.
(4.11) If the legal situation at the time of the conclusion of the contract decisively changes or if control of customer or of a considerable part of its holdings passes to other natural or legal entities, customer shall be obliged to notify seller without delay.
(4.12) In order to have a tax-free delivery and, alternatively, not having to include sales tax in all invoices and thereafter to pay the sales tax after receiving the papers, the customer must bring forth the proof of delivery. To do this, he has to demonstrate the delivery of goods by sending the corresponding original document within 4 (four) weeks to the seller after pick-up / dispatch of the goods. In case the seller does not receive this document within the mentioned period, he has the right to charge the customer the sales tax on the net goods value valid for this period.
(4.13) Invoice reductions, differences, debit advices or other disagreements do not change the original term of payment of the invoice. All indisputable receivables, not affected by disagreements, become due for payment according to the original invoicing. All credit advices created by the seller for settling the differences do not change in any way the original term of payment of the invoice.
§ 5 Delivery
(5.1) Packaging, dispatch route and means of transportation are generally based on the graded lumpsum prices; the regulations of § 4.1 are applicable in addition. The seller charges the costs for packaging, dispatch route and means of transportation.
(5.2) A carriage-paid delivery i.e. a delivery without freight and packaging costs within Germany, is done for free starting with a net order value of Euro 2,500.00. It is made clear that a delivery is "free to the door" when the carrier opens his vehicle at the agreed upon unloading point and makes it available for unloading. The unloading as well as the on-site delivery of the goods is to be done by the customer.
(5.3) Undamaged returnable load carriers are taken back by the seller in case of freight-free provision. The pool pallets used for transportation are to be exchanged with the fraught or empty pallets, to be returned. Details of the processing are given in the respectively applicable loading equipment handling of the seller, which can be stored permanently in the Internet at http://cdn.obo.de/mailings/downloads/Packschema_Ladehilfsmittel.pdf and are a part of this contract.
(5.4) The smallest selling units defined in the article master data are binding. Goods ordered below the smallest selling unit are rounded off automatically i.e. without consulting the buyer, to the next higher smallest selling unit.
(5.5) The seller reserves the over and under-deliveries, in particular in case of order-related production in the market-based scope or the as per the national or international standard. In case of a demand for adhering to precise quantity, an explicit instruction is necessary, which must be confirmed.
(5.6) The seller has the right to partial deliveries, but is not committed, if the partial deliveries are reasonable for the customer. Partial deliveries can be invoiced separately.
(5.7) The customer cannot reject excess or reduced services in a reasonable scope. The complaint of an excess or reduced service does not justify the rejection of further deliveries from the same or from another contract. In case of custom-made products the seller reserves an excess or under-delivery of 10% of the ordered quantity. In each case, only the actually delivered quantity is invoiced.
(5.8) Blanket and call orders commit the customer for accepting the total quantity underlying the blanket and call orders. In case no specific call orders result from the contract or from any other agreement, the total quantity of the blanket or call order is to be called within 3 (three) months. If the customer does not adhere to the call dates, the seller has the right to completely deliver the total quantity to his house address and to invoice it 4 (four) weeks after written declaration by indicating the consequences of the omitted call. The rights of the seller from default of the customer remain unaffected.
(5.9) The delivery commitment of the seller is subject to the provision of defect-free and on-time selfdelivery, if the seller procures the goods as a whole or parts of product from a sub-contractor. This does not apply, if the seller is responsible for the non-delivery or for the delay.
(5.10) Events, such as those below, for which the seller is not responsible in the scope of the normal operating risk and which make the (partial) delivery essentially difficult or even impossible, entitle the seller to postpone the (partial) delivery by the duration of the hindrance together with suitable start-up time or alternatively to withdraw from the contract. In each case, the customer can demand a declaration from the seller, whether he will deliver within a suitable time period according to the circumstances or whether he will withdraw. The delivery periods gets extended in case of events such as industrial conflicts, strikes and lockouts, regulatory actions, material procurement difficulties, scrap or rework, business disruptions and lack of staff, lack of means of transportation as well as upon occurrence of other unforeseen events, on which the seller has no influence, by the duration of these events.
(5.11) Even in case of dispatch readiness , the customer comes in default of acceptance, if in case of delivery ex-factory/warehouse or agreed upon pick-up obligation the delivery is offered to him by the seller only in writing or else the customer has declared that he will final not accept the delivery.
(5.12) Products reported as ready for dispatch as per the contract must be accepted immediately by the customer. Otherwise, the customer comes in default of acceptance so that the seller - his other rights notwithstanding - has the right either to dispatch the goods at the cost and risk of the customer or to store them and invoice them upon the expiry of a notice period of one week. The same applies, if the goods are not called or not called completely within the decisive call period (see § 5.8).
(5.13) For the case that the customer comes in default of acceptance or violates other service or participation duties, the seller has the right to demand the damages caused to him including possible extra expenses.
(5.14) If the customer defaults with the fulfilment of the obligations arising from the aforesaid regulations by more than one month, the seller can - further rights notwithstanding - demand from the customer a contractual penalty of 5 (five) percent of the invoice value instead of contract fulfilment and dispose of the stored goods in any other way under consideration of the interests of the customer or scrap the goods. The contractual penalty is charged at a reimbursement of damages or expenses to be paid by the customer. A bulk discount granted on earlier deliveries based on this contract is then to be paid back later by the customer.
§ 6 Delivery periods and dates
(6.1) Delivery periods and dates apply only approximately unless something to the contrary has been agreed upon.
(6.2) The adherence to delivery periods and dates requires the on time fulfilment of the contractual obligations of the customer. Delivery periods start with the date of order confirmation by the seller, but not before clarifying all details of the execution of the order and receipt of all documents necessary for the order execution and other information to be made by the customer as well as the receipt of an advance payment agreed upon. If these requirements are not fulfilled on time, the delivery periods and the dates get extended accordingly. This is not applicable if the delay is caused by the seller. The delivery period shall be deemed to have been met, if the goods leave the plant or the warehouse at the appointed time or the dispatch readiness of the customer is reported, but the goods cannot be dispatched on time without a fault of the seller. The aforesaid regulations apply accordingly to delivery dates.
(6.3) In case of a later amendment of the order desired by the customer, the seller can demand an appropriate extension of the delivery periods and dates. If the delivery is delayed upon request or by fault of the customer, the goods are then stored at the cost and risk of the customer, unless agreed upon otherwise.
(6.4) Regulatory and other third party approvals, necessary for executing the assets or deliveries e.g. for the purpose of import are to be obtained by the customer. If such approvals are not present at the right time (i.e. at the start of the fulfilment negotiations / acts by the seller) then the delivery period gets extended accordingly.
(6.5) The seller has the right to carry out partial deliveries as well as deliveries before due date and to settle them separately. If the delivery is agreed upon call, the goods are then considered as called latest by three months after placing the order, unless agreed upon otherwise. The customer then has an obligation to accept the delivery, upon whose violation the seller in particular has the right to store the goods with a third party at the cost and on behalf of the customer or to deliver them at the address of the customer.
(6.6) In case of articles manufactured by the seller on order, the customer is obliged to accept the same. It is agreed upon explicitly that in case of a withdrawal of the customer from the contract, the customer must bear the costs accruing till the time of the withdrawal.
(6.7) Unforeseen events not under the control of the seller, such as war, risk of war, unrest, use of violence by third party against persons or objects, sovereign interventions including currency and trade-related measures, industrial actions at the place of the seller or his suppliers or transportation companies, disruptions of the intended traffic connections, fire, scarcity of raw material, shortage of power and other disruptions of the seller through no fault of one's own extend the agreed upon delivery periods and dates by the duration of the hindrance. This also applies, if the seller is already in default of delivery or of the performance hindrances mentioned above were already present before signing the contract, but were not known to the seller. The seller will inform the customer immediately about the hindrances of the aforesaid type.
(6.8) If the delivery delays cause by these factors last for more than two months, both sides have the right to withdraw from the contract. However, the customer can withdraw only when the seller does not declare upon his request within a notice period of one week, whether he will withdraw or delivery within a suitable period. The same right of withdrawal arises independent of the aforesaid period, if the execution of the contract has become unreasonable for one of the parties under consideration of the delay that has occurred.
§ 7 Return delivery of goods
(7.1) A claim of the customer for return of the goods not needed arises - except for warranty cases or other return obligations resulting from the law - only after a prior written approval of the seller. Return requests, whose net goods value - before sales tax - is less than Euro 15.00 for each item, cannot be accepted and processed. Credit notes or charges resulting from returns can be maximum up to 70 (seventy) percent of the net goods value.
(7.2) In addition, the conditions and conditions set out below shall be complied with pursuant to §§ 7.3- 7.6 and no case of § 7.7 shall exist.
(7.3) A return is permitted till maximum 12 (twelve) months after the date of delivery and only by specifying the delivery note or invoice number of the seller.
(7.4) A product currently in the catalogue is to be returned in a flawless state so that it can be resold. A product is to be returned unused, undamaged, in original packing as well as in complete packaging units. The minimum value for accepting each item in the warehouse is Euro 15.00.
(7.5) The return must be reported and confirmed by the seller in writing with a return number. If needed, an inspection of the product is done by the seller at site, which the customer has to allow. The return confirmation of the seller is to be attached with the dispatch. The return is done free of charge. A remuneration is paid via credit note. Only approved articles in a flawless condition are credited. Debit notes of the customer are not permitted.
(7.6) For handling and checking in the scope of the quality management system ISO:9001, the seller charges a lump-sum processing fee of 30 (thirty) percent of the affected goods value. The seller bears the necessary costs for the new packing and cleaning of the goods.
(7.7) Custom-made products, not listed / inactive articles and discontinued types, packaging units with a shortfall and old executions are not taken back.
(7.8) If one of the points mentioned under § 7.7 is relevant, the returned product is scrapped after consulting with the customer and expiry of a suitable period set for the customer.
§ 8 Reservation and structure of ownership / Reservation of proprietary rights and property relations
(8.1) The seller retains the ownership of the delivered objects till the receipt of all payments from the business relationship with the customer. The reservation of ownership also extends to the recognised balance, if the seller posts receivables vis-à-vis the customer in the current invoice (current account retention).
(8.2) The dies, tools, design documents and other similar objects delivered by the seller for executing the order also remain the property of the seller. In particular, no ownership rights follow from the fact that the customer has contributed towards the costs of manufacturing the dies, tools, design documents and other similar objects.
(8.3) The customer is committed, as long as the ownership has not been transferred to him, to handle the purchased object properly and to identify it clearly and permanently as property of the seller. He is especially committed in case of high quality products to insure these at the new value adequately against theft, fire and water damages at his own cost. In case of doubt, the customer must obtain information from the seller. If maintenance and inspection work is to be done, the customer must carry these out on time at his cost.
(8.4) The processing or restructuring of the delivered objects by the customer is done always for the seller as manufacturer as defined in § 950 BGB (manufacturer's clause), but without committing him. If the delivered objects are processed with other objects not belonging to the seller, the seller then acquires the co-ownership of the new object in the ratio of the value of the delivered object to the other connected or joined objects at the time of processing. The object arising from processing must be handled as the goods subject to retention of title.
(8.5) If the delivered objects are processed with other objects not belonging to the seller, are connected or joined inseparably, the seller then acquires the co-ownership of the new object in the ratio of the value of the delivered object to the other connected or mixed objects at the time of connecting or joining. If the connection or joining is done in a way that the product of the customer is to be considered as the main product, the customer then transfers the co-ownership to the seller proportionately. The offer directed towards this is accepted explicitly.
(8.6) The customer is committed to take charge of the (co-) ownership of the seller free of cost and with proper business care; it is to be treated like goods subject to retention of title. In doing so, the customer is committed to show the care over and above the one he shows in his own matters.
(8.7) Before the transfer of ownership, the product of the seller may neither be mortgaged nor pledged as security without a written permission. The assertion of third party rights on the product is to be informed immediately to the seller. In addition, all information necessary in this case for a possible intervention of the seller is to be given and the documents and other correspondence necessary for this must be handed over. If the customer does not fulfil the requirements, the damages arising from this are charged to the customer. In this case, all claims against the customer become due immediately.
(8.8) As long as the customer goes according to the contract i.e. fulfils his contractual payment obligations, the customer has the right to sell further or use the delivered objects in the scope of proper business transaction and to collect the corresponding receivables after assignment of claim. Otherwise, the authorisation can be revoked. If the goods are sold before paying the receivables of the seller, the customer is then committed to preserve and secure the ownership rights of the seller till the complete repayment of the receivables. To do this, he surrenders all receivables to the seller (the receivables arising from the resale as well as the ancillary rights and security interests of the customer from the resale, and possible indemnity claims owing to damage and destruction of the goods subject to retention of title, which also includes an insurance sum in place of the retention of title) amounting to the final invoice amount (including VAT), which accrue for the customer from the resale to his customers or to third parties, regardless of the fact whether the delivery objects have been resold without or according to the agreement. The assignment of claim is accepted here explicitly. In case coownership of the customer is sold, the assignment of claim of the receivable extends to the amount, which matches the share value of the seller. The customer is authorised to collect the receivables even after surrendering them. The authority of the seller to collect the receivable himself remains unaffected by this; however, the seller is committed not to collect the receivable as long as the customer fulfils his payment obligations in a proper way and does not come in default of payment. In each case the seller can demand that the customer discloses the collected receivables and their debtors as well as provides all information necessary for the collection, hands over all the documents necessary for this and notifies the surrender to the debtors (third parties). In this case the seller - other rights notwithstanding - is especially entitled to take the delivered objects (or their substitutes) provisionally at the cost of the customer and to utilise the delivered objects (or their substitutes) after giving reminders according to dutiful discretion, whereby a corresponding credit (minus the costs of utilisation) is granted to the customer.
(8.9) The customer has no right to the other dispositions over the goods subject to retention of title, in particular to a hypothecation or a security pledging. The authorisation of the customer can further be revoked by the seller in case of violation of duties from §§ 3, 8 as well as non-payment of the invoice. In these cases, the processing of the goods subject to retention of title and their connecting or joining with other products is also prohibited to the customer as well as the seller has the right to take back the delivered objects; the customer is committed to surrender / take the goods back. The taking back of the delivered objects by the seller implies a withdrawal from the contract. A withdrawal from the contract also lies in the garnishment of the delivered objects. In case of garnishments or other third party interventions, the customer must inform the seller immediately in writing.
(8.10) Apart from this, the seller can, if the customer defaults with his payment obligations vis-à-vis the seller for longer than three months, demand the goods subject to retention of time at the cost of the customer and collect the receivables and other claims surrendered to the seller. Moreover, the seller can - if there is still a security interest of the seller - utilise the goods subject to retention of title for satisfying his claims according to discretion as per the duty at the cost of the customer. The profit gained with the deduction of the utilisation costs is offset against the open receivables of the seller visà- vis the customer –starting with the latest receivable that is due.
(8.11) The seller is committed to release the securities, to which he is entitled upon request by the customer to the extent that their value exceeds the receivables to be secured, in case these are not compensated, by more than ten (10) percent.
(8.12) With the repayment of all claims of the seller by the customer, all surrendered claims along with ancillary rights and security interests are transferred again to the customer.
§ 9 Warranty and warranty exclusion
(9.1) The customer must check the delivered product immediately with a thoroughness reasonable for him and - if necessary, through a sample processing - check the texture of the delivered product and complain about the ascertained defects immediately in writing (as far as possible and reasonable, by submitting reference samples) and by specifying the invoice, manufacture and dispatch number. Hidden defects are to be complained in the same way. Else, the product is considered as approved unconditionally. Possibly further obligations of the customer according to § 377 HGB remain unaffected.
(9.2) Obvious defects, caused through transportation by the carrier, must be noted by the customer in the bill of lading of the carrier so that a later recourse of the seller against the carrier becomes possible.
(9.3) Minor deviations in dimensions and execution, present in the scope of technically specified tolerances, do not justify a complaint.
(9.4) The warranty does not include those defects that are caused by arrangement and mounting not done by the seller, improper installation, nonadherence to installation requirements and usage conditions, overload on the parts over and above the performance specified by the seller, negligent or incorrect handling and use or inappropriate operating materials; this also applies to defects caused by the material provided by the customer. The seller is also not responsible for damages, which are caused by third party handling, by atmospheric discharges, overstress and improper chemical influences. The warranty does not include the use of parts, which are subject to a natural wear. This does not apply, if the defect is caused by a condition not mentioned above.
(9.5) The seller also has the right to refuse a supplementary performance in the case and as long as the customer does not allow any proper checking of the complained defects by the supplier.
(9.6) In case of a justified and on-time complaint of defects, the seller rectifies the defect upon request and choice of the customer during a supplementary service either by removing the defect or by delivering a defect-free product.
(9.7) The time limitation of defect complaints and reimbursement of expenses pursuant to § 445a BGB is - regardless of §§ 307 No. 7 a) and b) BGB, the liability in case of intention, the malicious concealment of a defect and existence of a quality guarantee (§ 444 BGB) - one year starting from the handover; in the case as per § 438 I, No. 2 b) BGB (possibly together with § 651, S.1 BGB) or § 634a I, No. 2 BGB five years after handover / acceptance (in the case of structures and in the case of a product which has been used for a building according to its normal use and which has caused its defect).
(9.8) Recourse claims of the customer according to § 445a BGB are excluded.
(9.9) Further, the indemnity claims are restricted according to specification of § 10.
§ 10 Exclusion of liability and Statute of Limitation
(10.1) Explicitly ruled out from the liability exclusions and restrictions given below are the injuries to life, body and health, caused by an intentional (§ 276 III BGB) or negligent (§ 276 II BGB) breach of duty of the seller or an intentional or negligent breach of duty of the legal representative or agents (§ 278 BGB) of the seller, as well as for other damages, which are caused by a grossly negligent breach of duty of the seller or an intentional and grossly negligent breach of duty of a legal representative or agents of the seller as defined in §§ 309 No. 7 a) and b) BGB. Moreover, the liability exclusions and restrictions given below do no apply in case of take over of a guarantee for the texture or durability of the product as defined in § 444 BGB and in case of a malicious concealment, as well as in case of a mandatory liability according to product liability law and insofar as an obligation, the fulfillment of which allows the proper performance of the contract, and on whose compliance the contractual partner may regularly trust and trust (cardinal obligation) is violated.
(10.2) The seller, his representatives and his agents are liable in case of a violation of non-essential contractual obligations only for intent and gross negligence.
(10.3) A claim of the customer or third part for the payment of contractual penalty is ruled out.
(10.4) For damages caused by delay, the seller is liable in case of simple negligence only up to an amount of 5% of the agreed upon purchase price.
(10.5) If a product is manufactured by the seller based on design specifications, drawings, models or other specifications of the customer, the liability of the seller then extends only to the execution as per the conditions. There is no obligation of the seller to warn in case of lack of suitability of the design specifications, drawings, models or other specifications made available by the customer.
(10.6) In case of non-adherence to conditions for mounting, commissioning and usage (such as the ones given in instructions for use) or the regulatory permit conditions all indemnity claims are ruled out.
(10.7) If the seller makes available samples or specimens to the customer or receives these from him, specifies analyses, DIN provisions, other domestic or foreign quality standards or provides other information about the texture of the product, these are meant only for a detailed description of the services to be provided by the seller. This is not connected with a guarantee of quality. The seller is especially not committed to check, whether the product serves the intended purpose specified by the customer or is suitable for it.
(10.8) All indemnity claims, no matter for what reason, expire latest by one year after the handover of the product to the customer. In case of a criminal liability, the time limitation starts from the knowledge or grossly negligent ignorance of the conditions and identity of the liable person justifying the claim. Shorter time limitation periods take precedence.
§ 11 Unauthorised withdrawal
If the customer withdraws from the contract in an unauthorised way or else refuses to accept the delivery or service in an unauthorised way, the seller has the right to demand 30 (thirty) percent of the agreed upon price as lump-sum indemnity without special proof, if the lump-sum amount typically does not exceed the damages to be expected. The proof remains open to the customer that no or a lower damage than the lump-sum damage accrued for the seller.
§ 12 Prohibition of assignment
The customer may concede his claims from this contract made against the seller to a third party only with his prior written consent.
§ 13 Jurisdiction and place of fulfilment
(13.1) Jurisdiction for all disputes, also for bills of exchange and cheques, is the District Court Menden or the District Court (Land Court Arnsberg. However, the seller also has the right to sue the customer at his head-office.
(13.2) Place of fulfilment of the delivery, all services and payments of the companies OBO Bettermann Vertrieb Deutschland GmbH & Co. KG and OBO Bettermann Projekt und Systemtechnik is Iserlohn (Sauerland), and of the companies OBO Bettermann Export GmbH & Co. KG, OBTEC GmbH, Flugplatzgesellschaft Arnsberg – Menden mbH, FAM Holding GmbH, OBO JET-CHARTER GmbH, Grundstücksverwaltung Bettermann GmbH & Co. KG, OBO Bettermann Produktion Deutschland GmbH & Co. KG and OBO Bettermann Holding GmbH & Co. KG is Menden (Sauerland).
§ 14 Other provisions
(14.1) The seller has the right to process and save the data about the customer received in course of the business relation according to the Federal Data Privacy Act, no matter whether these data originate from the customer or from third parties.
(14.2) German law is applicable exclusively. In particular, the application of the UN Convention on Contracts for the International Sale of Goods is ruled out.
(14.3) All agreements made between the parties for the purpose of executing this contract are documented in writing in this contract.
(14.4) In the case of differences between the English and the German version, the German version of the AEB shall prevail.

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