

# TBS



## Earthing and lightning protection Middle East

Building Connections

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BETTERMANN



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## Planning and mounting aids

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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 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.

### 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.

## Benefits

- Time and place-independent work assistance
- 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





## 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 2373 89 - 1700 and is also available for download on the OBO website.



### 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



### 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](http://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](http://www.ausschreiben.de)

### 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](http://www.obo-bettermann.com).

**RAL**  
GÜTEZEICHEN



RAL-GZ 642/5



**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.ae](http://www.obo.ae)



- Production location
- Subsidiary
- Representative

## 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 through all manner of conductive connections and cause enormous damage.







## 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	€250 million

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



# 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



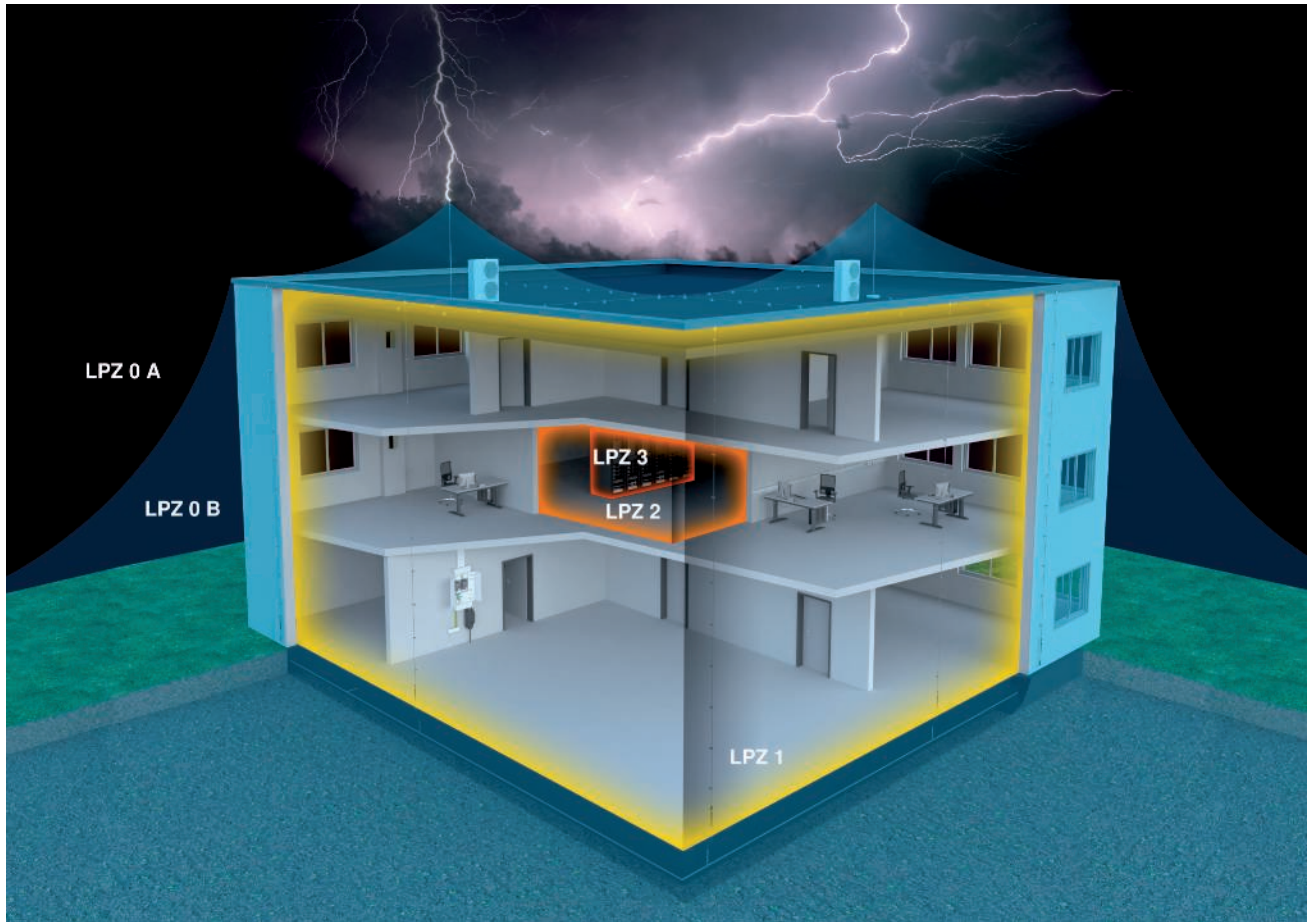
Standard	German supplement	Contents
VDE 0185-305-1 (IEC 62305-1)		Protection against lightning – Part 1: General principles
VDE 0185-305-2 (IEC 62305-2)		Protection against lightning – Part 2: Risk management
	1	Lightning risk in Germany
	2	Calculation aids for estimating the risk of damage for buildings
	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 – 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 isolating spark gaps
VDE 0185-561-4 (IEC 62561-4)	Lightning protection system components – Requirements for conductor fasteners
VDE 0185-561-5 (IEC 62561-5)	Lightning protection system components – Requirements for earth electrode inspection housings and earth electrode seals
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

## 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 arrester 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.



## 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	

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



Lightning current generator

### BET with countless tasks

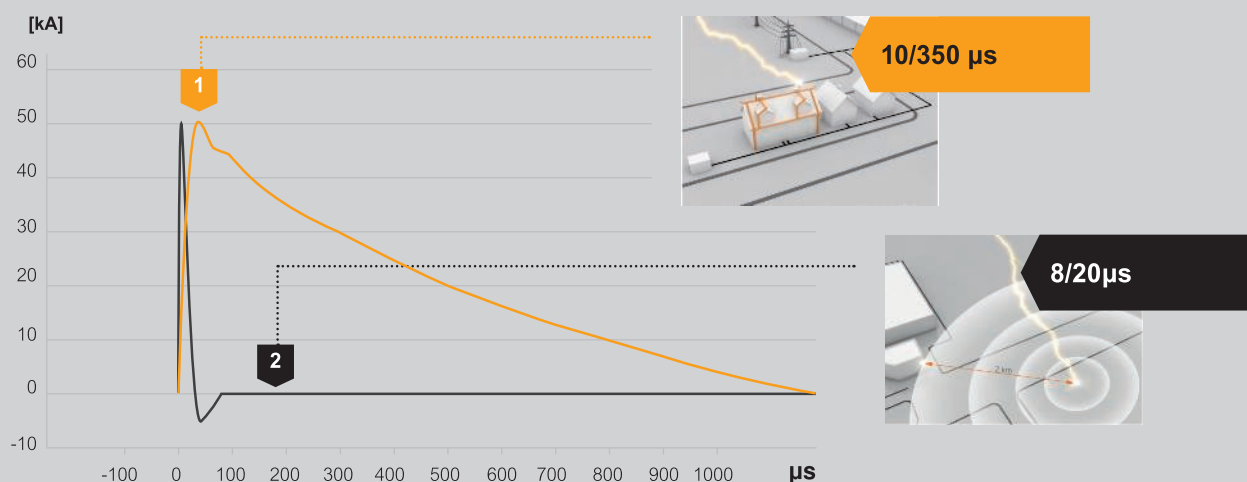
Whereas previously only lightning current, environmental and electrical testing had been possible at BET, the BET Test Centre is now also a competent partner for the testing of cable support systems. This combination has made it necessary to revise the meaning of the name. If BET previously stood for "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.



<b>1</b>	Pulse shape 1: Direct lightning strike, 10/350 µs simulated lightning pulse
<b>2</b>	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.






## Test marks

	Lightning current-tested
	Lightning current-tested, Class H (100 kA)
	ELEKTROTECHNICKÝ ZKUŠEBNÍ ÚSTAV, Czech Republic
	ATEX certificate for explosive areas
	Russia, GOST The State Committee for Standards
	KEMA-KEUR, Netherlands
	Indication of metric products
	MAGYAR ELEKTROTECHNIKAI ELLENŐRZŐ INTÉZET Budapest, Hungary
	Österreichischer Verband für Elektrotechnik, Austria
	Underwriters Laboratories Inc., USA
	Eidgenössisches Starkstrominspektorat, Switzerland
	Underwriters Laboratories Inc., USA
	Verband der Elektrotechnik, Elektronik, Informationstechnik e.V., Germany
	German Association of Electricians, tested safety
	5-year warranty
	Halogen-free; without chlorine, fluorine and bromine
	INMETRO, Brazil









# Pictogram explanation



















## Lightning protection classes

	Protection device to DIN EN 61643-11 or IEC 61643-11
	Combination protection device made of type 1 and type 2
	Protection device to DIN EN 61643-11 or IEC 61643-11
	Protection device to DIN EN 61643-11 or IEC 61643-11
	Protection device to DIN EN 61643-11 or IEC 61643-11











## Lightning protection zone

	Transition from LPZ 0 to LPZ 1
	Transition from LPZ 0 to LPZ 2
	Transition from LPZ 0 to LPZ 3
	Transition from LPZ 1 to LPZ 2
	Transition from LPZ 1 to LPZ 3
	Transition from LPZ 2 to LPZ 3








## Applications

	Remote signalling
	Acoustic signalling
	Integrated Service Digital Network, ISDN applications
	Digital Subscriber Line, DSL applications
	Analogue telecommunication
	Category 5 TwisterPair
	Channel Performance to American EIA/TIA standard
	Measuring, controlling and regulating systems
	TV applications
	SAT-TV applications
	MultiBase base
	LifeControl
	Intrinsically safe protection device for areas with a risk of explosions
	Channel Performance to ISO / IEC 11801
	Power over Ethernet
	230/400 V system
	Protection rating IP 54
	Protection rating IP 65








## Metals

	Aluminium
	Stainless steel, grade 304
	Stainless steel, grade 316
	Stainless steel, grade 316 L
	Stainless steel, grade 316 Ti
	Copper
	Brass
	Steel
	Cast iron
	Die-cast zinc

## Plastics

	Fibre-glass-reinforced plastic
	Petrolatum
	Polyamide
	Polycarbonate
	Polyethylene
	Polypropylene
	Polystyrene

## Surfaces

	Strip-galvanised
	Hot-dip galvanised
	Electrogalvanised
	Hot-dip galvanised
	Copper-plated
	Nickel-plated
	Galvanised, Deltatone 500

## Metallic materials



**Alu — Aluminium**

**VA (1.4301) — Stainless steel, grade 304**

**VA (1.4401) — Stainless steel, grade 316**

**VA (1.4404) — Stainless steel, grade 316 L**

**VA (1.4571) — Stainless steel, grade 316 Ti**

**Cu — Copper**

**CuZn — Brass**

**St — Steel**

**TG — Cast iron**  
Electrogalvanised

**Zn — Die-cast zinc**



# Plastic materials

## GFK — Fibre-glass-reinforced plastic

Temperature resistance:  
-50 to 130 °C.

### Resistant to

High chemical resistance  
Corrosion resistance  
UV light resistance

## PETR — Petrolatum

## PA — Polyamide

Temperature resistance:  
permanently up to approx. 90 °C, briefly up to about 130 °C  
and to about minus 40 °C\*.

Chem. resistance generally as for polyethylene.

### Resistant to

Petrol, benzene, diesel oil, acetone, solvents for paints and lacquers,  
oils and greases.

### Unstable with

Bleach, most acids, chlorine.

### Risk of tension cracking

Low in air-humid conditions; only with some aqueous salt solutions.  
Highly desiccated parts (high temperature and extremely low air  
humidity) are highly sensitive to fuels and various solvents.

## PA/PE — Polyamide/Polyethylene

## PC — Polycarbonate

Temperature resistance:  
permanently up to approx. 110 °C (in water 60 °C), briefly up to  
125 °C, and to below minus 35 °C.

### Resistant to

Petrol, turpentine, most weak acids.

### Unstable with

Acetone, benzene, chlorine, methylene chloride, most concentrated  
acids.

### Risk of tension cracking

Relatively low.

Media which can cause tension cracking include benzene, aromatic  
hydrocarbons, methanol, butanol, acetone, turpentine.

## PE — Polyethylene

Temperature resistance:  
hard types permanently up to about 90 °C, briefly up to about 105 °C,  
soft types permanently up to about 80 °C, briefly up to about 100 °C  
and to about minus 40 °C\*.

### Resistant to

Alkalis and inorganic acids.

### Conditionally resistant to

Acetone, organic acids, petrol, benzene, diesel oil, most oils.

### Unstable with

Chlorine, hydrocarbons, oxidising acids.

### Risk of tension cracking

Relatively high.

Stress cracks can be caused by, among other things, acetone, various  
alcohols, formic acid, ethanol, petrol, benzene, butyric acid, acetic acid,  
formaldehyde, various oils, petroleum, propanol, nitric acid,  
hydrochloric acid, sulphuric acid, soap solutions, turpentine,  
trichloroethylene, citric acid.

## PP — Polypropylene

Temperature resistance:  
permanently up to approx. 90 °C, briefly up to about 110 °C  
and to about minus 30 °C\*.

Chem. resistance generally as for polyethylene.

### Resistant to

Alkalis and inorganic acids.

### Conditionally resistant to

Acetone, organic acids, petrol, benzene, diesel oil, most oils.

### Unstable with

Chlorine, hydrocarbons, oxidising acids.

### Risk of tension cracking

Low, only with some acids such as chromic acid, hydrofluoric acid and  
hydrochloric acid, as well as nitrogen oxide.

## PS — Polystyrene

Temperature resistance:

Because of its relatively high sensitivity to the effects of chemicals, its  
use is not recommended at temperatures above normal room  
temperature, about 25 °C.

Resistance to cold: to about minus 40 °C\*.

### Resistant to

Alkalis, most acids, alcohol.

### Conditionally resistant to

Oils and greases.

### Unstable with

Butyric acid, concentrated nitric acid, concentrated acetic acid,  
acetone, ether, petrol and benzene, solvents for paints and lacquers,  
chlorine, diesel fuel.

### Risk of tension cracking

Relatively high.

Stress cracks can be caused by, amongst other things, acetone, ether,  
petrol, cyclohexane, heptane, methanol, propanol and the softeners  
used in some PVC cable mixes.

\*The minus values apply only for parts in the quiescent condition with  
no severe impact stress.

There is no plastic that is resistant to every chemical. The agents listed  
are only a small selection. Plastic parts are especially at risk in the  
presence of chemicals and high temperatures. Stress cracks may  
occur. If in doubt, please consult us and/or ask for a detailed chemical  
resistance table.

Stress crack formation: stress cracks may occur if plastic parts under  
tension are exposed to chemicals at the same time. Parts made of  
polystyrene and polyethylene are particularly susceptible. Stress cracks  
may even be caused by agents to which the plastic in question is  
resistant in the absence of stress. Typical examples of parts under  
constant stress when used as intended: grip clips, intermediate  
supports of cable glands, ribbon clips.

# Tested lightning protection components



## Tightening torques

M5 = 4 Nm

M6 = 6 Nm

M8 = 12 Nm

M10 = 20 Nm

Detailed data can be provided on request.



# Brief glossary of overvoltage protection

## 100% response lightning impulse voltage

The 100% response lightning impulse voltage is the value of the lightning impulse voltage 1.2/50  $\mu$ s, causing the arrester to switch. With this testing voltage, the surge protection device must respond ten times to ten loads.

## Arrestor

Arrestors are resources, which primarily consist of voltage-dependent resistors and/or spark gaps. Both elements can be switched in series or in parallel or used individually.

Arrestors are used to protect other electrical resources and electrical systems against surge voltages.

## Arrestor measured voltage $V_c$

For arrestors without a spark gap, the measured voltage is the maximum permitted effective value of the mains voltage on the arrester terminals. The measured voltage may constantly be applied to the arrester without changing its operational characteristics.

## Back-up fuse before the arrestors

There must be a back-up fuse before the arrestors. If the upstream fuse is greater than the maximum approved back-up fuse of the arrester elements (see technical data of the device), the arrester must be protected selectively with the required value.

## Cut-off unit

The cut-off unit cuts the arrester off from the mains or the earthing system if it is overloaded, thus preventing a fire risk and also signalling the switch-off of the protection device.

## Equipotential bonding

Electrical connection, which brings the bodies of electrical resources and other conductive parts to the same or almost the same potential.

## Equipotential busbar (PAS)

A terminal or rail, intended to connect the protective conductor, the equipotential bonding conductor and, if necessary, the conductor for function earthing with the earthing cable and the earthers.

## Error current protection unit (RCD)

Resource for protection against electric shocks and fire protection (e.g. FI protection switches).

## Lightning protection equipotential bonding system

The lightning protection equipotential bonding is a key measure in reducing the risk of fire and explosion on the room or building to be protected. The lightning protection equipotential bonding is achieved using equipotential bonding cables or arrestors, which connect the external lightning protection system, metallic parts of the building or room, the installation, the other conductive parts and the electrical energy and telecommunications systems.

## Lightning protection system (LPS)

A lightning protection system (LPS) is considered as the entire system used to protect a room or building against the impact of a lightning strike. This includes both internal and external lightning protection.

## Lightning protection zone (LPZ)

Lightning protection zones are those areas in which the electromagnetic environment of the lightning is to be defined and mastered. At the zone transitions, all cables and metallic parts must be integrated into the equipotential bonding system.

## Lightning surge current (Iimp)

A lightning surge current (lightning current carrying capacity per path) is a standardised surge current curve of the shape 10/350  $\mu$ s. With its parameters

- Peak value
- Charge
- Specific energy

it represents the load from natural lightning currents. Type 1 lightning current arrestors (previously requirement class B) must be able to arrest such lightning currents without being destroyed.

## Line follow current quenching (If)

The follow current – also called network follow current – is the current which flows through the surge protection device after an arresting operation and is supplied by the network. The follow current is considerably different from the continuous operating current. The level of the network follow current is dependent on the feed line from the transformer to the arrester.

## Nominal current (In)

The nominal current is the maximum permitted operating current which may be run continually through the appropriately labelled connection terminals.

## Nominal discharge surge current (In)

Peak value of the current flowing through the arrester with the wave shape 8/20. It is used to classify the testing of surge arrestors of type 2 (formerly requirements Class C).

## Nominal frequency (fn)

The nominal frequency is that frequency for which a resource is measured, by which it is called and upon which other nominal parameters refer.

## Nominal voltage (Vn)

The rated voltage is the voltage value for which a resource is designed. In so doing it might be a direct voltage value or the effective value of a sine-form alternating voltage.

## Surge protection device (SPD)

A device intended for the limitation of transient surge voltages and arresting of surge voltages. It contains at least one non-linear construction element. In general speech, surge protection devices are also termed arrestors.

## Protection level (Up)

The protection level is the highest current voltage value on the terminals of the surge protection device before response.

## Residual voltage (Vres)

The peak voltage value, occurring via the terminals of the surge protection device during or immediately after the arresting surge current has flowed.

## Short-circuit resistance

The surge protection device must be able to conduct the short-circuit current, until it is either interrupted by the device itself or by an internal or external cut-off unit or by mains-side over-current protection (e.g. back-up fuse).

## Response time (ta)

The response time primarily characterises the response behaviour of the individual protection elements used in arrestors. Depending on the slope  $du/dt$  of the surge voltage or  $di/dt$  of the surge current, the response times may vary within specific limits.

## SPD

Surge protection device.

## Surge arrester, type 1

Arrestors, which, due to their special structure, are able to arrest lightning currents or partial lightning currents during direct strikes.

## Surge arrester, type 2

Arrestors, which are able to arrest surge voltages caused by remote or nearby strikes or switching actions.

## Surge arrester, type 3

Arrestors, used for surge protection of individual consumers or consumer groups and are employed directly on sockets.

## Surge voltage

A surge voltage is a voltage occurring briefly between conductors or between a conductor and the earth, which exceeds the highest permissible operating voltage value by a long way, but does not have the operating frequency. It can be created by storms or by earthing or shortcircuits.

## Temperature range

The operating temperature specifies within which temperature limits the perfect function of the surge protection device is guaranteed.

## Transmission frequency (fg)

The transmission frequency specifies up to which frequency the insertion damping of the employed resource is less than 3 dB.

## Volume resistance per path, series resistance

The volume resistance per path specifies the ohmic resistance increase of the conductor path per wire caused by the use of the surge protection device.



## Surge protection, protection and spark gaps

	<b>Isolating spark gap</b>	24
	<b>Connection straps</b>	25
	<b>Closed spark gap with lightning current carrying capability</b>	26
	<b>Protective spark gap</b>	26
	<b>Spark gap/ surge voltage protection</b>	26

Protection and spark gaps

**Spark gap - 483 SN with connection cable for SNAM**

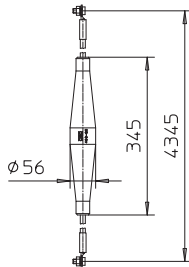


Type	Connec- tion cable length m	Contact voltage kV	Impulse current (10/350) kA	Nominal discharge current (8/20) kA	Protec- tion level kV	Temperature range °C	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>483 SN</b>	2	0.07	75	100	0,6 - 0,9	-20 - +50	1	200.000	<b>5239914</b>

- 2 connector cables 25 mm<sup>2</sup> Cu, highly flexible, with cable lug
- Waterproof enclosure
- Screw (M10), nut and lock washer
- Pulsed current 75 kA (10/350 μs)
- BET-tested

Application: Above and below-ground installation

**Dimensions**



**Upper part, total spark gap between N and PE 255 V**

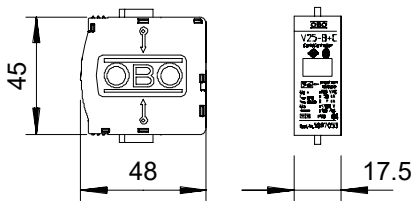


Type	Highest contin- ous voltage V	Version	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>C25B+CONPE</b>	255	1-pole	30	5.195	<b>5095599</b>

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

**Dimensions**





### Explosion-proof, Parex closed spark gap

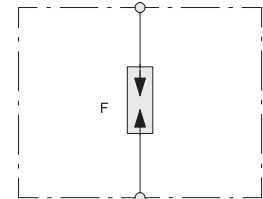
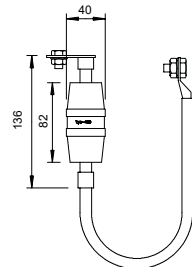


Type	Connection cable length m	Dimension mm	Pack. pcs	Weight kg/100 pcs.	Item No.
480 180	0.18	180	1	48.000	5240034
480 250	0.25	250	1	50.000	5240077



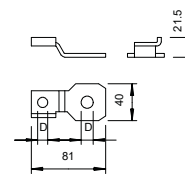
- Ex certificate to ATEX
- Labelling to EN 60079-0/-1: II 2G Ex d IIC T6 Gb
- Ex certificate to IECEx and DNV
- Labelling to EN 60079-0/-1: Ex d IIC T6 Gb
- Lightning current carrying capacity class H (100 kA) to VDE 0185-561-3 (IEC 62561-3)
- Incl. connecting cable 25 mm<sup>2</sup> Cu, highly flexible, 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

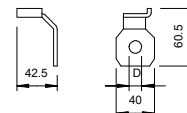


- St** Steel
- F** Hot-dip galvanised

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

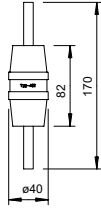


- St** Steel
- F** Hot-dip galvanised

Attaching flange for installing OBO Parex spark gap 480 on insulating flanges.

## Protection and spark gaps

### Closed spark gap with lightning current carrying capability

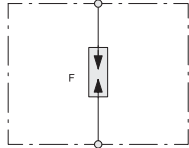


Type	Impulse current (10/350) kA	Nominal discharge current (8/20) kA	Protection level kV	Contact voltage kV	Temperature range °C	Pack. pcs	Weight kg/100 pcs.	Item No.
481	50	100	< 5,0	2,5	-20 - +50	1	26.500	5240085

Closed, lightning current carrying spark gap for separation of electrically conductive plant components.

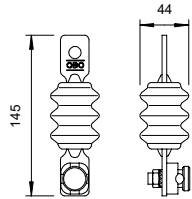
- Connection bolts; Ø 10 mm; stainless steel.
- Pulsed current 50 kA (10/350)
- BET

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

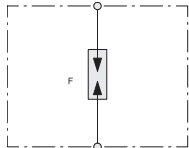
### Protective spark gap



Type	Protection level kV	Nominal discharge current (8/20) kA	Contact voltage kV	Pack. pcs	Weight kg/100 pcs.	Item No.
482	< 10	25	10	1	56.000	5240050

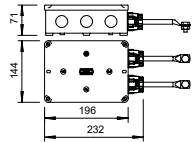
Closed spark gap for bridging a proximity point between roof standard of low-voltage system and components of outer lightning protection system

- 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



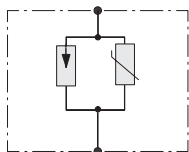
Type	Rated power frequency withstand voltage V	Rated DC withstand voltage V	Impulse current (10/350) kA	Nominal discharge current (8/20) kA	Pack. pcs	Weight kg/100 pcs.	Item No.
FS-V20	280	280	100	100	1	170.000	5099803

The FS-V20 device is a spark gap with parallel-connected surge arrester (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









**HINWEIS!**  
**Isolierter Blitzschutz mit dem  
OBO isCon®-System.**  
**Änderungen sind nur von einer  
Blitzschutzfachkraft  
durchzuführen!**



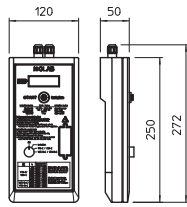
Messtelle No. 13

OBO  
LSC I+II  
Lightning Strike  
and Surge Counter  
Art-Nr.: 5091 72 2  
CE IP65

## Measuring and testing systems

	<b>ISOLAB measuring system arrester tester</b>	30
	<b>Testing unit for lightning barriers</b>	30
	<b>Magnetic card PCS</b>	30
	<b>Magnetic card holder PCS-H</b>	31
	<b>Card reader PCS-CS..</b>	31
	<b>Lightning current meter LSC</b>	31

## ISOLAB measuring system arrestor tester



Type	Country version	Nom. voltage		Measuring range	Pack. pcs	Weight kg/100 pcs.	Item No.
		V	V				
ISOLAB	D/GB	6	0	0 V - - 999 V	1	75.000	5096812

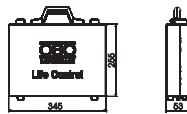
To test the insulation resistance to DIN VDE 0100 Part 610 and the characteristic curve behaviour of the following surge voltage and lightning current arrestors:

• 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		Item No.
		kg/100 pcs.	pcs.	
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		Item No.
		kg/100 PUs	PU	
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).

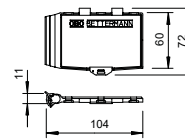
- Contents = 10 units
- Digital evaluation via the PCS card reading device
- Can be used in addition to the OBO lightning current meter LSC I+II
- With separate labelling panels: "Erected by", "Tested by", "Card code"
- Integrated maintenance circuit (year/month)

### Magnetic card holder PCS-H

Type	Pack. PU	Weight kg/100 PUs	Item No.
<b>PCS-H</b>	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

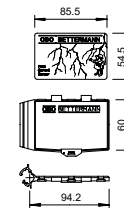


### Magnetic card and holder MK-B

Type	Pack. PU	Weight kg/100 PUs	Item No.
<b>MK-B</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



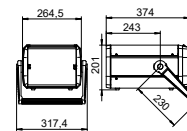
### Card reader PCS-CS..



Type	Country version	Nom. voltage V	Measuring range	Measuring tolerances	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>PCS-CS-D</b>	EN	230	3 -- 120 kA	< 2 kA (< 2%)	1	750.000	5091683
<b>PCS-CS-GB</b>	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

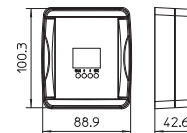


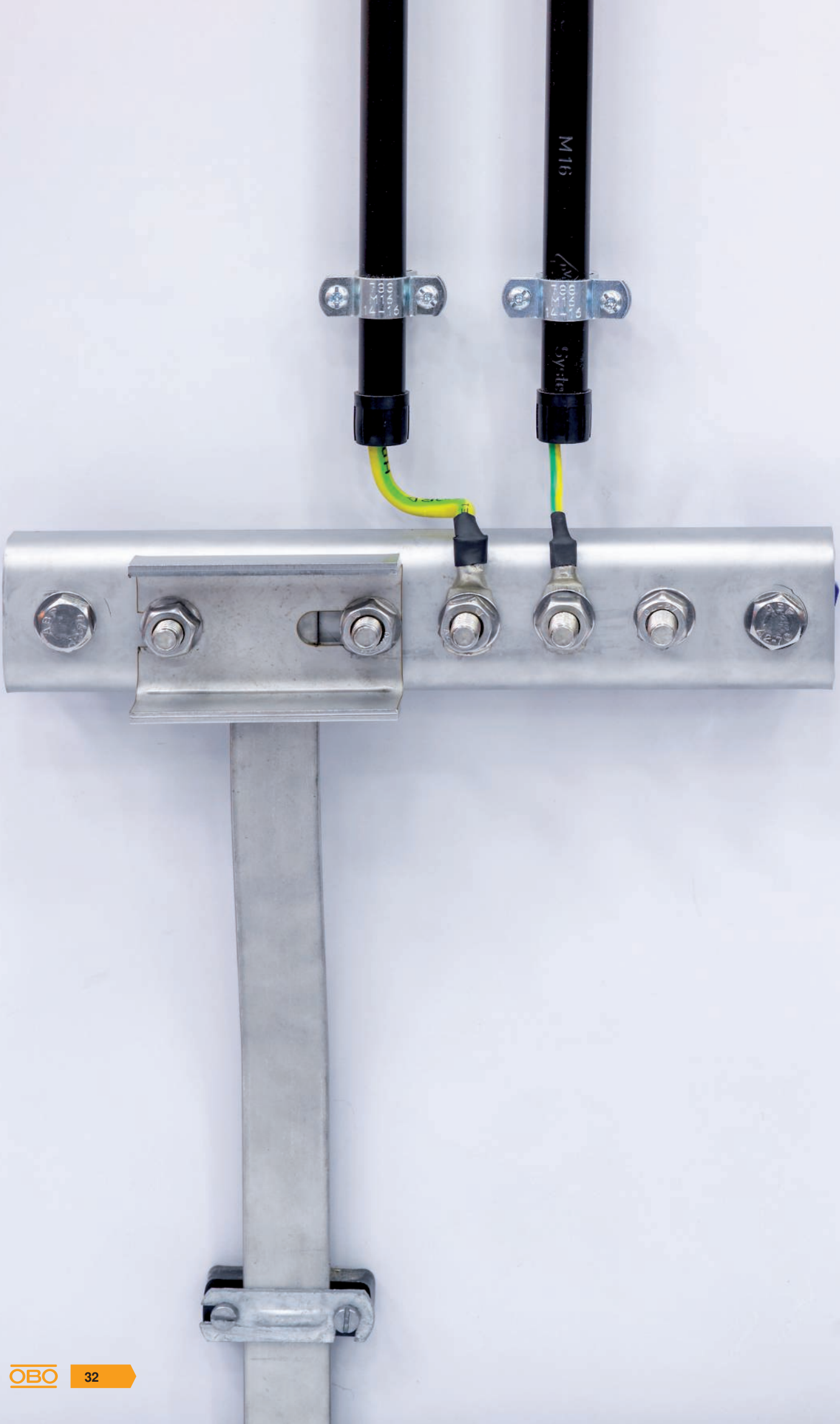
Type	Measuring range	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>LSC I+II</b>	1 kA - 100 kA	1	32.500	5091722

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)







## Equipotential bonding systems

	<b>Equipotential busbars for indoor use</b>	34
	<b>Equipotential busbars for outdoor areas</b>	39
	<b>Equipotential busbars for industrial areas</b>	40
	<b>Equipotential busbars for Ex area</b>	42
	<b>Earthing pipe</b>	44
	<b>Earthing clamps</b>	45

## Equipotential busbar rail for indoors, VDE-tested



Colour

Type

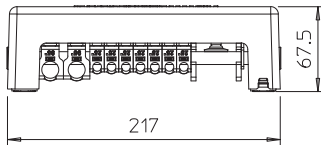
1801 VDE Grey

Pack. pcs	Weight kg/100 pcs.	Item No.
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

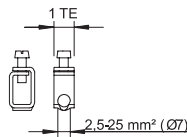
## Dimensions



- 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 industry)

Connection options:

- 7 single or multi-wire cables 2.5–25 mm<sup>2</sup> or fine-wire cables to 16 mm<sup>2</sup> (max. Ø 7 mm)
- 2 single or multi-wire cable 25–95 mm<sup>2</sup> or fine-wire cables to 70 mm<sup>2</sup> (max. Ø 13.5 mm)
- 1 flat conductor 30 x 3.5 mm

Round conductor terminal to 25 mm<sup>2</sup> for 1801 VDE

Type

1801 RK25 2.5–25 mm<sup>2</sup>

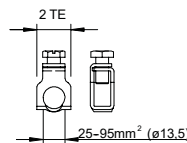
Connection option

Pack. pcs	Weight kg/100 pcs.	Item No.
10	2.080	5015758

St Steel

G Electrogalvanised

- For single or multi-wire cables 2.5–25 mm<sup>2</sup>
- For fine-wire cables to 16 mm<sup>2</sup> (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 mm<sup>2</sup> for 1801 VDE

Type

1801 RK95 25–95 mm<sup>2</sup>

Connection option

Pack. pcs	Weight kg/100 pcs.	Item No.
10	4.700	5015766

St Steel

G Electrogalvanised

- For single or multi-wire cables 25–95 mm<sup>2</sup>
- For fine-wire cables to 70 mm<sup>2</sup> (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)



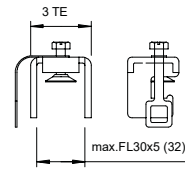
## Flat conductor terminal to FL 30 for 1801 VDE



Type	Connection option	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1801 RK30</b>	FL 30 x 5	10	10.643	<b>5015731</b>

- 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



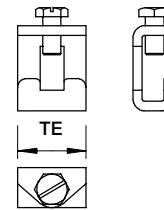
## Flat conductor terminal from FL 30 for 1801 VDE



Type	Connection option	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1801 RK40</b>	FL 40 x 5	10	7.300	<b>5015774</b>

- 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.
<b>1801 KL1</b>	212	1	18.000	<b>5015723</b>
<b>1801 KL2</b>	430	1	36.000	<b>5015804</b>
<b>1801 KL3</b>	645	1	54.000	<b>5015812</b>

- CuZn** Brass

- 10 x 10 mm made of nickel-plated brass
- 1801 KL1: 14 subunits
- 1801 KL2: 28 subunits
- 1801 KL3: 42 subunits

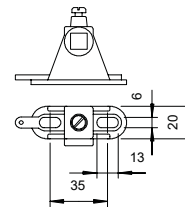


## Busbar stands for 1801 VDE

Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1801 SCH</b>	Grey	10	1.490	<b>5015715</b>

- PS** Polystyrene

- 2 rail stands required per 14 units
- With 6 x 13 mm slot

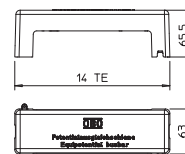


## Cover hood for 1801 VDE

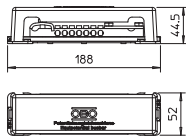
Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1801 AH</b>	Grey	1	6.450	<b>5015707</b>

- PS** Polystyrene

- 1 covering hood required per 14 division units
- Fastening to rail stands 1801/Sch
- Sealable



## Equipotential busbar with plastic base plate



Colour

Type

**1809** Grey

CuZn Brass

Pack. pcs	Weight kg/100 pcs.	Item No.
1	23.000	5015073

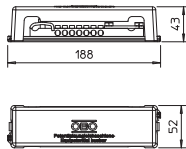
Equipotential busbar for equipotential bonding according to DIN VDE 0100-410/-540 and lightning protection equipotential bonding according to DIN VDE 0185-305

- 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 mm<sup>2</sup> or fine-core cables to 16 mm<sup>2</sup>
- 1 x round conductor Rd 8-10
- 1 x flat strip to FL30 or round conductor Rd 8-10

## Equipotential busbar with metal base plate



Lightning current carrying capacity  
kA

Type

**1809 M** H/100

CuZn Brass

Pack. pcs	Weight kg/100 pcs.	Item No.
1	28.100	5015081

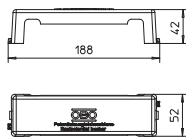
Equipotential busbar with metal foot for equipotential bonding according to DIN VDE 0100-410/-540 and lightning protection equipotential bonding according to DIN VDE 0185-305

- 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 mm<sup>2</sup> or fine-core cables to 16 mm<sup>2</sup>
- 1 x round conductor Rd 8-10
- 1 x flat strip to FL30 or round conductor Rd 8-10

## Cover hood for 1809



Colour

Type

**1809 30 AH** Grey

PS Polystyrene

Pack. pcs	Weight kg/100 pcs.	Item No.
50	3.700	5015200

- Replacement cover hood for equipotential busbar, type 1809

## Equipotential busbar OBO Green



Lightning current  
carrying capacity

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1809 NR</b>   N/50	1	22.300	<b>5015075</b>

**CuZn** Brass

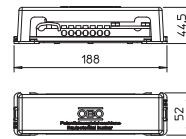
Natural product protects against natural influences.

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 mm<sup>2</sup> or fine-wire cables to 16 mm<sup>2</sup>
- 1x round conductor Rd 8–10
- 1x flat strip to FL 30 or round conductor Rd 8–10



## Equipotential busbar for small systems



Colour

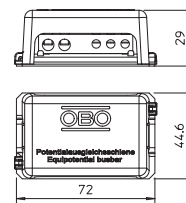
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1809 BG</b>   Grey	1	9.000	<b>5015502</b>

**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 mm<sup>2</sup>
- 2 x multi-core cables to 16 mm<sup>2</sup>



## Equipotential busbar, simple version

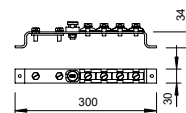
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1808</b>	1	67.000	<b>5015014</b>

**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 mm<sup>2</sup>
- 1 x round conductor Rd 8-10
- 1 x flat conductor to FL 40



## Equipotential busbar for bathrooms

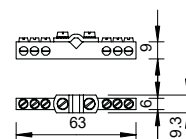
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1804</b>	5	3.000	<b>5015553</b>

**CuZn** Brass

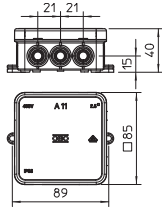
- Nickel-plated brass contact strip
- Screws and clamp made of electrogalvanised steel

Connection options:

- 6 cables 1.5-10 mm<sup>2</sup>
- 1 cable 6-16 mm<sup>2</sup>



## Equipotential busbar for surface mounting with 1804



**Type**  
**1804 AP**

**PE** Polyethylene

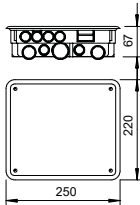
A 10/BP: Equipotential busbar for bathroom in housing

Connection options:

- 6x conductors 1.5-10 mm<sup>2</sup>
- 1x conductor 6-16 mm<sup>2</sup>
- Uncut
- With mounted potential equalisation rail 1804 in wet-room branch box A10

Pack. pcs	Weight kg/100 pcs.	Item No.
10	8.077	5015557

## Equipotential busbar for flush-mounting with 1809



**Type**  
**1809 UP**

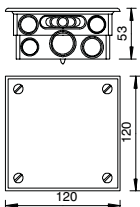
**CuZn** Brass

Connection options:

- 7 conductors to 25 mm<sup>2</sup>
- 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

Pack. pcs	Weight kg/100 pcs.	Item No.
1	74.500	5015065

## Equipotential busbar for flush-mounting with 1804



**Type**  
**1804 UP**

**CuZn** Brass

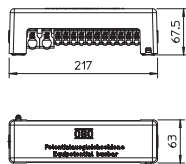
A 10/BP: Equipotential busbars for bathroom in housing

Connection options:

- 6x conductors 1.5-10 mm<sup>2</sup>
- 1x conductor 6-16 mm<sup>2</sup>
- Uncut
- With mounted potential equalisation rail 1804 in wet-room branch box A10

Pack. pcs	Weight kg/100 pcs.	Item No.
5	20.700	5015545

## Equipotential busbar rail for indoors, VDE-tested



Colour

**Type**  
**1801 FIN**

**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

- 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 industry)

Connection options:

- 7 single or multi-wire cables 2.5–25 mm<sup>2</sup> or fine-wire cables to 16 mm<sup>2</sup> (max. Ø 7 mm)
- 2 single or multi-wire cable 25–95 mm<sup>2</sup> or fine-wire cables to 70 mm<sup>2</sup> (max. Ø 13.5 mm)
- 1 flat conductor 30 x 3.5 mm

Pack. pcs	Weight kg/100 pcs.	Item No.
1	55.000	5015680



## Equipotential busbar for outside installation



Type	Colour	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
1809 A	Black	N/50	1	23.000	5015111
1809 AM	Black	H/100	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

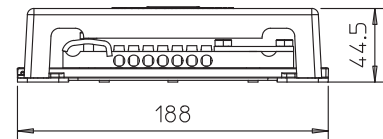
- Cover hood and base plate made of polystyrene
- Colour: Black, UV-resistant
- Screws and crossbar made of VA
- Capable of carrying lightning current 50 kA (10/350)

Connection options:

- 7 x single or multi-core cables to 25 mm<sup>2</sup> or fine-core cables to 16 mm<sup>2</sup>
- 1 x round conductor Rd 8-10
- 1 x flat strip to FL30 or round conductor Rd 8-10



## Dimensions



## Equipotential busbar, solid version

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
1810	1	173.000	5015057

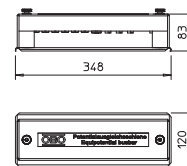
St Steel

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

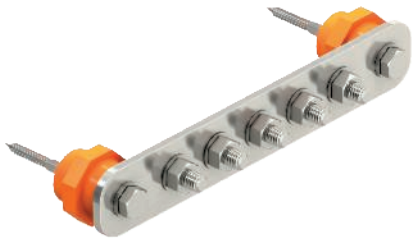
Connection options:

- 6 cables 6-16 mm<sup>2</sup>
- 1 round conductor Rd 8-10
- 1 flat conductor to FL 40
- 2 cable shoe M8



## Equipotential busbar for industrial application

## Equipotential busbar BigBar for industrial application

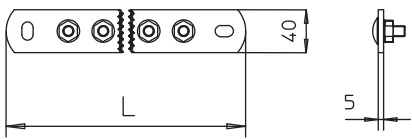


Type	Number of connections	Width mm	Length mm	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1802 5 VA	5	40	246	5	1	90.000	5015854
1802 10 VA	10	40	408.5	5	1	190.000	5015866

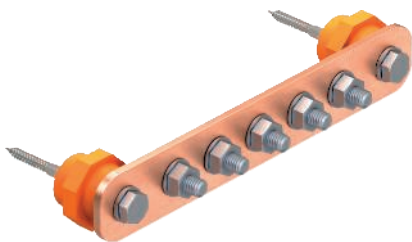
V2A Stainless steel, grade 304

- 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 busbar BigBar for industrial application

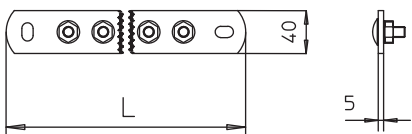


Type	Number of connections	Width mm	Length mm	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1802 5 CU	5	40	246	5	1	80.000	5015830
1802 6 CU	6	40	278.5	5	1	98.400	5015832
1802 8 CU	8	40	343.5	5	1	116.550	5015836
1802 10 CU	10	40	408.5	5	1	180.000	5015842
1802 12 CU	12	40	473.5	5	1	152.850	5015844
1802 14 CU	14	40	538.5	5	1	171.000	5015847
1802 20 CU	20	40	733.5	5	1	225.450	5015849

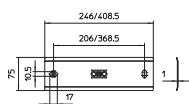
Cu Copper

- 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 busbar



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

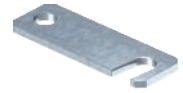
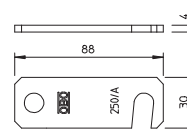


## Crossbar for equipotential busbar

Type	Connection option	Pack. pcs	Weight kg/100 pcs.	Item No.

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

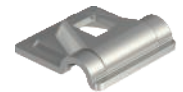
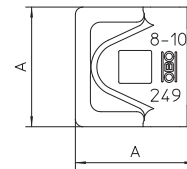


## Connection terminal, equipotential bonding, Rd 8–10 mm

Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.

V2A Stainless steel, grade 304

- For round conductor Rd 8-10
- Suitable for M10 bolts

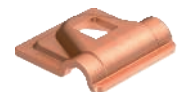
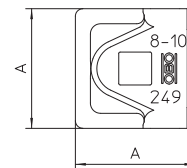


## Connection terminal, equipotential bonding, Rd 8–10 mm

Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.

Cu Copper

- For round conductor fastening RD 8-10
- Suitable for M10 bolts



## Earthing connection bar



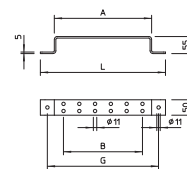
Type	Dimension L mm	Dimension A mm	Dimension B mm	Dimension G mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1805 4 FT</b>	302	212	153	257	1	77.000	<b>5016037</b>
<b>1805 6 FT</b>	404	314	255	359	1	97.100	<b>5016045</b>

St Steel

FT Hot-dip galvanised

1805/...: For connecting different earthing systems

- With 2 mounting holes  $\varnothing$  11 mm
- 1805/2: With 4 attaching holes
- 1805/4: With 8 attaching holes
- 1805/6: With 12 attaching holes



## Earthing connection bar

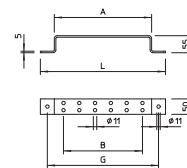


Type	Dimension L mm	Dimension A mm	Dimension B mm	Dimension G mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1805 4 VA</b>	302	212	153	257	1	77.000	<b>5016118</b>
<b>1805 6 VA</b>	404	314	255	359	1	97.100	<b>5016126</b>

V4A Stainless steel, grade 316 Ti

1805/...: For connecting different earthing systems

- With 2 mounting holes  $\varnothing$  11 mm
- 1805/2: With 4 attaching holes
- 1805/4: With 8 attaching holes
- 1805/6: With 12 attaching holes



## Equipotential busbar for EX zone 1/21, 2/22



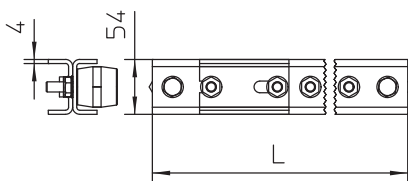
Type	Number of connections	Width mm	Length mm	Height mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>EX PAS 5</b>	5	54	279	4	H/100	1	152.000	<b>5015265</b>
<b>EX PAS 10</b>	10	54	441	4	H/100	1	214.000	<b>5015270</b>

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 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 busbar BigBar for industrial application

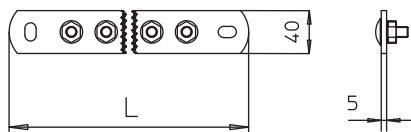


Type	Number of connections	Width mm	Length mm	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1802 5 VA</b>	5	40	246	5	1	90.000	<b>5015854</b>
<b>1802 10 VA</b>	10	40	408.5	5	1	190.000	<b>5015866</b>

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



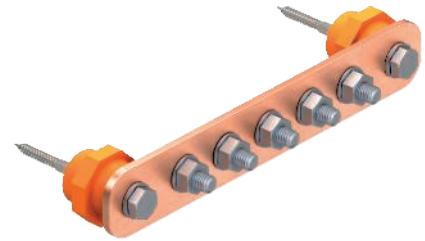
## Equipotential busbar BigBar for industrial application



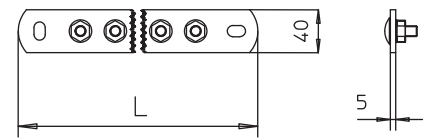
Type	Number of connections	Width mm	Length mm	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
1802 5 CU	5	40	246	5	1	80.000	5015830
1802 6 CU	6	40	278.5	5	1	98.400	5015832
1802 8 CU	8	40	343.5	5	1	116.550	5015836
1802 10 CU	10	40	408.5	5	1	180.000	5015842
1802 12 CU	12	40	473.5	5	1	152.850	5015844
1802 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

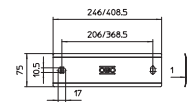


## Cover for BigBar equipotential busbar

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

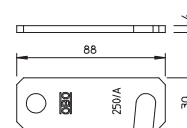


## Crossbar for equipotential busbar

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

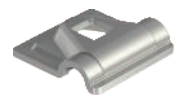
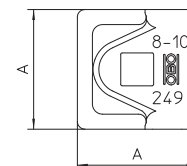


## Connection terminal, equipotential bonding, Rd 8–10 mm

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

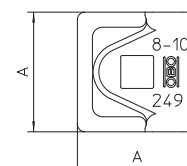


## Connection terminal, equipotential bonding, Rd 8–10 mm

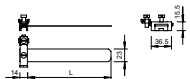
Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 CU-OT	Rd 8-10	40	100	3.580	5311530

Cu Copper

- For round conductor fastening RD 8-10
- Suitable for M10 bolts



### Earthing pipe clamp VA

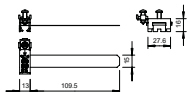


Type	for pipe Ø inch	Dimension L mm	for pipe Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
927 1	3/8-1 1/2	200	17.2 - 48	10	7.780	5057515
927 2	3/8-4	395	17.2 - 114	10	8.550	5057523
927 4	3/8-6	555	17.2 - 185	10	8.900	5057558
927 1 6-K	3/8-1 1/2	—	2.5 - 25	10	6.000	5057595

V2A Stainless steel, grade 304

- For pipes of Ø 3/8 - 6"
- Connection options: Max. 2 cables 2.5-25 mm<sup>2</sup>
- Round conductor Rd 8
- Clip element, bolts and tightening strap made of rustproof stainless steel (VA)

### Earthing pipe clamp, nickel-plated



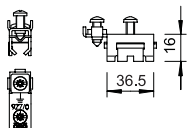
Type	Dimension L mm	for pipe Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
927 0	109.5	8 - 22	10	5.000	5057507

CuZn Brass

N Nickel-plated

- For pipe Ø 8-22 mm
- Connection options: max. 2 conductors 2.5-10 mm<sup>2</sup>
- Clip elements and screws from nickel-plated brass
- Tightening strip from high-grade stainless steel (V2A)

### Clamp lock for earthing pipe clamp

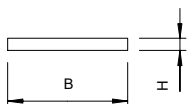


Type	Pack. pcs	Weight kg/100 pcs.	Item No.
927 SCH-K-VA	20	4.700	5057930

V2A Stainless steel, grade 304

- Connection option: max. 2 conductors 2.5-25 mm<sup>2</sup>
- 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

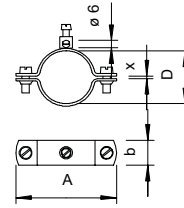
V2A Stainless steel, grade 304

- 40 m roll
- Ready for transport and installation in unroll pack



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"-1 1/2" or Ø 11.5-48.3 mm
- Connection options: conductors to 16 mm<sup>2</sup> with connecting terminal, riveted with brass and 1 cylinder screw M5 x 12
- To 1 1/2" with 2 cylinder screws M6 x 16 (G)

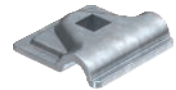
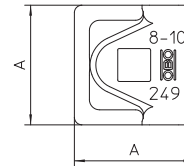
Connection terminal, equipotential bonding, Rd 8-10 mm

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

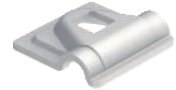
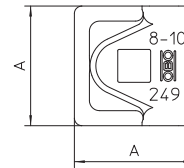


Connection terminal, equipotential bonding, Rd 8-10 mm

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

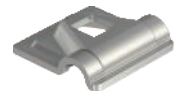
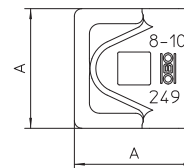


Connection terminal, equipotential bonding, Rd 8-10 mm

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

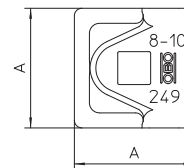


Connection terminal, equipotential bonding, Rd 8-10 mm

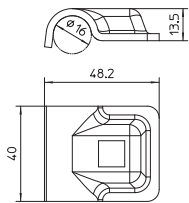
Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
249 8-10 CU-OT	Rd 8-10	40	100	3.580	5311530

Cu Copper

- For round conductor fastening RD 8-10
- Suitable for M10 bolts



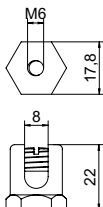
### Connection terminal, equipotential bonding, Rd 16 mm



Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 VA-OT</b>	16	100	5.700	<b>5311573</b>

- V2A Stainless steel, grade 304
- For round conductor fastening RD 16
  - Suitable for M10 bolts

### Earthing terminal with fastening thread

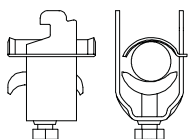


Type	Dimen- sion L mm	Dimen- sion I mm	Cross- section mm <sup>2</sup>	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>EKL 25 M6</b>	22	8	25	M6	50	3.100	<b>6404006</b>
<b>EKL 35 M6</b>	26	10	35	M6	50	4.800	<b>6404014</b>
<b>EKL 25 M8</b>	26	10	25	M8	50	3.970	<b>6404001</b>

CuZn Brass

Earthing terminal for fastening the equipotential bonding conductor to the cable support system.

### Clamp clips for screen connection



Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2056N SAS 8 A2</b>	4 - 8	50	2.900	<b>1167006</b>
<b>2056N SAS 12 A2</b>	8 - 12	50	3.700	<b>1167014</b>
<b>2056N SAS 16 A2</b>	12 - 16	50	4.200	<b>1167022</b>
<b>2056N SAS 22 A2</b>	16 - 22	50	4.850	<b>1167030</b>
<b>2056N SAS 28 A2</b>	22 - 28	50	6.600	<b>1167049</b>

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.







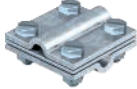

OBO  
5000

100  
100

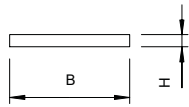
TBS\_T...\_OK/en/2019/09/16/10:22:05 (LLEExport\_02.kml) 2019/09/16/10:22:22



## Earthing systems

	<b>Conductor material</b>	50
	<b>Earth rods and plates</b>	54
	<b>Connection material</b>	62
	<b>Holders and accessories</b>	76

## Galvanised steel flat conductor for earth



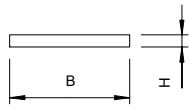
Type	Dimension W x H mm	Cross- section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
5052 DIN 20X2.5	20 x 2,5	50	122	50	122	41.000	5019340
5052 DIN 25X3	25 x 3	75	84	50	84	59.700	5019342
5052 DIN 30X3	30 x 3	90	71	50	71	70.650	5019344
5052 DIN 30X3.5	30 x 3,5	105	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

SI 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/m<sup>2</sup> (approx. 70 µm)
- For lightning protection, earthing systems and ring equipotential bonding

## Flat conductor, galvanised steel for foundation earthing



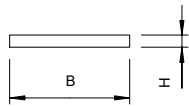
Type	Dimension W x H mm	Cross- section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
5052 30X3.5	30 x 3,5	—	—	—	30	84.000	5020638
5052 25X3	25 x 3	75	30	18	30	59.700	5020751
5052 30X3	30 x 3	90	30	21	30	70.650	5020808

SI Steel

FT Hot-dip galvanised

- Zinc coating: 225 g/m<sup>2</sup> (approx. 30 µm)
- For foundation earthing, not routed in the ground

## Stainless steel flat conductor

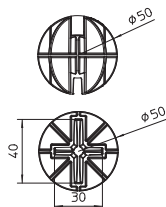


Type	Dimension W x H mm	Cross- section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
5052 V2A 30X3.5	30 x 3,5	105	50	42	50	82.500	5018501
5052 V4A 30X3.5	30 x 3,5	105	50	42	50	82.425	5018706
5052 V4A 30X3.5	30 x 3,5	105	25	21	25	82.425	5018730

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 earthing 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

## 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

### Round conductor, galvanised steel

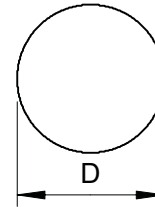


Type	Nominal size Ø mm	Cross-section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
<b>RD 8-FT</b>	8	50	125	50	125	40.000	<b>5021081</b>
<b>RD 8-FT 50</b>	8	50	50	20	50	40.000	<b>5021050</b>
<b>RD 10</b>	10	78	80	50	80	52.500	<b>5021103</b>

**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/m<sup>2</sup> (approx. 50 µm)



### Round conductor, galvanised steel with PVC jacketing

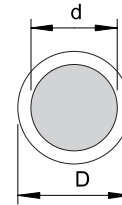


Type	Colour	Dimension d mm	Dimension D mm	Cross-section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
<b>RD 10-PVC</b>	<b>Black</b>	10	13	78	75	50	75	67.000	<b>5021162</b>

**St** Steel

**FT** Hot-dip galvanised

- Conforms to the requirements according to VDE V 0185-305, (IEC 62305)
- Zinc coating: 350 g/m<sup>2</sup> (approx. 50 µm)
- With PVC sheathing



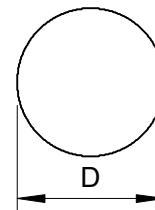
### Round conductor, aluminium



Type	Nominal size Ø mm	Cross-section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
<b>RD 8-ALU</b>	8	50	150	20	150	13.500	<b>5021286</b>
<b>RD 8-ALU-T</b>	8	50	150	20	150	13.500	<b>5021294</b>
<b>RD 8-ALU-T 75</b>	8	50	75	10	75	13.500	<b>5021296</b>
<b>RD 10-ALU</b>	10	78	95	20	95	21.000	<b>5021308</b>

**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



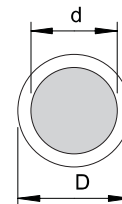
### Round conductor, aluminium, with PVC sheathing



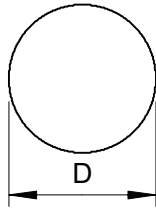
Type	Nominal size Ø mm	Cross-section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
<b>RD 8-PVC</b>	8/11	50	100	20	100	20.000	<b>5021332</b>

**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

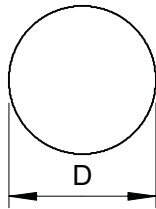


Type	Nominal size Ø mm	Cross-section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
<b>RD 8-V2A</b>	8	50	125	50	125	40.000	<b>5021235</b>
<b>RD 10-V2A</b>	10	78	50	32	50	63.000	<b>5021227</b>
<b>RD 10-V2A</b>	10	78	80	50	80	63.000	<b>5021239</b>
<b>RD 8-V4A</b>	8	50	125	50	125	40.000	<b>5021644</b>
<b>RD 10-V4A 20</b>	10	78	20	12	20	63.000	<b>5021640</b>
<b>RD 10-V4A</b>	10	78	50	32	50	63.000	<b>5021642</b>
<b>RD 10-V4A</b>	10	78	80	50	80	63.000	<b>5021647</b>

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

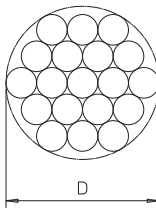


Type	Nominal size Ø mm	Cross-section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
<b>RD 8-CU</b>	8	50	100	45	100	45.000	<b>5021480</b>
<b>RD 10-CU</b>	10	78	50	35	50	70.000	<b>5021502</b>

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 mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Weight kg/100 m	Item No.
<b>S 11-CU</b>	10.5	19x Ø 2,1	70	50	30	58.600	<b>5021654</b>
<b>S 9-CU</b>	9	19x Ø 1,8	50	100	45	45.000	<b>5021652</b>
<b>S-11-CU SN</b>	10.5	19x Ø 2,1	70	50	30	58.600	<b>5021656</b>

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)



## Round conductor, copper sheathed

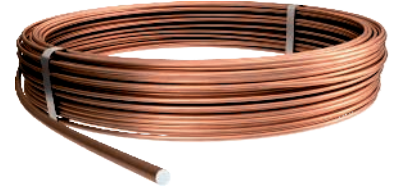


Type	Nominal size Ø mm	Cross-section mm <sup>2</sup>	Pack. m	Weight kg/100 m	Item No.
<b>RD 8-ST CU</b>	8	50	100	40.000	5021380

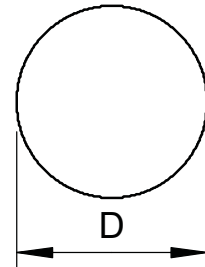
**St** Steel

**Cu** Copper-plated

- According to IEC/ EN 62561-2 (VDE 0185-561-2)
- Meets the requirements of VDE 0185-305 (IEC 62305)
- Copper layer thickness: Min. 250 µm



Dimensions



## Flat conductor, copper sheathed

Type	Dimension W x H mm	Cross-section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Weight kg/100 m	Item No.
<b>5052 STCU 30X3</b>	30x3	90	—	—	80.000	5020980

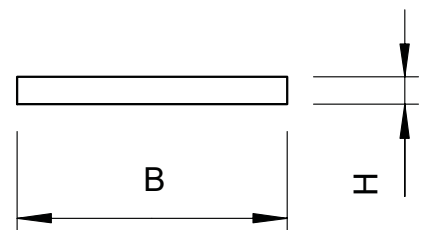
**St** Steel

**Cu** Copper-plated

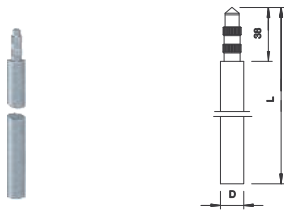
- According to IEC/ EN 62561-2 (VDE 0185-561-2)
- Copper layer thickness: min. 70 µm



Dimensions



### Earth rod for standard applications



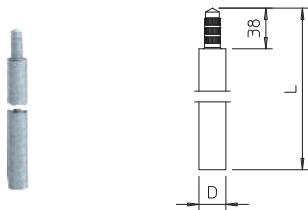
Type	Length mm	Outer-Ø mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>219 20 ST FT</b>	1000	20	7.9	H/100	5	250.000	<b>5000742</b>
<b>219 20 ST FT</b>	1500	20	7.9	H/100	5	360.000	<b>5000750</b>

**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 I<sub>k</sub> (50 Hz), time 1 s, max. temp 300 °C: 7.9 kA (219/20 ST)

### Earth rod for standard applications



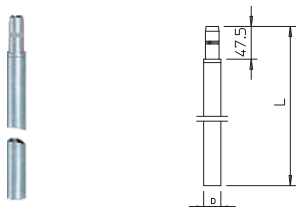
Type	Length mm	Outer-Ø mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>219 25 ST FT</b>	1500	25	12.3	H/100	5	573.000	<b>5000769</b>

**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 I<sub>k</sub> (50 Hz), time 1 s, temp. max. 300 °C: 12.3 kA

### LightEarth earth rod



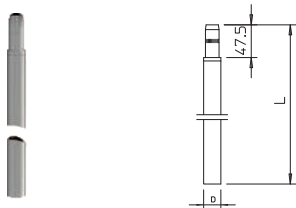
Type	Length mm	Outer-Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>LE ERDER FT</b>	1500	25	5	235.000	<b>5000300</b>

**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 earth rod



Type	Length mm	Outer-Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>LE ERDER V4A</b>	1500	25	5	235.000	<b>5000335</b>

**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.

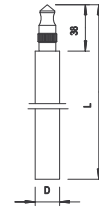


Type	Length mm	Outer-Ø mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>219 20 BP FT</b>	1500	20	7.9	H/100	5	360.000	<b>5000947</b>
<b>219 25 BP FT</b>	1500	25	12.3	H/100	5	573.000	<b>5000955</b>

**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)



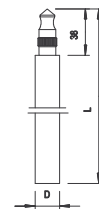
### BP earth rod



Type	Length mm	Outer-Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>219 20 BP V4A</b>	1000	20	5	250.000	<b>5000858</b>
<b>219 20 BP V4A</b>	1500	20	5	365.000	<b>5000866</b>

**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 I<sub>k</sub> (50 Hz), time 1 s, max. temp. 300 °C: 4.5 kA (219 20 BP V4A)



### BP earth rod

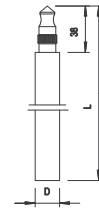


Type	Length mm	Outer-Ø mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>219 20 BP CU</b>	1500	20	7.9	H/100	5	365.400	<b>5000500</b>

**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/mm<sup>2</sup>
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)



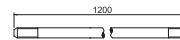
### BP earth rod with copper sheath

Type	Length mm	Outer-Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>219 16 CU</b>	1200	14.2	5	192.000	<b>5000481</b>

**St** Steel

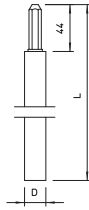
**Cu** Copper-plated

- Made of steel with a copper jacket of min. 0.25 mm
- With thread for linking together
- Tensile strength min. 600 N/mm<sup>2</sup>
- Meets the requirements of VDE 0185-305 (IEC 62305)



### BP earth rod with copper sheath

### OMEX earth rod



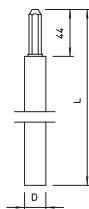
Type	Length mm	Outer-Ø mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>219 20 OMEX FT</b>	1500	20	7.9	H/100	5	365.400	<b>5000017</b>
<b>219 20 OMEX FT</b>	2000	20	7.9	H/100	5	491.400	<b>5000203</b>

**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 earth rod



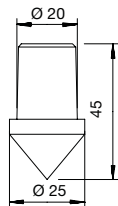
Type	Length mm	Outer-Ø mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>219 25 OMEX FT</b>	1500	25	12.3	H/100	5	577.200	<b>5000025</b>

**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



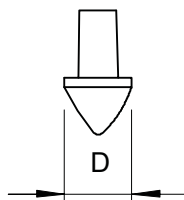
Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>LE SPITZE</b>	25	5	10.000	<b>3041409</b>

**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.
<b>1819 20BP</b>	20	5	3.800	<b>3041212</b>
<b>1819 25BP</b>	25	5	6.700	<b>3041956</b>

**TG** Cast iron

**FT** Hot-dip galvanised

- Suitable for ST and BP system



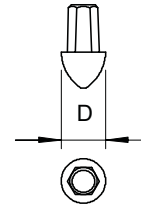
### Driving spike for OMEX earth rod

Type	For earth rods		Pack. pcs	Weight		Item No.
	Material symbol	Ø mm		kg/100 pcs.	pcs.	
1819 20	St	20	5	3.300		3041204
1819 25	St	25	5	4.900		3041255

TG Cast iron

FT Hot-dip galvanised

- Suitable for OMEX system
- DIN 48852, Form SP



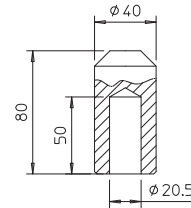
### Impact head for LightEarth earth rod

Type	For earth rods		Pack. pcs	Weight		Item No.
	Material symbol	Ø mm		kg/100 pcs.	pcs.	
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

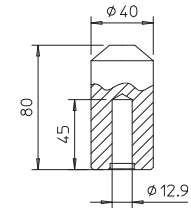


### Impact head for earth rods ST, BP and OMEX

Type	For earth rods		Pack. pcs	Weight		Item No.
	Material symbol	Ø mm		kg/100 pcs.	pcs.	
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

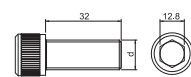


### Impact head for earth rod with thread

Type	For earth rods		Pack. pcs	Weight		Item No.
	Material symbol	Ø mm		kg/100 pcs.	pcs.	
1820 16	V2A	14.2	5	5.800		3042270

V2A Stainless steel, grade 304

- Suitable for earth rods, type 2019 16 CU

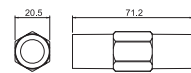


### Coupling for earth rod with thread

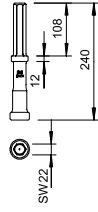
Type	For earth rods		Pack. pcs	Weight		Item No.
	Material symbol	Ø mm		kg/100 pcs.	pcs.	
2019 16	CuSn	14.2	10	8.000		5001190

CuSn Red bronze

- Suitable for earth rods, type 2019 16 CU



### Hammer insert, type 2500, for earth rods ST, BP and OMEX

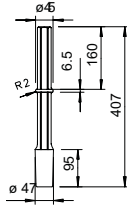


Type	For earth rods Ø mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2500 20	20	1	120.000	3043207
2500 25	25	1	140.000	3043258

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 earth rods ST, BP and OMEX

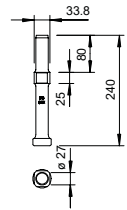


Type	For earth rods Ø mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2510 20	20	1	300.000	3043312

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 earth rods ST, BP and OMEX

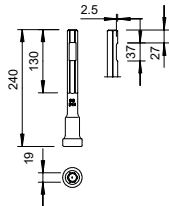


Type	For earth rods Ø mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
2520 20	20	1	197.000	3043703
2520 25	25	1	197.000	3043754

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 earth rods ST, BP and OMEX



Type	For earth rods Ø mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
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 earth rods ST, BP and OMEX



Type	For earth rods Ø mm	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
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

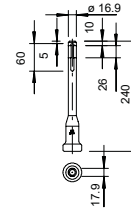


### Hammer insert, type 2535, for earth rods ST, BP and OMEX

Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2535 25</b>	25	1	100.000	<b>3044912</b>

St Steel

- Manufactured by Hilti TE 52/42, TE 72/60, TE 92
- Fits earth rod system ST, BP and OMEX
- Hardened

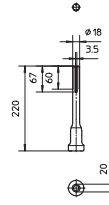


### Hammer insert, type 2536, for earth rods ST, BP and OMEX

Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2536 25</b>	25	1	61.000	<b>3044831</b>

St Steel

- Fits earth rod system ST, BP and OMEX
- For vibration hammers with SDS- Max/TEY- mounting
- Hardened



### Hammer insert for LightEarth earth rod

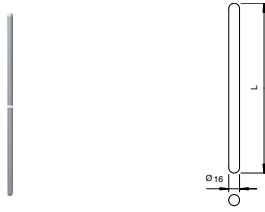
Type	Seat systems	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>LE HAMMER-H</b>	Hilti	1	76.000	<b>3043610</b>
<b>LE HAMMER-B</b>	Bosch	1	87.000	<b>3043614</b>
<b>LE HAMMER-SDS-M</b>	SDS-max	1	76.000	<b>3043602</b>
<b>LE HAMMER-AC</b>	Atlas Copco	1	76.000	<b>3043618</b>
<b>LE HAMMER-B-II</b>	Other	1	200.000	<b>3043628</b>

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



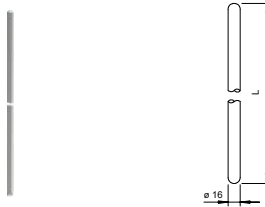
### Air-termination/earth entry rod, rounded-off on both ends



Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 A-1500</b>	1500	16	10	240.000	<b>5400155</b>

- St** Steel
- FT** Hot-dip galvanised
- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system

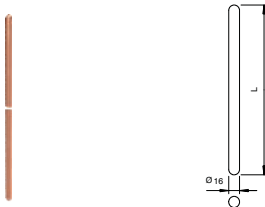
### Air-termination/earth entry rod, rounded-off on both ends



Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>200 V4A-1500</b>	1500	16	10	242.000	<b>5420504</b>
<b>200 V4A-2000</b>	2000	16	10	320.000	<b>5420539</b>

- V4A** Stainless steel, grade 316 Ti
- Full material Ø 16 mm
- Both ends rounded

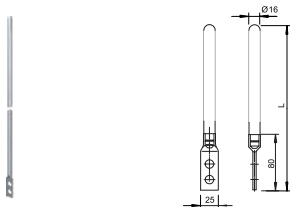
### Air-termination/earth entry rod, rounded-off on both ends



Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 A-CU</b>	1500	16	10	272.100	<b>5400627</b>

- Cu** Copper
- Full material Ø 16 mm
- Both ends rounded

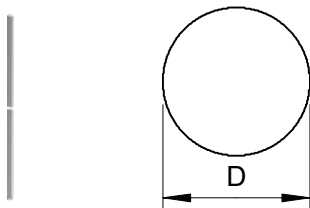
### Air-termination/earth entry rod with connection tabs



Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 F1500</b>	1500	16	10	240.000	<b>5424151</b>
<b>101 F2000</b>	2000	16	10	320.000	<b>5424208</b>

- 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 mm <sup>2</sup>	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>AF RD 10 V4A</b>	10	75	5	123.600	<b>5430720</b>

- 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



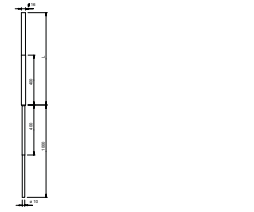
## Earth entry rod, tapered and partially insulated

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>204 KS-2500</b>	2500	16/10	1	310.000	<b>5430062</b>

St Steel

F Hot-dip galvanised

- 16 mm earth entry with 10 mm connection
- With mounted heat-shrinkable sleeve (corrosion protection)

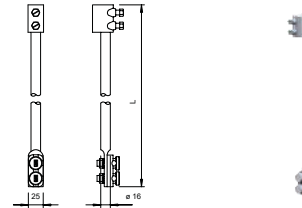


## Earth entry rod with separating piece and connector

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.

St Steel

- With separating piece type 223 DIN and connector type 5002 DIN



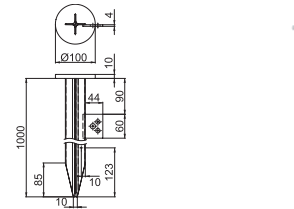
## Profile earth rod with connection strap/hand protection

Type	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.

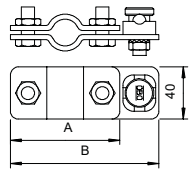
St Steel

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 conductor 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



### Connection clamp for earth rod to round conductors Rd 8–10



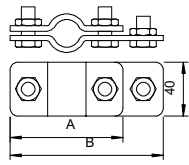
Type	For earth rods Ø mm	Dimension A mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2710 20</b>	20	84	114	5	39.900	<b>5001218</b>
<b>2710 25</b>	25	89	119	5	42.300	<b>5001226</b>

**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



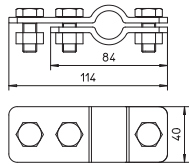
Type	For earth rods Ø mm	Dimension A mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2730 25 FT</b>	25	89	8.5	119	5	38.800	<b>5001412</b>
<b>2730 20 FT</b>	20	84	7.9	114	5	35.900	<b>5001404</b>

**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

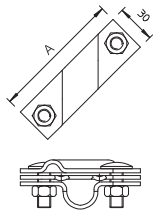


Type	For earth rods Ø mm	Dimension A mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2730 20 VA</b>	20	84	114	5	35.900	<b>5001366</b>

**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.
<b>2760 20 FT</b>	101	20	Rd 8-10/FL40	—	5	32.400	<b>5001641</b>
<b>2760 B-20 FT</b>	101	20	Rd 8-10/FL40	—	20	32.400	<b>5001749</b>
<b>2760 25 FT</b>	110	25	Rd 8-10/FL40	8.5	5	38.400	<b>5001668</b>

**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

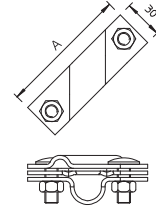
### Connection clamp for earth rod, universal



Type	Dimension A mm	For earth rods Ø mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2760 20 VA</b>	101	20	Rd 8-10/FL40	5	32.400	<b>5001617</b>
<b>2760 B-20 VA</b>	101	20	Rd 8-10/FL40	20	32.400	<b>5001625</b>
<b>2760 20 V4A</b>	101	20	Rd 8-10/FL40	5	32.400	<b>5001633</b>
<b>2760 25 V4A</b>	110	25	Rd 8-10/FL40	5	32.400	<b>5001672</b>

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



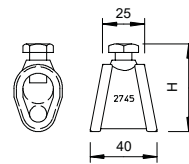
### Connection clamp for earth rod or cables

Type	For earth rods Ø mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2745 20 MS</b>	20	7-12,5/S95 mm <sup>2</sup>	5	16.000	<b>5001560</b>

CuZn Brass

Cu Copper-plated

- For earth rod connectors Ø 20 mm<sup>2</sup> or conductors 95 mm<sup>2</sup>
- For round conductor attachments Rd 7-12.5 with hexagonal bolts M10 x 25, copper (Cu)

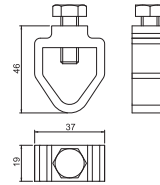


### Connection clamp for RD16 / FL25

Type	For earth rods Ø mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2745 16 25</b>	14.2	Rd 14,2/ FL max. 26 x 12	10	12.000	<b>5001590</b>
<b>2745 16 30</b>	14.2	Rd 14,2/ FL max. 40 x 12	10	19.000	<b>5001592</b>
<b>2745 16 70</b>	14.2	Rd 14,2/ Rope 16-70 mm <sup>2</sup>	10	6.400	<b>5001594</b>

CuAl Aluminium bronze CuSn Red bronze

- For connection of the copper-plated earth rod, type 219 16 CU, to conductor material
- Type A terminal



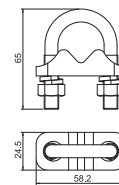
### Connection clamp for RD16 / FL25



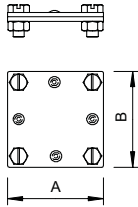
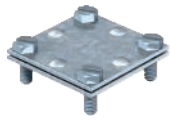
Type	For earth rods Ø mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2740 16</b>	14.2	FL/ Rd	10	12.900	<b>5001511</b>
<b>2740 16 KL</b>	14.2	Rd 8-10/FL max. 26	10	17.500	<b>5001513</b>

CuSn Red bronze

- Suitable for connecting round conductors Rd 8-10 or flat conductors with earth rod 219 16 CU



### Cross-connector for flat conductor



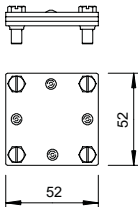
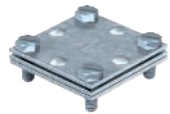
Type	Fit mm	Dimen- sion A mm	Dimen- sion B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>255 A-FL30 FT</b>	max. FL30	52	52	H/100	20	11.500	<b>5314534</b>

**SI** 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



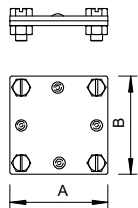
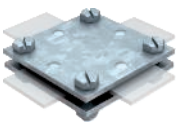
Type	Fit mm	Dimen- sion A mm	Dimen- sion B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>255 30</b>	max. FL30	52	52	H/100	20	16.650	<b>5314518</b>

**SI** 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



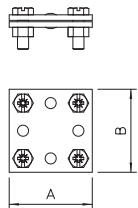
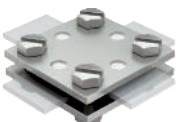
Type	Fit mm	Dimen- sion A mm	Dimen- sion B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>256 A-DIN 30 FT</b>	max. FL30	60	60	H/100	10	27.800	<b>5314658</b>
<b>256 A-DIN 40 FT</b>	max. FL40	80	80	H/100	10	38.800	<b>5314666</b>

**SI** 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	Dimen- sion A mm	Dimen- sion B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>256 A-DIN 30 VA</b>	max. FL30	60	60	H/100	10	27.800	<b>5314720</b>
<b>256 A-DIN 30 V4A</b>	max. FL30	60	60	H/100	10	26.400	<b>5314659</b>

**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





### DIN cross-connector for flat conductor, with intermediate plate

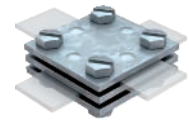
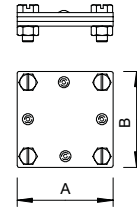


Type	Fit mm	Dimen- sion A mm	Dimen- sion B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>256 DIN 30 FT</b>	max. FL30	60	60	H/100	10	35.860	<b>5314615</b>
<b>256 DIN 40 FT</b>	max. FL40	80	80	H/100	10	54.650	<b>5314623</b>

**Sl** 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



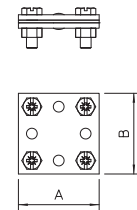
### DIN cross-connector for flat conductor, with intermediate plate



Type	Fit mm	Dimen- sion A mm	Dimen- sion B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>256 DIN 30 V4A</b>	max. FL30	60	60	H/100	10	29.100	<b>5314616</b>

**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

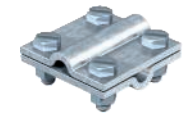
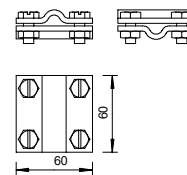


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>253 8X8</b>	Rd 8-10	H/100	25	30.700	<b>5312604</b>

**Sl** 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)



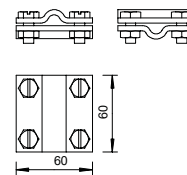
### Cross-connector round/round without intermediate plate



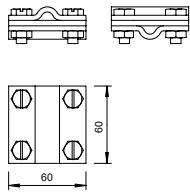
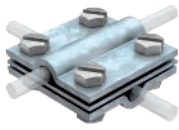
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>253 8-10 V4A</b>	Rd 8-10	H/100	25	23.650	<b>5312582</b>

**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)



### Cross-connector with intermediate plate for Rd 8–10 mm, wide version



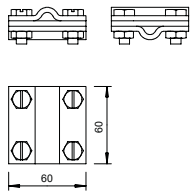
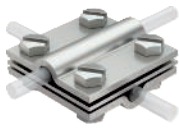
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10 FT</b>	Rd 8-10	H/100	25	33.530	5312310

**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

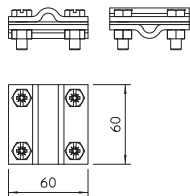
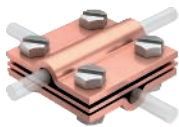


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10 V4A</b>	Rd 8-10	H/100	10	33.530	5312318

**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

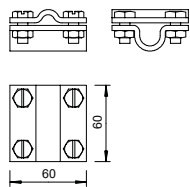


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10 CU</b>	Rd 8-10	H/100	10	38.940	5312418

**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.
<b>253 10X16</b>	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)



### Cross-connector with intermediate plate for Rd 8–10 x Rd 16 mm

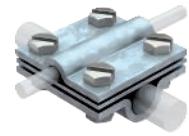
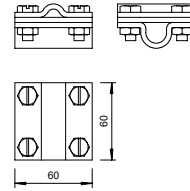


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10X16 FT</b>	Rd 8-10 x 16	H/100	25	38.800	5312345

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



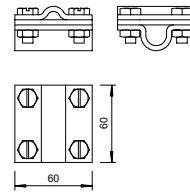
### Cross-connector with intermediate plate for Rd 8–10 x Rd 16 mm



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10X16 V4A</b>	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



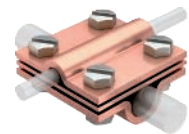
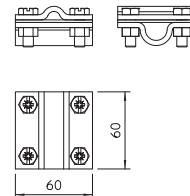
### Cross-connector with intermediate plate for Rd 8–10 x Rd 16 mm



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10X16 CU</b>	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 conductors and flat conductors DIN

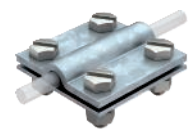
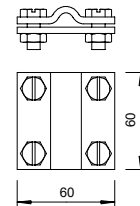


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10XFL30 FT</b>	8-10 x FL30	H/100	25	28.500	5312655

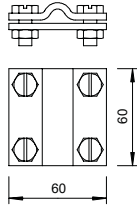
St Steel

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 conductors and flat conductors

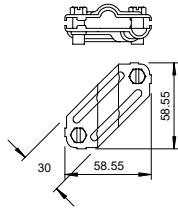


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10xFL30V4A</b>	8-10 x FL30	H/100	10	28.500	<b>5312656</b>

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

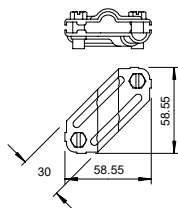


Type	Fit mm	Short-circuit current (50 HZ) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>250</b>	Rd 8-10/FL30	5.6	N/50	25	10.260	<b>5312906</b>

SI 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

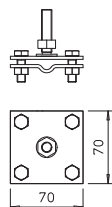


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>250 VA</b>	Rd 8-10/FL30	H/100	25	10.260	<b>5312922</b>
<b>250 V4A</b>	Rd 8-10/FL30	H/100	10	10.260	<b>5312925</b>

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.
<b>252 GB 10x45</b>	8-10 x FL30	4.2	H/100	10	34.800	<b>5312657</b>

V2A Stainless steel, grade 304  
FT/VA Hot-dip galvanised/stainless steel, grade 304

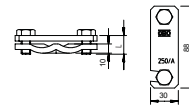
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8



## 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.
<b>250 A-FT</b>	Rd 6-22/max. FL50	7.3	H/100	25	28.800	<b>5313015</b>
<b>250 AS-FT</b>	Rd 6-22/max. FL50	7.3	H/100	25	26.000	<b>5313031</b>
<b>250 A</b>	Rd 6-22/max. FL50	7.3	H/100	25	28.800	<b>5313058</b>



**Sl** 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

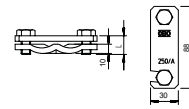
## Diagonal clamp for flat conductors and round conductors



Type	Dimension L mm	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>250 A-VA</b>	40	Rd 6-22/max. FL50	H/100	10	28.800	<b>5313023</b>

**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

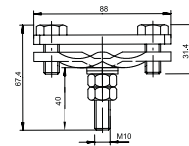


Type	Dimension L mm	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>250 A-BO</b>	25	Rd 6-22/max. FL50	H/100	25	30.994	<b>5313066</b>

**Sl** 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

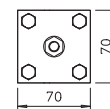
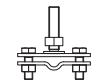


Type	Fit mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 GB 10x45</b>	8-10 x FL30	4.2	H/100	10	34.800	<b>5312657</b>

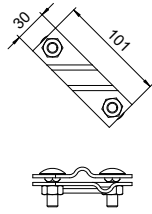
**V2A** Stainless steel, grade 304

**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



## Diagonal clamp for flat conductors and round conductors

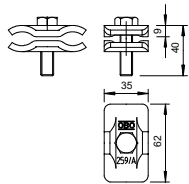
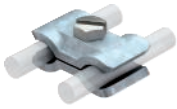


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2760 8</b>	Rd 8-10   H/100		5	27.120	<b>5001612</b>

V2A Stainless steel, grade 304

- 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

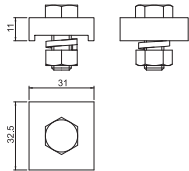
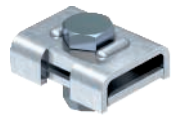


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>259 A ST</b>	Ø 10-20   H/100		25	18.800	<b>5315557</b>
<b>259 A FT</b>	Ø 10-20   H/100		25	18.800	<b>5315514</b>
<b>259 A VA</b>	Ø 10-20   H/100		10	18.800	<b>5315522</b>

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

## Connection terminal for round conductors

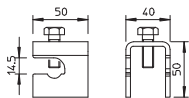


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1818</b>	Rd 8-10   N/50		10	17.600	<b>5012015</b>

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

## Connection terminal for reinforced steels



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1814 ST</b>	FL30x5 x Rd8-14   N/50		25	20.000	<b>5014476</b>
<b>1814 FT</b>	FL30x5 x Rd8-14   N/50		25	20.000	<b>5014468</b>

St Steel  
FT Hot-dip galvanised

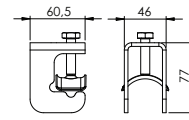
- For reinforced steels with diameters 8-14 mm and FL 30 x 5
- Simple mounting through open slot
- Side suspension possible



## Connection terminal for large reinforced steels



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1814 ST D37</b>	FL30x3-4mm / Rd 10 x Rd 16-37	H/100	25	30.000	<b>5014477</b>
<b>1814 FT D37</b>	FL30x3-4mm / Rd 10 x Rd 16-37	H/100	25	30.000	<b>5014469</b>



**St** Steel

**FT** Hot-dip galvanised

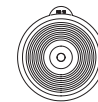
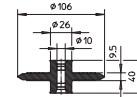
- For armoured steel with 16-37 mm diameter and round conductors and flat conductors
- Rapid installation using open slot and only one M10 screw
- Rotatable metal pressure trough for simple, safe mounting

## Sealing sleeve for round conductors

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>DW RD10</b>	RD 10	1	13.000	<b>2360041</b>

**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

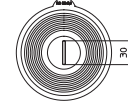
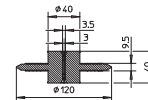


## Sealing sleeve for flat conductors

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>DW FL30x3,5</b>	FL 30x3,5	1	18.000	<b>2360043</b>

**TPE** Thermoplastic elastomer

- Sealing sleeve for penetrations of 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
- According to DIN EN 62561-5 (VDE 0185-561-5)

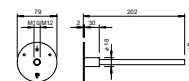


## Fixed earthing point

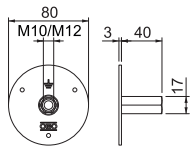
Type	Thread	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>205 B-M10 VA</b>	M10	—	10	23.912	<b>5420008</b>
<b>205 B-M12 VA</b>	M12	—	10	25.500	<b>5420016</b>

**V4A** Stainless steel, grade 316 L

- Connection to earthing systems, conductors and reinforcement
- Contact plate:  $\phi$  79 mm, made of rustproof stainless steel (V4A)
- Clamping bolt  $\phi$  10 mm, rustproof (V2A)
- Incl. plastic cover for simple installation



## Earthing fixed point with double thread



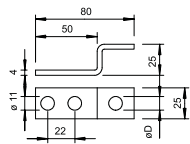
Type	Thread	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>205 DG V4A</b>	M10/M12	6.2	H/100	10	14.800	<b>5420020</b>
<b>205 DG L180 V4A</b>	M10/M12	3.3	H/100	10	23.900	<b>5420022</b>
<b>205 DG L180 FT</b>	M10/M12	4.9	H/100	10	23.900	<b>5420024</b>

**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

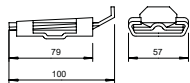


Type	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5011 VA M10</b>	11	10	7.064	<b>5334934</b>
<b>5011 VA M12</b>	13	10	7.048	<b>5334942</b>

**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



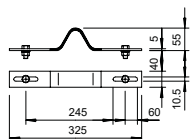
Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1813 DIN</b>	10/FL30 x FL30	H/100	5	21.144	<b>5014212</b>

**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

## Expansion piece



Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1807</b>	1	27.000	<b>5016142</b>

**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



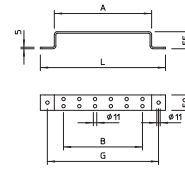
Type	Dimension L mm	Dimension A mm	Dimension B mm	Dimension G mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1805 2 FT</b>	200	110	51	155	1	54.800	<b>5016029</b>
<b>1805 4 FT</b>	302	212	153	257	1	77.000	<b>5016037</b>
<b>1805 6 FT</b>	404	314	255	359	1	97.100	<b>5016045</b>

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

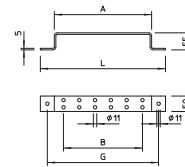


Type	Dimension L mm	Dimension A mm	Dimension B mm	Dimension G mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1805 2 VA</b>	200	110	51	155	1	54.800	<b>5016096</b>
<b>1805 4 VA</b>	302	212	153	257	1	77.000	<b>5016118</b>
<b>1805 6 VA</b>	404	314	255	359	1	97.100	<b>5016126</b>

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



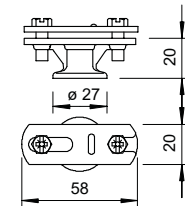
### Cable bracket for flat conductor

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>113 BZ-FL</b>	100	6.280	<b>5230446</b>
<b>113 B-Z-HD-FL</b>	100	7.000	<b>5230462</b>

Zn Die-cast zinc

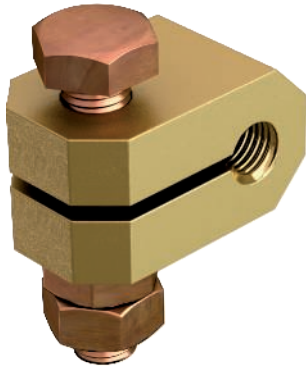
G Electrogalvanised

- With female thread M8 or through hole for wood screws
- For flat conductor FL 30
- Sliding over-piece for quick installation



Connection material

Connection clamp for round conductors RD 16

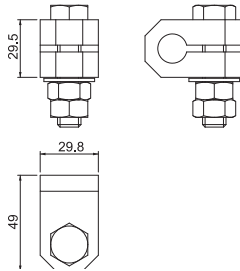


Type	For earth rods Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>2760 16</b>	14.2	5	35.000	<b>5001601</b>

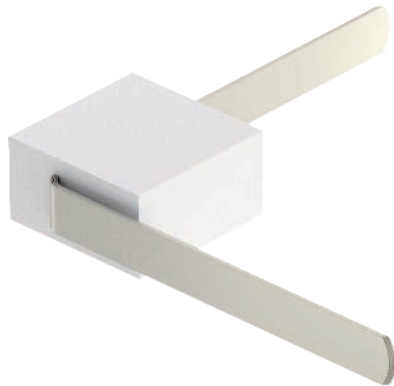
CuSn Red bronze

- For the connection of conductor materials with conductor shoes to earth rod 219 16 CU

Dimensions



Expansion strip for foundation earther systems

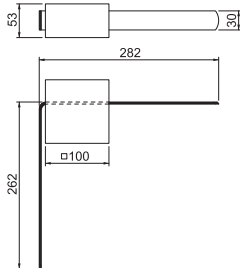


Type	Dimension W x H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1807 DB</b>	30x3,5	1	40.000	<b>5016160</b>

V2A Stainless steel, grade 304

- Expansion strip according to VDE 0185-561-2 (IEC 62561-2)
- To pass the foundation earther through movement joints

Dimensions



Connection clamp for earth rod on flat conductor

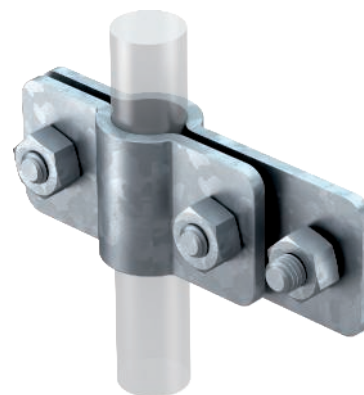


Type	For earth rods Ø mm	Dimension A mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
2730 25 M12 FT	—	—	8.5	—	5	46.280	5001416

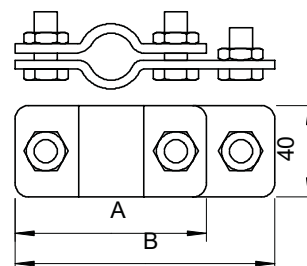
SI Steel

FT Hot-dip galvanised

- ST, BP, OMEX and LightEarth systems
- On flat conductors
- Including hex-head screw for attaching flat conductors



Dimensions



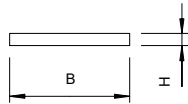
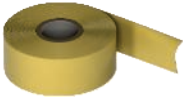
## Earthing enhancing compound



Type	Dimension		Pack.	Weight	Item No.
	mm	m	pcs	kg/100 pcs.	
<b>OEK 25</b>	25kg		1	2,500.000	<b>5009200</b>

- 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)

## Corrosion protection strip



Type	Width Length		Pack.	Weight	Item No.
	mm	m	pcs	kg/100 pcs.	
<b>356 50</b>	50	10	1	71.500	<b>2360055</b>
<b>356 100</b>	100	10	1	122.200	<b>2360101</b>

**PETRO** Petrolatum

- Approx. 1.1 mm thick
- Width: 50 mm or 100 mm, made of petrolatum-coated chemical fibre fabric
- Can be processed cold












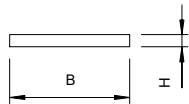


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## Air-termination and down conductor systems

	<b>Conductor material</b>	80
	<b>Air-termination systems</b>	83
	<b>Air-termination rods</b>	88
	<b>Cable bracket</b>	101
	<b>Connectors and connection terminals</b>	108
	<b>Connection and separating terminals</b>	122
	<b>Earth entries</b>	123
	<b>Accessories</b>	125

## Galvanised steel flat conductor for earth



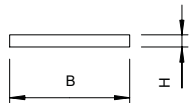
Type	Dimension W x H mm	Cross- section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
5052 DIN 20X2.5	20 x 2,5	50	122	50	122	41.000	5019340
5052 DIN 25X3	25 x 3	75	84	50	84	59.700	5019342
5052 DIN 30X3	30 x 3	90	71	50	71	70.650	5019344
5052 DIN 30X3.5	30 x 3,5	105	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/m<sup>2</sup> (approx. 70 µm)
- For lightning protection, earthing systems and ring equipotential bonding

## Stainless steel flat conductor



Type	Dimension W x H mm	Cross- section mm <sup>2</sup>	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

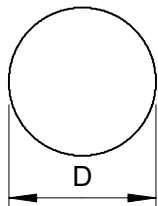


Type	Dimension W x H mm	Cross- section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
FL 25-CU	25 x 3	75	50	33	50	67.000	5021830

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 mm <sup>2</sup>	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/m<sup>2</sup> (approx. 50 µm)





## Round conductor, galvanised steel with PVC jacketing

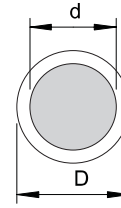


Type	Colour	Dimen- sion d mm	Dimen- sion D mm	Cross- section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
<b>RD 10-PVC</b>	Black	10	13	78	75	50	75	67.000	<b>5021162</b>

St Steel

FT Hot-dip galvanised

- Conforms to the requirements according to VDE V 0185-305, (IEC 62305)
- Zinc coating: 350 g/m<sup>2</sup> (approx. 50 µm)
- With PVC sheathing



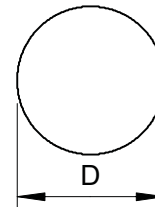
## Round conductor, aluminium



Type	Nominal size Ø mm	Cross- section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
<b>RD 8-ALU</b>	8	50	150	20	150	13.500	<b>5021286</b>
<b>RD 8-ALU-T</b>	8	50	150	20	150	13.500	<b>5021294</b>
<b>RD 8-ALU-T 75</b>	8	50	75	10	75	13.500	<b>5021296</b>
<b>RD 10-ALU</b>	10	78	95	20	95	21.000	<b>5021308</b>

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



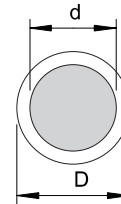
## Round conductor, aluminium, with PVC sheathing



Type	Nominal size Ø mm	Cross- section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
<b>RD 8-PVC</b>	8/11	50	100	20	100	20.000	<b>5021332</b>

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



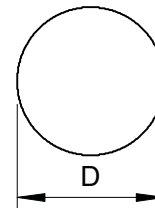
## Round conductor, stainless steel A2



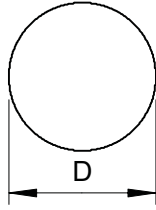
Type	Nominal size Ø mm	Cross- section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
<b>RD 8-V2A</b>	8	50	125	50	125	40.000	<b>5021235</b>
<b>RD 10-V2A</b>	10	78	50	32	50	63.000	<b>5021227</b>
<b>RD 10-V2A</b>	10	78	80	50	80	63.000	<b>5021239</b>
<b>RD 8-V4A</b>	8	50	125	50	125	40.000	<b>5021644</b>
<b>RD 10-V4A 20</b>	10	78	20	12	20	63.000	<b>5021640</b>
<b>RD 10-V4A</b>	10	78	50	32	50	63.000	<b>5021642</b>
<b>RD 10-V4A</b>	10	78	80	50	80	63.000	<b>5021647</b>

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

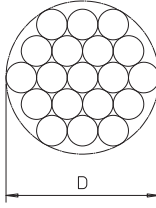


Type	Nominal size Ø mm	Cross-section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack. m	Weight kg/100 m	Item No.
<b>RD 8-CU</b>	8	50	100	45	100	45.000	<b>5021480</b>
<b>RD 10-CU</b>	10	78	50	35	50	70.000	<b>5021502</b>

**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 mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Weight kg/100 m	Item No.
<b>S 11-CU</b>	10.5	19x Ø 2,1	70	50	30	58.600	<b>5021654</b>
<b>S 9-CU</b>	9	19x Ø 1,8	50	100	45	45.000	<b>5021652</b>
<b>S-11-CU SN</b>	10.5	19x Ø 2,1	70	50	30	58.600	<b>5021656</b>

**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)



## Stand for FangFix Junior system

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.

**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.

**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

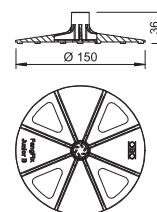


## Base for FangFix Junior

Type	Pack. pcs	Weight kg/100 pcs.	Item No.

**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



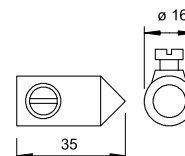
## Air-termination tip

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.

**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

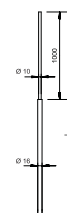


## Tapered pipe air-termination rod

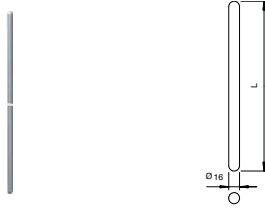
Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 VL2000</b>	2000	10/16	10	55.000	5401983
<b>101 VL2500</b>	2500	10/16	10	72.000	5401986
<b>101 VL3000</b>	3000	10/16	10	88.000	5401989
<b>101 VL3500</b>	3500	10/16	10	105.000	5401993
<b>101 VL4000</b>	4000	10/16	10	120.000	5401995

**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



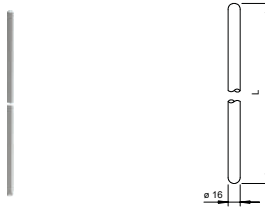
### Air-termination/earth entry rod, rounded-off on both ends



Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 A-1500</b>	1500	16	10	240.000	<b>5400155</b>

- St** Steel
- FI** Hot-dip galvanised
- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system

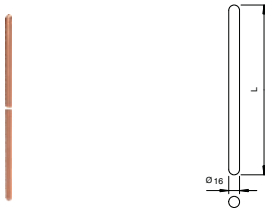
### Air-termination/earth entry rod, rounded-off on both ends



Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>200 V4A-1500</b>	1500	16	10	242.000	<b>5420504</b>
<b>200 V4A-2000</b>	2000	16	10	320.000	<b>5420539</b>

- V4A** Stainless steel, grade 316 Ti
- Full material Ø 16 mm
- Both ends rounded

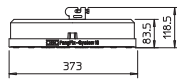
### Air-termination/earth entry rod, rounded-off on both ends



Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 A-CU</b>	1500	16	10	272.100	<b>5400627</b>

- Cu** Copper
- Full material Ø 16 mm
- Both ends rounded

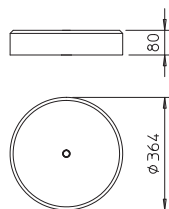
### Stand for FangFix system 16 kg



Type	Fit mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>F-FIX-16</b>	Rd 8	373	1	1,732.500	<b>5403200</b>
<b>F-FIX-16B</b>	Rd 8	373	54	1,732.500	<b>5403205</b>

- BET** Concrete
- System consists of FangFix stone with edge protection and clamp
- FangFix clamp made of VA; lightning current tested to VDE 0185-305 (IEC 62305)
- 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
- Suitable for Ø 16 mm pipe air-termination rods

### Concrete block for FangFix-System 16 kg



Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>F-FIX-S16</b>	365	1	1,700.000	<b>5403227</b>

- BET** Concrete
- 16 kg stone of Ø 365 mm, high level of stability
- Frost-resistant concrete
- Stackable

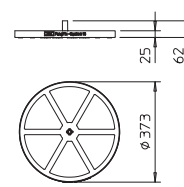


## Base for FangFix system 16 kg

Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.

PP Polypropylene

Edge protection with integrated dowel (basic) suitable for FangFix system.



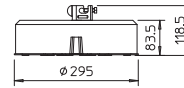
## Stand for FangFix system 10 kg



Type	Fit mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.

BET Concrete

- System consists of FangFix stone with base and clamp
- FangFix clamp made of VA; lightning current tested with 0185 kA (305/62305)
- 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
- Suitable for Ø 16 mm pipe air-termination rods

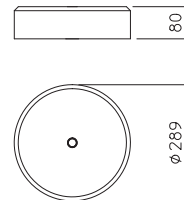


## Concrete block for FangFix system 10 kg

Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.

BET Concrete

- 10 kg stone of Ø 289 mm, high level of stability
- Frost-resistant concrete
- Stackable

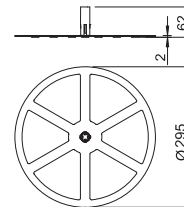


## Base for FangFix system 10 kg

Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.

PP Polypropylene

Edge protection with integrated dowel (basic) suitable for FangFix 10 kg system.



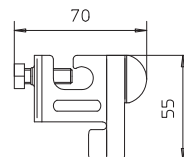
## Terminal for FangFix system



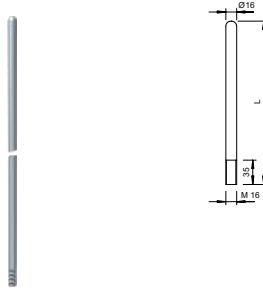
Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.

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



### Air-termination rod, one end rounded, aluminium

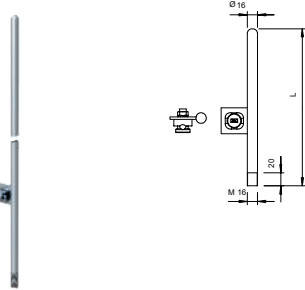


Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 ALU-1000	1000	16	10	55.000	5401771
101 ALU-1500	1500	16	10	81.000	5401801
101 ALU-2000	2000	16	10	109.000	5401836
101 ALU-2500	2500	16	10	136.000	5401852
101 ALU-3000	3000	16	5	162.000	5401879

**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



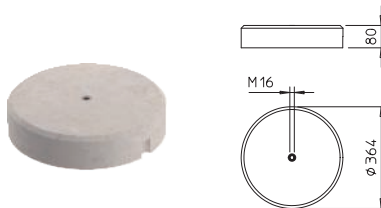
Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 A-L100	1000	16	10	160.000	5402808
101 A-L150	1500	16	10	240.000	5402859

**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

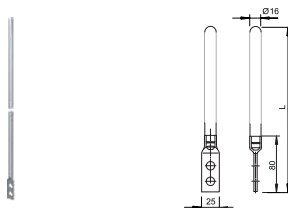


Type	Length mm	Nominal size Ø mm	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
101 B2-16 M16	364	M16		1	1,600.000	5402958

**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

### Air-termination/earth entry rod with connection tabs



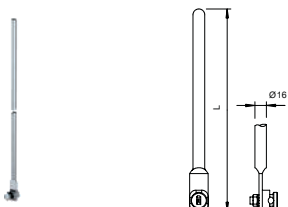
Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 F1000	1000	16	10	160.000	5424100
101 F1500	1500	16	10	240.000	5424151
101 F2000	2000	16	10	320.000	5424208

**St** Steel

**FT** Hot-dip galvanised

- With 2 attaching holes Ø 12 mm
- One end rounded

### 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



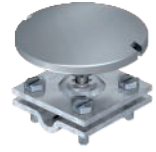
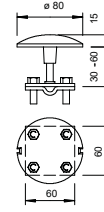
## Mushroom-shaped air-termination with connectors

Type	Fit mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>128 F</b>	Rd 8-10/ FL30	80	5	40.000	<b>5405769</b>

St Steel

FT Hot-dip galvanised

- Mushroom-shaped air-termination 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



isFang air-termination rod

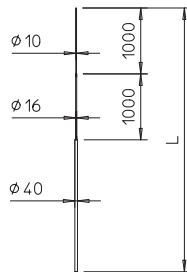


Type	Dimension B mm	Dimension D mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 3B-4000	2000	1000	4000	1	400.000	5402864
101 3B-4500	2500	1000	4500	1	480.000	5402866
101 3B-5000	3000	1000	5000	1	550.000	5402868
101 3B-5500	3000	1500	5500	1	630.000	5402870
101 3B-6000	4000	1000	6000	1	700.000	5402872
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





## Insulated air-termination rod



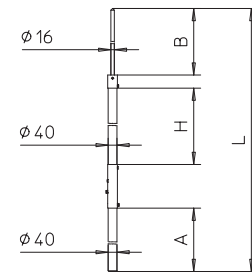
Type	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang 4000 AL	1240	1500	1000	4000	1	580.000	5408943
isFang 6000 AL	3340	1500	1000	6000	1	600.000	5408947
isFang 4000	1240	1500	1000	4000	1	680.000	5408942
isFang 6000	3340	1500	1000	6000	1	680.000	5408946

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



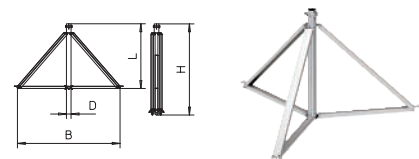
## isFang air-termination rod stand



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, insulated air-termination rod for inner-routed isCon® conductor with side exit



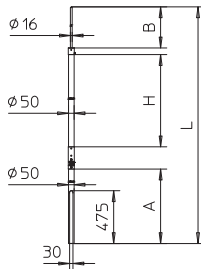
Type	Dimension D Ø mm	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang IN-A 4000</b>	50	1325	1500	1000	4000	1	535.000	<b>5408938</b>
<b>isFang IN-A 6000</b>	50	3325	1500	1000	6000	1	835.000	<b>5408940</b>
<b>isFang IN-A 8000</b>	50	5335	1500	1000	8000	1	1,385.000	<b>5408888</b>
<b>isFang IN-A10000</b>	50	6000	1733	2000	10000	1	1,540.000	<b>5408890</b>



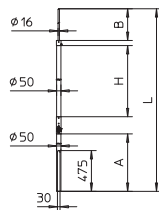
**GFK** Fibre-glass-reinforced plastic

- 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



## Insulated air-termination rod for inner-routed isCon® cable



Type	Dimension D Ø mm	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang IN L4</b>	50	1325	1500	1000	4000	1	535.000	<b>5408854</b>
<b>isFang IN L6</b>	50	3325	1500	1000	6000	1	835.000	<b>5408856</b>
<b>isFang IN L8</b>	50	5335	1500	1000	8000	1	1,350.000	<b>5408858</b>
<b>isFang IN L10</b>	50	6000	1733	2000	10000	1	1,540.000	<b>5408860</b>

**GFK** Fibre-glass-reinforced plastic

- For installation of the OBO isCon® conductors 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
- Tested according to IEC TS 62561-8



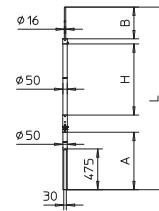
## Insulated air-termination rod for inner-routed isCon® cable with side exit



Type	Dimension D Ø mm	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang IN-A L4</b>	50	1325	1500	1000	4000	1	535.000	<b>5408874</b>
<b>isFang IN-A L6</b>	50	3325	1500	1000	6000	1	835.000	<b>5408876</b>
<b>isFang IN-A L8</b>	50	5335	1500	1000	8000	1	1,385.000	<b>5408878</b>
<b>isFang IN-A L10</b>	50	6000	1733	2000	10000	1	1,540.000	<b>5408880</b>

**GFK** Fibre-glass-reinforced plastic

- For installation of the OBO isCon® conductors 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
- Tested according to IEC TS 62561-8



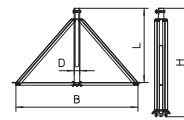
## isFang air-termination rod stand with side exit



Type	Dimension B mm	Dimension D Ø mm	Dimension L mm	Dimension H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang 3B-100-A</b>	1026	50	600	885	1	610.000	<b>5408930</b>
<b>isFang 3B-150-A</b>	1500	50	900	1275	1	950.000	<b>5408932</b>
<b>isFang 3B-250-A</b>	2900	50	1450	2055	1	2,500.000	<b>5408902</b>

**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

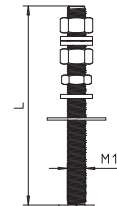


## isFang-3B threaded rod

Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang 3B-G1</b>	270	3	48.000	<b>5408971</b>
<b>isFang 3B-G2</b>	340	3	60.400	<b>5408972</b>
<b>isFang 3B-G3</b>	430	3	69.500	<b>5408973</b>
<b>isFang 3B-G4</b>	500	3	75.000	<b>5408905</b>

**V2A** Stainless steel, grade 304

- For fastening on one, two, three or four FangFix concrete bases with tripod stand

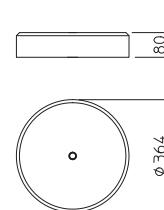


## Concrete block for FangFix-System 16 kg

Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>F-FIX-S16</b>	365	1	1,700.000	<b>5403227</b>

**BET** Concrete

- 16 kg stone of Ø 365 mm, high level of stability
- Frost-resistant concrete
- Stackable

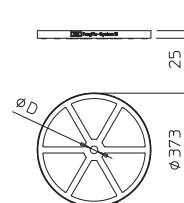


## Base for FangFix system 16 kg for mounting the isFang tripod

Type	Nominal size Ø mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>F-FIX-B16 3B</b>	373	25	10	15.800	<b>5403238</b>

**PP** Polypropylene

- Edge protection with through hole
- For mounting isFang-3B threaded rod and FangFix concrete block F-FIX-S16



## isFang, insulated air-termination rod for inner-routed isCon® conductor Professional Plus



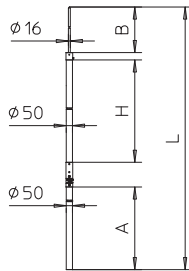
Type	Dimension D Ø mm	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang IN 4000</b>	50	1325	1500	1000	4000	1	535.000	<b>5408934</b>
<b>isFang IN 6000</b>	50	3325	1500	1000	6000	1	835.000	<b>5408936</b>
<b>isFang IN 8000</b>	50	5335	1500	1000	8000	1	1,315.000	<b>5408868</b>
<b>isFang IN 10000</b>	50	6000	1733	2000	10000	1	1,540.000	<b>5408870</b>



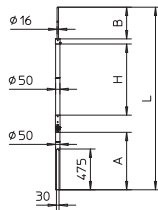
**GFK** Fibre-glass-reinforced plastic

- 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, 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.
<b>isFang IN-A 4000</b>	50	1325	1500	1000	4000	1	535.000	<b>5408938</b>
<b>isFang IN-A 6000</b>	50	3325	1500	1000	6000	1	835.000	<b>5408940</b>
<b>isFang IN-A 8000</b>	50	5335	1500	1000	8000	1	1,385.000	<b>5408888</b>
<b>isFang IN-A 10000</b>	50	6000	1733	2000	10000	1	1,540.000	<b>5408890</b>
<b>isFang IN-A L4</b>	50	1325	1500	1000	4000	1	535.000	<b>5408874</b>
<b>isFang IN-A L6</b>	50	3325	1500	1000	6000	1	835.000	<b>5408876</b>
<b>isFang IN-A L8</b>	50	5335	1500	1000	8000	1	1,385.000	<b>5408878</b>
<b>isFang IN-A L10</b>	50	6000	1733	2000	10000	1	1,540.000	<b>5408880</b>
<b>isFang IN L4</b>	50	1325	1500	1000	4000	1	535.000	<b>5408854</b>
<b>isFang IN L6</b>	50	3325	1500	1000	6000	1	835.000	<b>5408856</b>
<b>isFang IN L8</b>	50	5335	1500	1000	8000	1	1,350.000	<b>5408858</b>
<b>isFang IN L10</b>	50	6000	1733	2000	10000	1	1,540.000	<b>5408860</b>

**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)

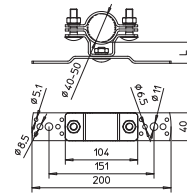


## isFang support for wall mounting, 30 mm spacing

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.

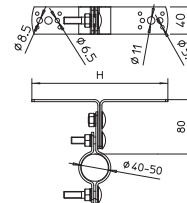


## isFang support for wall mounting, 80 mm spacing

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.

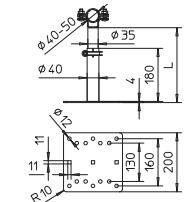


## isFang support for wall mounting, 200–300 mm spacing

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.

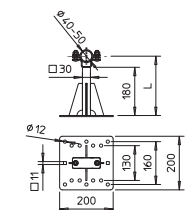


## Support for wall mounting, 200 mm spacing

Type	Dimension D $\phi$ mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TW200 12	50	200	2	240.000	5408910

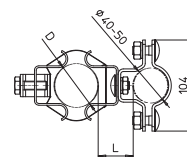
V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.

isFang support for pipe mounting,  $\phi$  50–300 mm

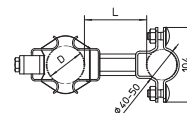
Type	Dimension D $\phi$ mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isFang TR100	300	40	2	77.000	5408956

V2A Stainless steel, grade 304

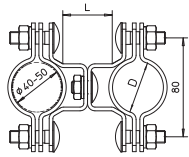
Tightening strap clip to fasten the insulated support pipes on the structure to be protected or for construction-side pipes of  $\phi$  50–300mm.isFang support for spaced pipe mounting,  $\phi$  50–300 mm

Type	Dimension D $\phi$ 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  $\phi$  50–300 mm.

### isFang support for pipe mounting, $\varnothing$ 40–50 mm

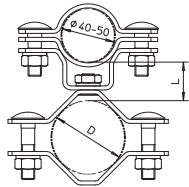


Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang TS40-50</b>	50	40	2	90.000	<b>5408958</b>

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  $\varnothing$  40–50 mm.

### isFang support for pipe mounting, $\varnothing$ 50–60 mm

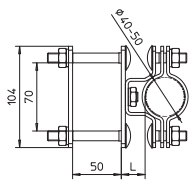


Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang TS50-60</b>	60	30	2	76.000	<b>5408960</b>

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  $\varnothing$  50–60 mm.

### isFang support for corner pipe mounting, 50 x 50 mm



Type	Dimension D Ø mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang TS50x50</b>	—	30	2	82.000	<b>5408964</b>

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.

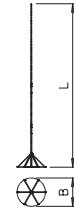


### 10 m air-termination rod with 6-legged air-termination rod stand

Type	Dimension D Ø mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>irod 10</b>	48.3	1800	10000	1	6,500.000	<b>5400810</b>

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.
<b>irod 12</b>	85	3000	12000	1	10,900.000	<b>5400812</b>

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.
<b>irod 14</b>	85	3200	14000	1	15,400.000	<b>5400814</b>

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.
<b>irod 19</b>	198	3400	19500	1	41,500.000	<b>5400817</b>

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

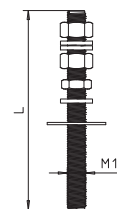


### isFang-3B threaded rod

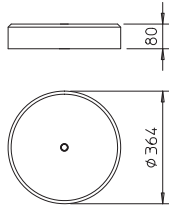
Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang 3B-G1</b>	270	3	48.000	<b>5408971</b>
<b>isFang 3B-G2</b>	340	3	60.400	<b>5408972</b>
<b>isFang 3B-G3</b>	430	3	69.500	<b>5408973</b>
<b>isFang 3B-G4</b>	500	3	75.000	<b>5408905</b>

V2A Stainless steel, grade 304

- For fastening on one, two, three or four FangFix concrete bases with tripod stand

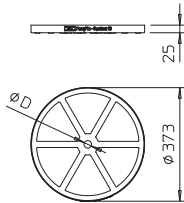


### Concrete block for FangFix-System 16 kg



Type	Nominal size Ø mm	Pack. Weight		Item No.
		pcs	kg/100 pcs.	
<b>F-FIX-S16</b>	365	1	1,700.000	<b>5403227</b>
<b>BET</b> Concrete				
<ul style="list-style-type: none"> <li>• 16 kg stone of Ø 365 mm, high level of stability</li> <li>• Frost-resistant concrete</li> <li>• Stackable</li> </ul>				

### Base for FangFix system 16 kg for mounting the isFang tripod



Type	Nominal size Ø mm	Dimension D Ø mm	Pack. Weight		Item No.
			pcs	kg/100 pcs.	
<b>F-FIX-B16 3B</b>	373	25	10	15.800	<b>5403238</b>
<b>PP</b> Polypropylene					
<ul style="list-style-type: none"> <li>• Edge protection with through hole</li> <li>• For mounting isFang-3B threaded rod and FangFix concrete block F-FIX-S16</li> </ul>					



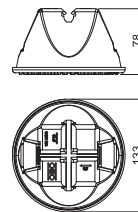


## Roof conductor holder for flat roofs, black

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 MBG-8	Rd 8	12	106.000	5218691
165 MBG-8 FO	Rd 8	12	106.000	5218692
165 MBG-10	Rd 10	12	106.000	5218675
165 MBG-8-10	Rd 8-10	12	100.000	5218700
165 MBG-8-10 FO	Rd 8-10	12	100.000	5218704

PA/PE Polyamide/Polyethylene

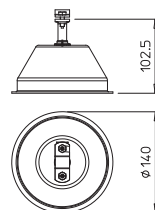
- Closed form with base
- With double conductor holder
- Filling weight 1 kg (frost-resistant concrete)
- Sleeve made of polyethylene, black, bottom polypropylene, black
- Base made of polyamide PA 6, black, UV-stabilised and weather-resistant
- Base can be used on almost all roofing felt systems (bitumen, PVC)
- Types 165 MBG...FO: Packed in foil bag



## Roof conductor 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 all roofing felt systems (bitumen, PVC)
- Types 165 MBG...FO: Packed in foil bag

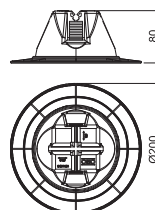


## Roof conductor holder for flat roofs, with increased base section

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 MBG-8 200	Rd 8	12	111.000	5218748
165 MBG-10 200	Rd 10	12	111.000	5218756
165 MBG-8-10 200	Rd 8-10	12	100.000	5218716

PE Polyethylene PA/PE Polyamide/Polyethylene

- DIN 48829 Form B 1
- Closed form with bottom
- With double conductor holder
- Filling weight 1 kg (frost-resistant concrete)
- Sleeve from polyethylene, black, bottom polypropylene, black
- With larger bottom section (Ø 200 mm) for improved stability

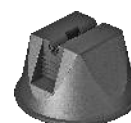
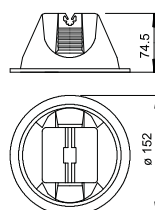


## Roof conductor holder for flat roofs, without base

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

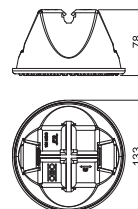


## Roof conductor holder for flat roofs, grey

Type	Fit mm	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
165 MBG-8 GR	Rd 8	Grey	12	106.000	5218693
165 MBG-8-10 GR	Rd 8-10	Grey	12	100.000	5218708

PA/PE Polyamide/Polyethylene

- Closed form with base
- With double conductor holder
- Filling weight 1 kg (frost resistant concrete)
- Case made from polyethylene, light grey, UV-stabilised and weatherproof
- Base made from polyamide PA 6, light grey, UV-stabilised and weatherproof
- Base suitable for nearly all roofing membrane systems (Bitumen, PVC)



### Flat conductor adapter for roof conductor holder, type 165/MBG

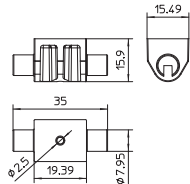


Type	Fit	Colour	mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>165 MBG HFL</b>	Rd 8	Black		12	0.658	<b>5218885</b>

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

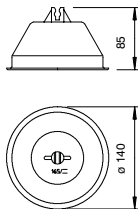


Type	Fit	Colour	mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>165 MBG UH</b>	Rd 8	Black		25	0.254	<b>5218882</b>

PP Polypropylene

- Universal adapter with drill hole  $\varnothing$  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

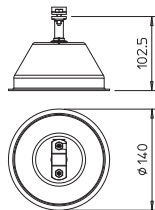


Type	Fit	mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>165 KR</b>	Rd 8		50	5.449	<b>5218861</b>

PE Polyethylene

- For self-filling with concrete
- Potential filling weight: approx. 1.3 kg
- Sleeve from polyethylene, black

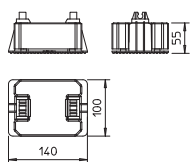
### Roof conductor holder for flat roofs, with raised cable bracket



Type	Fit	mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>165 KRB SO</b>	Rd 8-10		9	144.000	<b>5218977</b>

- Filling weight 1.3 kg (frost-resistant concrete)
- With conductor holder, type 168 DIN-K
- Die-cast zinc conductor holder, electrogalvanised
- Polyethylene sleeve, black

### Roof conductor holder for flat roofs, recyclable

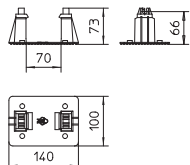


Type	Fit	mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>165 R-8-10</b>	Rd 8-10		10	106.000	<b>5218997</b>

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.
<b>165 R-8-10 OBG</b>	Rd 8-10		100	6.760	<b>5218999</b>

PE Polyethylene

- For flat roofs
- For round conductors Rd 8 to 10
- Polyethylene plastic holder, light grey
- For clamping in roof strips



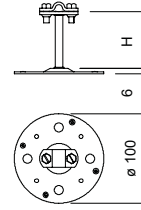
### Roof conductor holder, suitable for bonding straight to flat roofs

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>165 B 60</b>	Rd 8-10	60	50	26.100	<b>5218810</b>
<b>165 B 100</b>	Rd 8-10	100	50	27.700	<b>5218829</b>

**St** Steel

**FT** Hot-dip galvanised

- With conductor holder and bottom section, hot-dip galvanised steel
- Bottom section Ø 100 mm

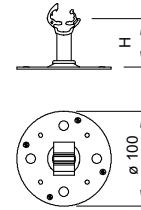


### Roof conductor holder, 55 mm, suitable for bonding straight to flat roofs

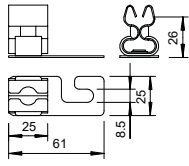
Type	Fit mm	Dimen- sion H mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>165 NBK 55</b>	Rd 8-10	55	100	75	17.060	<b>5218314</b>

**PA** Polyamide

- Suitable for bonding straight to flat roofs
- Conductor holder of polyamide
- Bottom section, hot-dip galvanised steel
- Bottom section Ø 100 mm



Roof conductor holder for tiled, slated and corrugated roofs, Rd 8



Type	Installation		Pack. pcs	Weight kg/100 pcs.	Item No.
	Fit mm	height mm			
<b>159 VA-V</b>	Rd 8	21	20	3.900	<b>5217075</b>

V2A Stainless steel, grade 304

- Bottom section and conductor holder stainless steel (V2A)
- Bottom section with Ø 8.5 mm slot

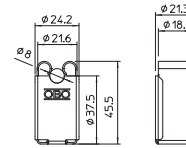


### Screwless cable bracket, raised construction type, for Rd 8 mm, through-way Ø 5 mm

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>177 35 VA M6</b>	Rd 8	35	20	2.680	<b>5207342</b>

V2A Stainless steel, grade 304

- With female thread M6 or through hole Ø 5 mm
- From stainless steel (V2A)

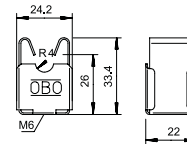


### Screwless cable bracket for Rd 8 mm, through-way Ø 5 mm

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>177 20 VA M6</b>	Rd 8	20	20	2.500	<b>5207339</b>

V2A Stainless steel, grade 304

- With female thread M6 or through hole Ø 5 mm
- From stainless steel (V2A)



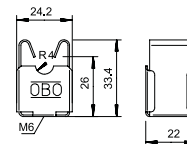
### Screwless cable bracket for Rd 8 mm, through-way Ø 5 mm copper-plated

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>177 20 VA-VK M6</b>	Rd 8	20	20	2.500	<b>5207800</b>

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

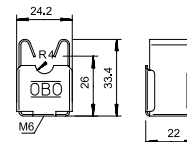


### Screwless cable bracket for Rd 8 mm, through-way Ø 7 mm

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>177 20 VA M8</b>	Rd 8	20	20	1.838	<b>5207347</b>

V2A Stainless steel, grade 304

- With female thread M8 or through hole Ø 5 mm
- From stainless steel (V2A)



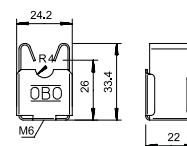
### Screwless cable bracket for Rd 8 mm, through-way Ø 7 mm copper-plated

Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>177 20 VA-VK M8</b>	Rd 8	20	20	1.900	<b>5207819</b>

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

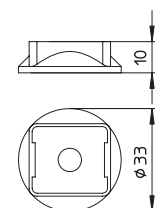


### Washer for cable bracket, type 177

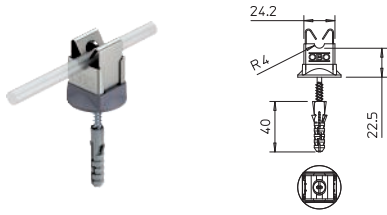
Type	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>177 U</b>	Light grey	20	0.286	<b>5207371</b>

PP Polypropylene

- For simple wall installation
- UV-resistant



### Screwless cable bracket for Rd 8 mm, fastening with screw and anchor

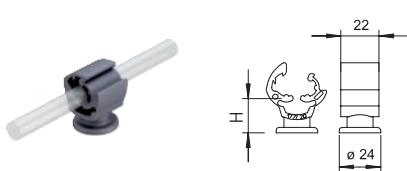


Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>177 20 VA B-HD</b>	Rd 8	20	50	2.900	<b>5207901</b>

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

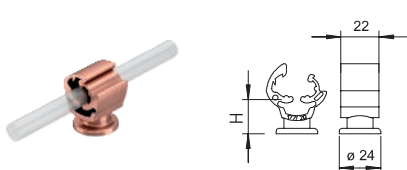


Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>177 20 M8</b>	Rd 8-10	20	20	0.723	<b>5207444</b>
<b>177 30 M8</b>	Rd 8-10	30	20	0.790	<b>5207460</b>
<b>177 55 M8</b>	Rd 8-10	55	20	1.007	<b>5207487</b>

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

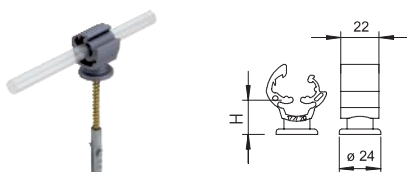


Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>177 20 CU</b>	Rd 8-10	20	10	0.718	<b>5207746</b>
<b>177 30 CU</b>	Rd 8-10	30	10	0.784	<b>5207754</b>
<b>177 55 CU</b>	Rd 8-10	55	10	1.450	<b>5207762</b>

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

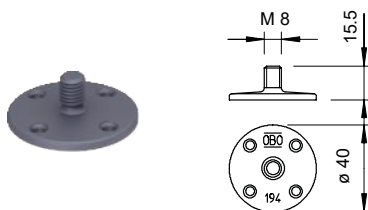


Type	Fit mm	Installation height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>177 B-HD20</b>	Rd 8-10	20	50	1.930	<b>5207851</b>
<b>177 B-HD30</b>	Rd 8-10	30	50	1.503	<b>5207878</b>

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.
<b>194</b>	Grey	M8	100	0.389	<b>5207258</b>

PA Polyamide

- With threaded stem M8
- For mounting conductor supports with M8 female thread
- For bonding to concrete, steel or brickwork

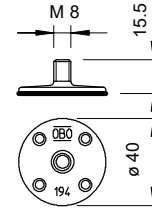


## Bonding base including industrial bonding pad

Type	Colour	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>194 K</b>	Grey	M8	20	0.600	<b>5207266</b>

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

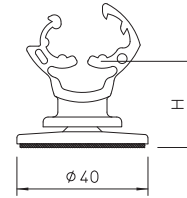


## Cable bracket, Rd 8–10 mm with bonding base

Type	Dimension H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>177 20 KL</b>	25	50	1.239	<b>5207451</b>

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



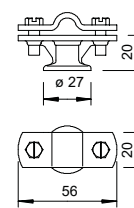
## Cable bracket with crossbar Rd 8–10 mm

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>113 Z8-10</b>	Rd 8-10	20	6.202	<b>5229960</b>

Zn Die-cast zinc

G Electrogalvanised

- With female thread M8 or through hole  $\varnothing$  7 mm
- Over-piece installed with 2 hexagonal bolts
- Version HD with wood screws (5 x 60) and plastic dowels (8 x 40)



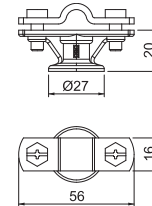
## Cable bracket with crossbar Rd 8–10 mm copper-plated

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>113 8-10</b>	Rd 8-10	20	9.600	<b>5230217</b>

Zn Die-cast zinc

Cu Copper-plated

- With female thread M8 or through hole  $\varnothing$  7 mm
- Over-piece installed with 2 hexagonal bolts



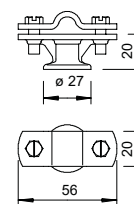
## Cable bracket with crossbar, wood screw, plastic anchor Rd 8-10 mm galvanised

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>113 B-Z-HD</b>	Rd 8-10	100	6.580	<b>5230322</b>

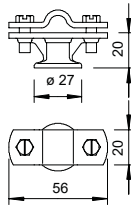
Zn Die-cast zinc

VZ Galvanised

- With female thread M8 or through hole  $\varnothing$  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, wood screw, plastic anchor Rd 8-10 mm copper-plated

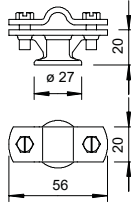


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>113 B-MS-HD 8-10</b>	Rd 8-10	100	7.280	5230365

- 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

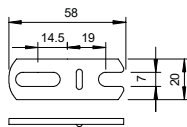


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>113 Z-K 8-10</b>	Rd 8-10	20	6.202	5229961

- 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

### Hinge crossbar for FL 30 mm

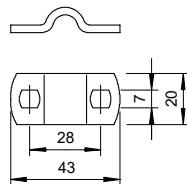


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>156 FL</b>	FL30	50	2.460	5228328

- St Steel
- FT Hot-dip galvanised

- With slot for quick installation

### Crossbar for Rd 8-10 mm, steel

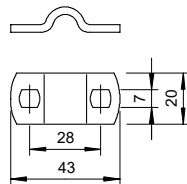


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>156 K8-10 ST</b>	Rd 8-10	100	2.000	5228123

- St Steel
- FT Hot-dip galvanised

- For round conductor Rd 8-10

### Crossbar for Rd 8-10 mm, stainless steel

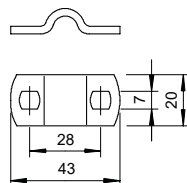
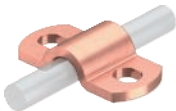


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>156 K8-10 VA</b>	Rd 8-10	100	2.100	5228134

- 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.
<b>156 K8-10 CU</b>	Rd 8-10	100	2.260	5228131

- Cu Copper

- For round conductor Rd 8-10





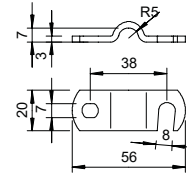
## Hinge crossbar for Rd 8-10 mm

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>156 8-10</b>	Rd 8-10	100	2.680	<b>5228026</b>

**Sl** Steel

**FT** Hot-dip galvanised

- With open slot for quick installation



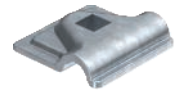
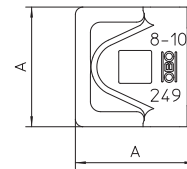
## Connection terminal, equipotential bonding, Rd 8-10 mm

Type	Fit mm	Dimen- sion A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 8-10 ST-OT</b>	Rd 8-10	40	100	3.240	<b>5311503</b>

**Sl** Steel

**FT** Hot-dip galvanised

- For round conductor fastening RD 8-10
- Suitable for M10 bolts

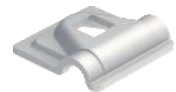
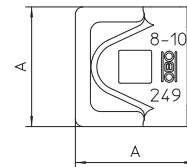


## Connection terminal, equipotential bonding, Rd 8-10 mm

Type	Dimen- sion A mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 8-10 ALU-OT</b>	44	Rd 8-10	100	2.100	<b>5311585</b>

**Alu** Aluminium

- For round conductor fastening RD 8-10
- Suitable for M10 bolts

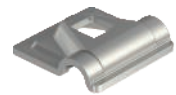
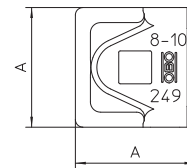


## Connection terminal, equipotential bonding, Rd 8-10 mm

Type	Fit mm	Dimen- sion A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 8-10 VA-OT</b>	Rd 8-10	40	100	3.130	<b>5311554</b>

**V2A** Stainless steel, grade 304

- For round conductor Rd 8-10
- Suitable for M10 bolts

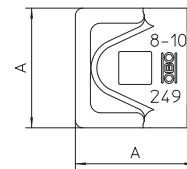


## Connection terminal, equipotential bonding, Rd 8-10 mm

Type	Fit mm	Dimen- sion A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 8-10 CU-OT</b>	Rd 8-10	40	100	3.580	<b>5311530</b>

**Cu** Copper

- For round conductor fastening RD 8-10
- Suitable for M10 bolts



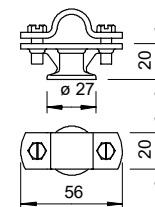
## Rod holder for 16 mm air-termination and earth entry rods, galvanised

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>113 Z-16</b>	Rd 16	10	6.000	<b>5412609</b>

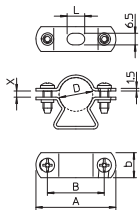
**Zn** Die-cast zinc

**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  $\varnothing$  7 mm



### Cable and pipe spacer clip 733 V2A

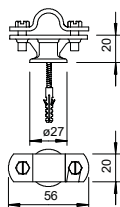


Type	Clamping range D mm	Hole size mm	Bolt	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>733 16 A2</b>	14 - 16	6,5 x 10	M5 x 12	500	50	2.430	<b>1362011</b>

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-termination and earth entry rods, with screw and anchor

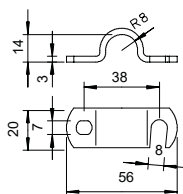


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>113 B-Z-HD</b>	Rd 16	100	6.000	<b>5412803</b>

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

### Crossbar, round conductors and interception rods 16 mm

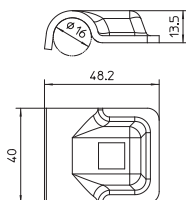


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>156 16</b>	Rd 16	50	3.230	<b>5228220</b>

St Steel  
FT Hot-dip galvanised

- With open slot for quick installation

### Connection terminal, equipotential bonding, Rd 16 mm

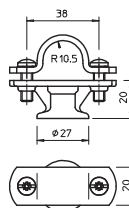


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 VA-OT</b>	16	100	5.700	<b>5311573</b>

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.
<b>113 Z-20</b>	Rd 20	20	8.200	<b>5230527</b>

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

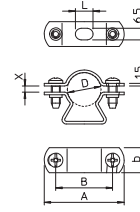


Type	Clamping range D mm	Hole size mm	Bolt	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>733 21 A2</b>	19 - 21	6,5 x 10	M5 x 16	500	50	2.740	<b>1362046</b>

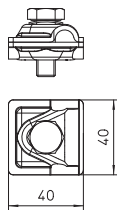
V2A Stainless steel, A2

\* Size M16 is not suitable for nail device

\* Sizes M16 - PG16 are not suitable for bolt-firing tool



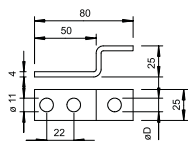
### Vario quick connector



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 8-10 V4A</b>	Rd 8-10	H/100	10	9.500	<b>5311404</b>
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)

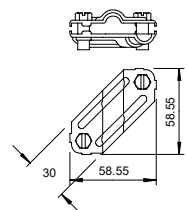
### Connection and end piece



Type	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5011 VA M10</b>	11	10	7.064	<b>5334934</b>
<b>5011 VA M12</b>	13	10	7.048	<b>5334942</b>
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

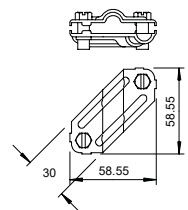
### Cross-connector for flat conductors and round conductors



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.
<b>250</b>	Rd 8-10/FL30	5.6	N/50	25	10.260	<b>5312906</b>
SI 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.
<b>250 VA</b>	Rd 8-10/FL30	H/100	25	10.260	<b>5312922</b>
<b>250 V4A</b>	Rd 8-10/FL30	H/100	10	10.260	<b>5312925</b>
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 conductors and flat conductors DIN

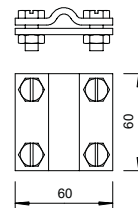


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10xFL30 FT</b>	8-10 x FL30	H/100	25	28.500	<b>5312655</b>

**Sl** 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



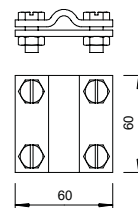
### Cross-connector for round conductors and flat conductors



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10xFL30V4A</b>	8-10 x FL30	H/100	10	28.500	<b>5312656</b>

**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, wide version

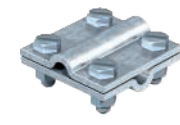
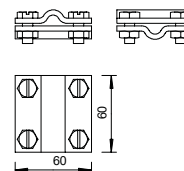


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>253 8x8</b>	Rd 8-10	H/100	25	30.700	<b>5312604</b>

**Sl** 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, wide version

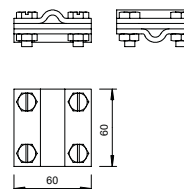


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10 FT</b>	Rd 8-10	H/100	25	33.530	<b>5312310</b>

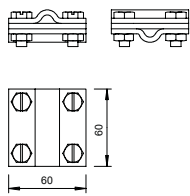
**Sl** Steel

**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)



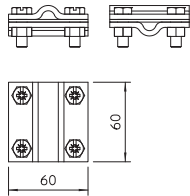
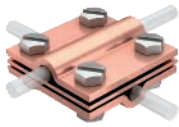
### Cross-connector with intermediate plate for Rd 8–10 mm, wide version



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10 V4A</b>	Rd 8-10	H/100	10	33.530	<b>5312318</b>
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

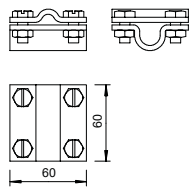
### Cross-connector with intermediate plate for Rd 8–10 mm, wide version



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10 CU</b>	Rd 8-10	H/100	10	38.940	<b>5312418</b>
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

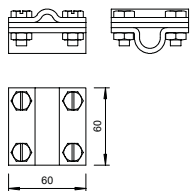
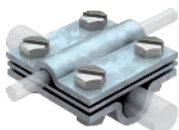
### Cross-connector for Rd 8–10 x Rd 16 mm



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>253 10X16</b>	Rd 8-10 x 16	H/100	25	29.800	<b>5312809</b>
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)

### 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.
<b>252 8-10X16 FT</b>	Rd 8-10 x 16	H/100	25	38.800	<b>5312345</b>
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



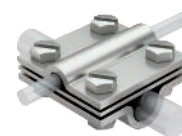
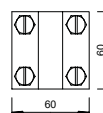
### Cross-connector with intermediate plate for Rd 8–10 x Rd 16 mm



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10x16 V4A</b>	Rd 8-10 x 16	H/100	10	39.000	<b>5312346</b>

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



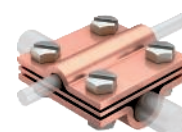
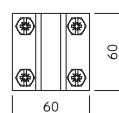
### Cross-connector with intermediate plate for Rd 8–10 x Rd 16 mm



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 8-10x16 CU</b>	Rd 8-10 x 16	H/100	10	43.985	<b>5312442</b>

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



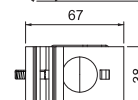
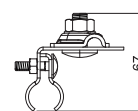
### Folding and construction clamp



Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>RSF 249 8-10 VA</b>	Rd 8-10	max. 10	N/50	50	14.200	<b>5317502</b>

V2A Stainless steel, grade 304

- For round standing seam systems, fixed cable routing
- Manufacturer release by Kalzip
- Tested according to VDE 0185-561-1 (IEC/EN 62561-1)



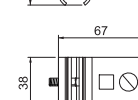
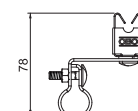
### Folding and construction clamp



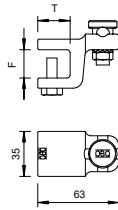
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>RSF 177 20 VA M8</b>	8	8	N/50	50	13.400	<b>5317512</b>

V2A Stainless steel, grade 304

- For round standing seam systems, loose cable routing
- Manufacturer release by Kalzip
- Tested according to VDE 0185-561-1 (IEC/EN 62561-1)



## Folding and construction clamp, 10–20 mm



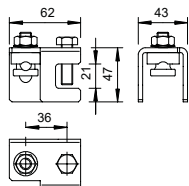
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5004 DIN-FT 12</b>	Rd 8-10	max. 12	N/50	10	18.730	<b>5304407</b>
<b>5004 DIN-FT 20</b>	Rd 8-10	10 - 20	N/50	10	30.600	<b>5304504</b>

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

## Construction clamp to 20 mm



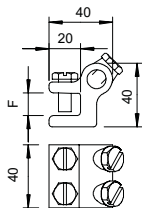
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5010 20 FT</b>	Rd 8-10	4 - 20	N/50	10	30.600	<b>5304520</b>

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 (IEC 62305)

## Connection terminal to 14 mm



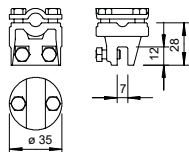
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>272 8</b>	Rd 8-10	max. 8	N/50	20	22.800	<b>5318084</b>
<b>272 14</b>	Rd 8-10	max. 14	N/50	20	25.230	<b>5318149</b>

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.
<b>269 8-10</b>	Rd 8-10	max. 7	N/50	20	14.460	<b>5317010</b>

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 (IEC 62305)





### Folding clamp up to 7 mm plate thickness

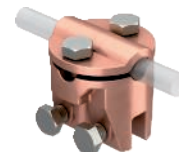
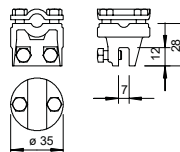


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>269 MS</b>	Rd 8-10	max. 7	H/100	10	14.480	<b>5317053</b>

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 (IEC 62305)



### Folding clamp Rd 8-10 up to 10 mm plate thickness

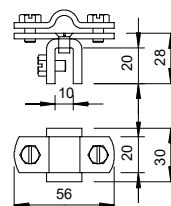


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>270 8-10 FT</b>	Rd 8-10	max. 10	N/50	20	13.810	<b>5317207</b>

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



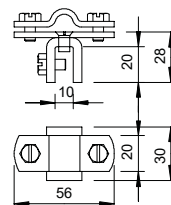
### Folding clamp Rd 8-10 up to 10 mm plate thickness



Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>270 8-10 VA</b>	Rd 8-10	max. 10	N/50	10	13.800	<b>5317208</b>

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



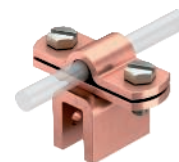
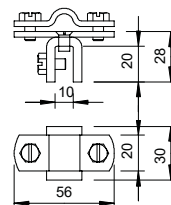
### Folding clamp Rd 8-10 up to 10 mm plate thickness



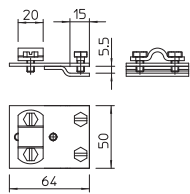
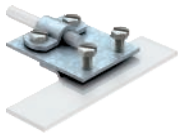
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>270 8-10 CU</b>	Rd 8-10	max. 10	H/100	10	14.740	<b>5317258</b>

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



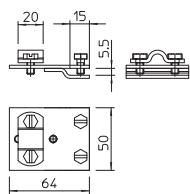
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>271 8-10</b>	Rd 8-10	max. 5	N/50	20	14.060	<b>5317401</b>

**SI** Steel

**FI** 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)

### Folding clamp up to 5 mm plate thickness

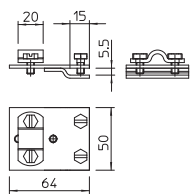
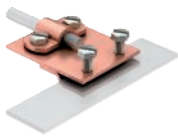


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>271 8-10 VA</b>	Rd 8-10	max. 5	N/50	10	15.000	<b>5317481</b>

**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

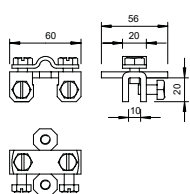


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>271 CU</b>	Rd 8-10	max. 5	N/50	10	15.230	<b>5317452</b>

**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.
<b>273 8-10</b>	Rd 8-10	max. 10	N/50	50	17.200	<b>5317223</b>

**SI** Steel

**FI** 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)



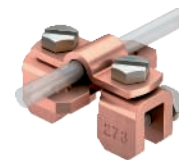
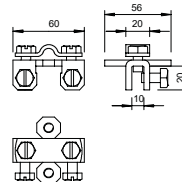
### Folding clamp up to 10 mm plate thickness



Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>273 CU</b>	Rd 8-10	max.10	N/50	10	18.500	<b>5317274</b>

**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)



### Folding clamp and connection terminal up to 10 mm plate thickness

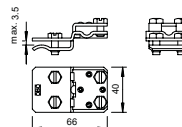


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>274 8-10</b>	Rd 8-10	max. 10	N/50	20	10.400	<b>5317428</b>

**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)



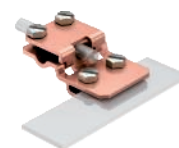
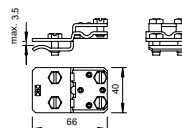
### Folding clamp and connection terminal up to 10 mm plate thickness



Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>274 CU</b>	Rd 8-10	max. 10	N/50	10	11.340	<b>5317479</b>

**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)



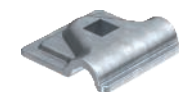
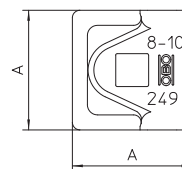
### Connection terminal, equipotential bonding, Rd 8–10 mm

Type	Fit mm	Dimen- sion A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 8-10 ST-OT</b>	Rd 8-10	40	100	3.240	<b>5311503</b>

**St** Steel

**FT** Hot-dip galvanised

- For round conductor fastening RD 8-10
- Suitable for M10 bolts

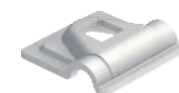
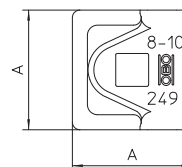


### Connection terminal, equipotential bonding, Rd 8–10 mm

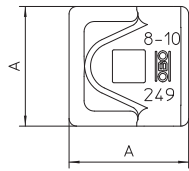
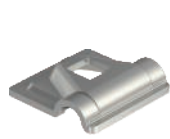
Type	Fit mm	Dimen- sion A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 8-10 ALU-OT</b>	44	Rd 8-10	100	2.100	<b>5311585</b>

**Alu** Aluminium

- For round conductor fastening RD 8-10
- Suitable for M10 bolts



### Connection terminal, equipotential bonding, Rd 8–10 mm

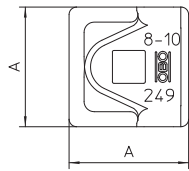
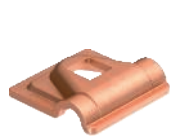


Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 8-10 VA-OT</b>	Rd 8-10	40	100	3.130	<b>5311554</b>

V2A Stainless steel, grade 304

- For round conductor Rd 8-10
- Suitable for M10 bolts

### Connection terminal, equipotential bonding, Rd 8–10 mm

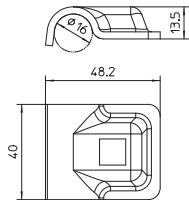


Type	Fit mm	Dimension A mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 8-10 CU-OT</b>	Rd 8-10	40	100	3.580	<b>5311530</b>

Cu Copper

- For round conductor fastening RD 8-10
- Suitable for M10 bolts

### Connection terminal, equipotential bonding, Rd 16 mm

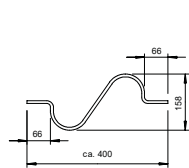


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 VA-OT</b>	16	100	5.700	<b>5311573</b>

V2A Stainless steel, grade 304

- For round conductor fastening RD 16
- Suitable for M10 bolts

### Expansion piece

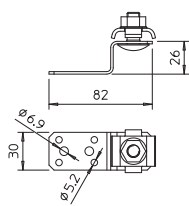


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>172 AR</b>	16	10	7.500	<b>5218926</b>

Alu Aluminium

- For equalising temperature-related length changes
- Necessary on conductor lengths over 20 m
- From round conductor Rd 8-Al

### Connection component

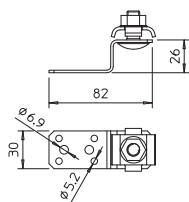


Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>287</b>	11	20	1.600	<b>5320704</b>

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	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>287 CU</b>	11	10	5.600	<b>5320690</b>

Cu Copper

- With 1 attaching hole Ø 11 mm
- 4 mounting holes Ø 5.2 mm
- 2 mounting holes Ø 6.9 mm



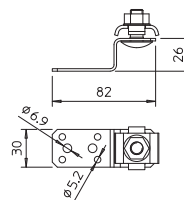
### Connection component with double crossbar



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>287 DCT</b>	Rd 6 - 8	N/50	10	6.450	<b>5320707</b>

Alu Aluminium

- Conforming to VDE 0185-305 (IEC 62305) standards
- Quick mounting thanks to an M10x30 screw from rustproof stainless steel
- 4 mounting holes  $\varnothing$  5.2 mm
- 2 mounting holes  $\varnothing$  6.9 mm

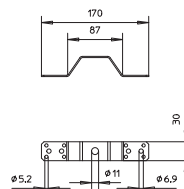


### Connection and bridging component

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>288 DIN</b>	20	2.900	<b>5320712</b>

Alu Aluminium

- With 1 attaching hole  $\varnothing$  11 mm
- With 2 x 4 mounting hole  $\varnothing$  5.2 mm
- With 2 x 2 mounting hole  $\varnothing$  6.9 mm

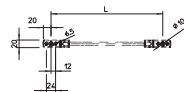


### Bridging cable

Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>853 200</b>	200	10	4.840	<b>5331008</b>
<b>853 300</b>	300	10	7.260	<b>5331013</b>
<b>853 400</b>	400	10	9.680	<b>5331017</b>

Cu Copper

- From flexible copper cable 16 mm<sup>2</sup>
- Coating: black, chlorinated India rubber mixture
- With 1 mounting hole  $\varnothing$  10.5 mm per attachment side
- With 2 mounting holes  $\varnothing$  7.3 mm per attachment side
- For applications outside or inside suitable

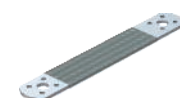
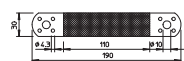


### Connection and expansion strip

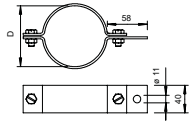
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>856</b>	10	8.125	<b>5331501</b>

Cu Copper

- Copper strip 35 mm<sup>2</sup>, tin-plated
- Highly flexible with rigid ends
- Each end with 1 fastening hole  $\varnothing$  10 mm and 4 fastening holes  $\varnothing$  4.3 mm



## 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	1 1/4	5	31.300	5102138
303 DIN-1 1/2	48.3	1 1/2	5	33.220	5102154
303 DIN-2	60.3	2	5	36.840	5102197
303 DIN-2 1/2	76.1	2 1/2	10	39.400	5102219
303 DIN-3	88.9	3	10	43.300	5102235
303 DIN-3 1/2	100	3 1/2	10	64.900	5102251
303 DIN-4	114.3	4	10	66.800	5102278

SI 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)



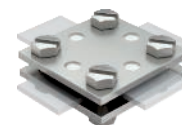
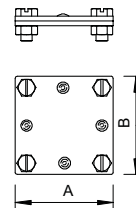
### Cross-connector flat/flat without adapter plate A4



Type	Fit mm	Dimen- sion A mm	Dimen- sion B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>256 S6 V4A</b>	max. FL30	60	60	H/100	3600	24.100	<b>5314574</b>

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 without adapter plate FT

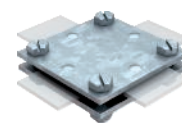
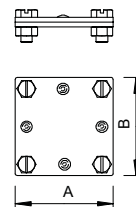


Type	Fit mm	Dimen- sion A mm	Dimen- sion B mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>256 S6 FT</b>	max. FL30	—	—	H/100	3600	24.100	<b>5314572</b>

Sl Steel

FT Hot-dip galvanised

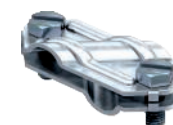
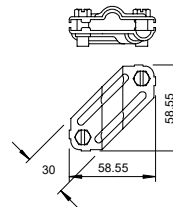
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Max. FL 30 x FL 30 or max. FL 40 x FL 40
- Without adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)



### Cross-connector 250 VA

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>250 VA-FR</b>	Rd 8-10/FL30	H/100	25	8.700	<b>5312930</b>

V4A Stainless steel, grade 316 Ti



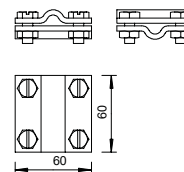
### Cross-connector round/round without intermediate plate



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>253 S3 V4A</b>	Rd 8-10	H/100	3400	25.900	<b>5312594</b>

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

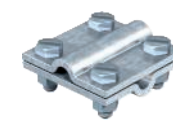
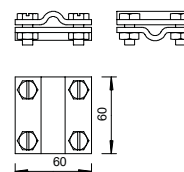


Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>253 S3 FT</b>	Rd 8-10	H/100	3400	23.300	<b>5312592</b>

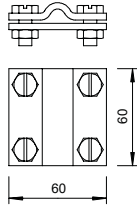
Sl Steel

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)



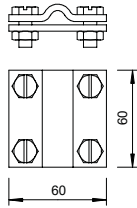
### Cross-connector for round cables and flat conductors



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 S4 V4A</b>	8-10 x FL30	H/100	3600	25.000	<b>5312308</b>
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

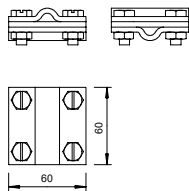
### Cross-connector for round cables and flat conductors DIN



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 S4 FT</b>	8-10 x FL30	H/100	3600	25.000	<b>5312302</b>
S1 Steel					
FT Hot-dip galvanized					

- 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

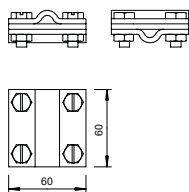
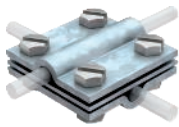
### Cross-connector with intermediate plate for Rd 8–10 mm, wide version



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>252 S1 V4A</b>	Rd 8-10	H/100	2800	28.800	<b>5312294</b>
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.
<b>252 S1 FT</b>	Rd 8-10	H/100	2800	28.600	<b>5312292</b>
S1 Steel					
FT Hot-dip galvanized					

- 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)





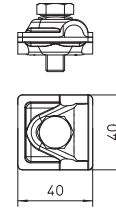
### Vario quick connector



Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>249 S7 V4A</b>	Rd 8-10	H/100	5000	9.500	<b>5311405</b>

V4A Stainless steel, grade 316

- 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)

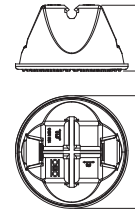


### Roof conductor holder for flat roofs, black

Type	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>165 MBL-10</b>	RD 10	50	8.482	<b>5218578</b>
<b>165 MBL-8-10</b>	Rd 8-10	100	7.679	<b>5218616</b>
<b>165 MBG-6SO</b>	Rd 6	12	106.000	<b>5218780</b>
<b>165 MBG-8-10</b>	Rd 8-10	12	100.000	<b>5218700</b>
<b>165 MBG-8-10 FO</b>	Rd 8-10	12	100.000	<b>5218704</b>

PE Polyethylene PA/PE Polyamide/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 all roofing felt systems (bitumen, PVC)
- Types 165 MBG...FO: Packed in foil bag

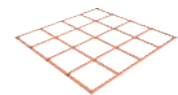
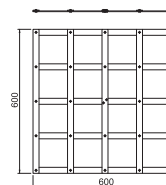


### Earth mats

Type	Length mm	Width mm	Height mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1816 CU 6</b>	600	600	3	1	403.000	<b>5009250</b>
<b>1816 CU 9</b>	900	900	3	1	605.000	<b>5009256</b>

Cu Copper

- To reduce the step and contact voltage
- In accordance with IEC 62561-2 and IEC 62305-3

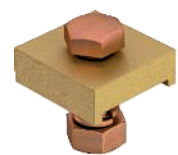
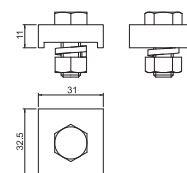


### Connection terminal for round conductors

Type	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>1818 FL CU</b>	FL 20 ÷ FL 26	—	10	10.000	<b>5012270</b>

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

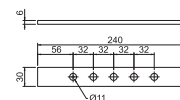


### Earthing rail for UF separation point

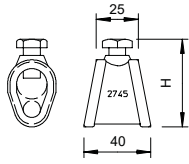
Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5700 PIP EB</b>	1	38.000	<b>5106050</b>
<b>5700 CIP EB</b>	1	46.000	<b>5106071</b>

Cu Copper

- For UF test box 5700 CIP/PIP
- With 5 connection holes
- Diameter of drill hole 11 mm



Connection clamp for earth rod or cables



Type	For earth rods		Fit	Pack. pcs	Weight kg/100 pcs.	Item No.
	Ø mm	mm				
<b>2745 20 MS</b>	20		7-12,5/S95 mm <sup>2</sup>	5	16.000	<b>5001560</b>
<b>CuZn</b>	Brass					
<b>Cu</b>	Copper-plated					

- For earth rod connectors Ø 20 mm<sup>2</sup> or conductors 95 mm<sup>2</sup>
- For round conductor attachments Rd 7-12.5 with hexagonal bolts M10 x 25, copper (Cu)



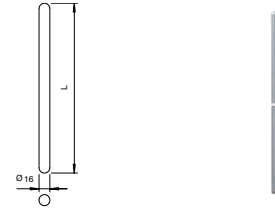
### Air-termination/earth entry rod, rounded-off on both ends

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.

**St** Steel

**FT** Hot-dip galvanised

- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system

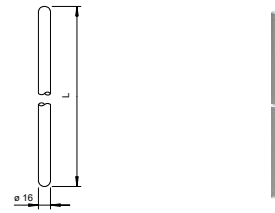


### Air-termination/earth entry rod, rounded-off on both ends

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>200 V4A-2000</b>	2000	16	10	320.000	<b>5420539</b>

**V4A** Stainless steel, grade 316 Ti

- Full material Ø 16 mm
- Both ends rounded

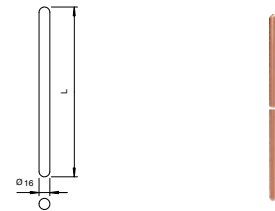


### Air-termination/earth entry rod, rounded-off on both ends

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.

**Cu** Copper

- Full material Ø 16 mm
- Both ends rounded



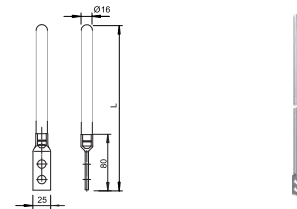
### Air-termination/earth entry rod with connection tabs

Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 F2000</b>	2000	16	10	320.000	<b>5424208</b>

**St** Steel

**FT** Hot-dip galvanised

- With 2 attaching holes Ø 12 mm
- One end rounded



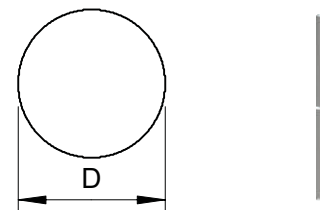
### Connection lug/earth entry rod made of stainless steel



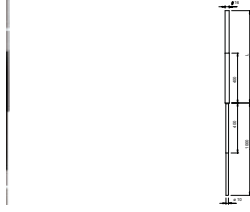
Type	Nominal size Ø mm	Cross- section mm <sup>2</sup>	Pack. pcs	Weight kg/100 pcs.	Item No.

**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



### Earth entry rod, tapered and partially insulated



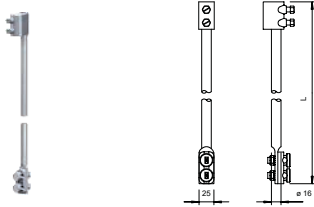
Type	Length mm	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>204 KS-2500</b>	2500	16/10	1	310.000	<b>5430062</b>

**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.

**St** Steel

- With separating piece type 223 DIN and connector type 5002 DIN



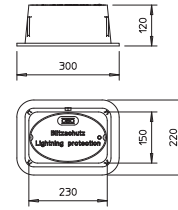
### Underfloor test box



Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5700</b>	1	720.000	<b>5106002</b>

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)

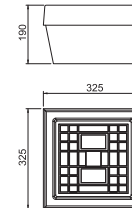


### Underfloor test box

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5700 CIP</b>	1	3,000.000	<b>5106041</b>

BET Concrete

- Made of concrete
- Without separating piece
- According to VDE 0185-561-5 (IEC 62561-5)

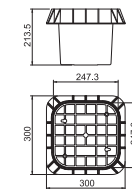


### Underfloor test box

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5700 PIP</b>	1	180.000	<b>5106045</b>

Plastic

- Made of plastic
- Without separating piece
- According to VDE 0185-561-5 (IEC 62561-5)



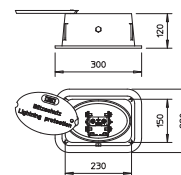
### Inspection pit with integrated separation piece



Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>5700 SP</b>	1	770.000	<b>5106003</b>

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)



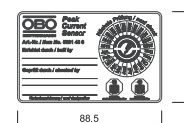
### Magnetic card PCS



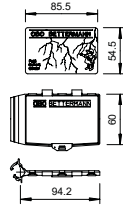
Type	Pack. PU	Weight kg/100 PUs	Item No.
<b>PCS</b>	1	5.000	<b>5091438</b>

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

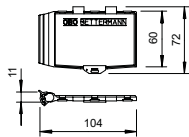


Type	Pack. PU	Weight kg/100 PUs	Item No.
<b>MK-B</b>	1	31.000	<b>5091322</b>

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

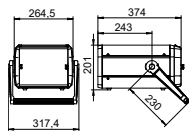


Type	Pack. PU	Weight kg/100 PUs	Item No.
<b>PCS-H</b>	1	31.000	<b>5091527</b>

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..

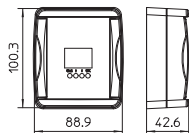


Type	Country version	Nom. voltage V	Measuring range	Measuring tolerances	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>PCS-CS-D</b>	EN	230	3 -- 120 kA	< 2 kA (< 2%)	1	750.000	<b>5091683</b>
<b>PCS-CS-GB</b>	GB	230	3 -- 120 kA	< 2 kA (< 2%)	1	750.000	<b>5091691</b>

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.
<b>LSC I+II</b>	1 kA - 100 kA	1	32.500	<b>5091722</b>

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)

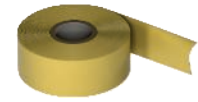
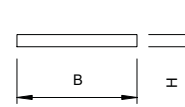


### Corrosion protection strip

Type	Width Length		Pack. pcs	Weight		Item No.
	mm	m		kg/100 pcs.	pcs.	
356 50	50	10	1	71.500		2360055
356 100	100	10	1	122.200		2360101

**PETRO** Petrolatum

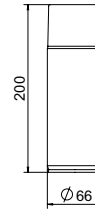
- Approx. 1.1 mm thick
- Width: 50 mm or 100 mm, made of petrolatum-coated chemical fibre fabric
- Can be processed cold



Type	Dimension	Pack. pcs	Weight		Item No.
			kg/100 pcs.	pcs.	
ZSF	400ml	1	45.000		2362970

Zinc spray for treatment of unprotected surfaces and cutting edges. Can contents: 400 ml.

### Zinc repairs



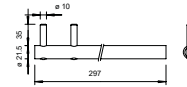
### Directional irons

Type	Length mm	Pack. pcs	Weight		Item No.
			kg/100 pcs.	pcs.	
364	297	1	35.000		3051013

**St** Steel

**FT** Hot-dip galvanised

- Directional iron for bending and aligning conductors

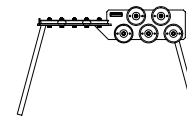


### Wire straightening machine

Type	Pack. pcs	Weight		Item No.
		kg/100 pcs.	pcs.	
5900	1	3,300.000		3059006

**St** Steel

- Factory-set for round conductor Rd 8
- Structure, steel, painted
- Straightening rolls, galvanised cast iron



### Straightening roller for wire straightening machine

Type	Pack. pcs	Weight		Item No.
		kg/100 pcs.	pcs.	
5900 R	1	120.000		3059014

5900/R: For wire straightening machine 5900, complete with axis, roller made of galvanised cast iron







## Insulated lightning protection



**Insulated lightning protection**

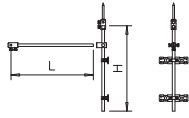
130



**OBO isCon® system**

136

### Insulated lightning protection set, 3-corner fastening

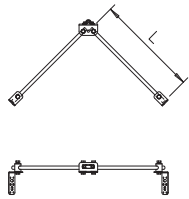
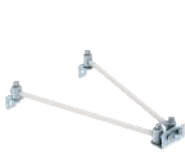


Type	Dimen- sion D Ø mm	Dimen- sion L mm	Dimen- sion H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 3-ES-16</b>	16	750	1500	1	207.100	<b>5408976</b>

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  $k_m = 0.7$

### Insulated lightning protection set, V fastening

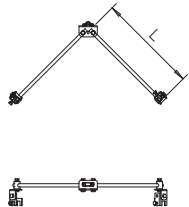
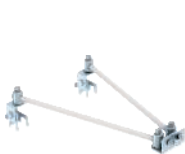


Type	Dimen- sion D Ø mm	Dimen- sion L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 VS-16</b>	16	750	1	201.800	<b>5408978</b>

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  $k_m = 0.7$

### Insulated lightning protection set, IR fastening

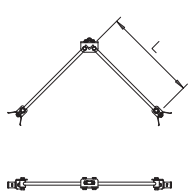


Type	Dimen- sion D Ø mm	Dimen- sion L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 FS-16</b>	16	750	1	235.500	<b>5408980</b>

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  $k_m = 0.7$

### Insulated lightning protection set, VRS fastening



Type	Dimen- sion D Ø mm	Dimen- sion L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 VRS-16</b>	16	750	1	209.400	<b>5408982</b>

Pipe V fastening for an insulated air-termination unit at the separating distance s.

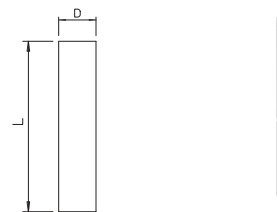
- Mounting on pipes with two pipe clips
- Including 2 m tightening strip and tension jack
- For maintenance of the separation distance to electrically conductive parts according to VDE 0185-305-3 (IEC 62305-3)
- Acceptance of air-termination rods and round conductors with 8, 16 and 20 mm diameter
- UV-stabilised and weatherproof
- Continuous temperature range -50°C to +100°C
- Material factor  $k_m = 0.7$

## 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  $k_m = 0.7$

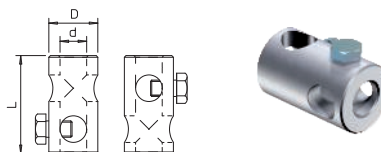


## T connector

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	16.120	5408156
101 IT-16	16	60	30	10	11.475	5408158

Alu Aluminium

- T connector for installation of insulating rods
- With M10 bolts

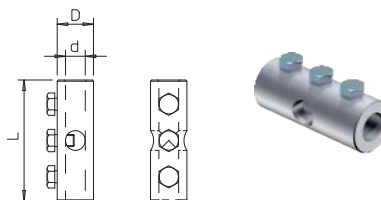


## K connector

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

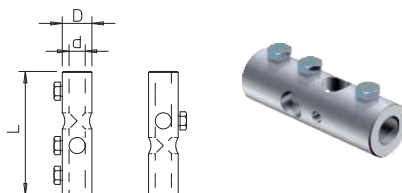


## DK connector

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

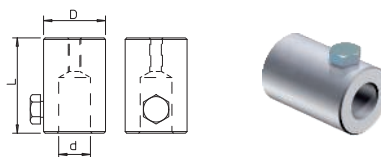


## Wall connection

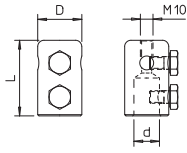
Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
101 IW-M10	20	60	40	10	20.000	5408687
101 W-16	16	60	30	10	14.200	5408689

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



### End piece

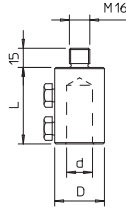


Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 IES</b>	20	60	35	10	20.000	<b>5408393</b>
<b>101 IES-16</b>	16	60	30	10	10.000	<b>5408395</b>

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

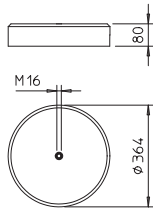


Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 A-M16</b>	20	60	40	10	20.000	<b>5408350</b>
<b>101 A-16</b>	16	60	30	10	13.000	<b>5408352</b>

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

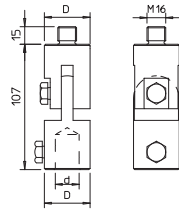


Type	Nominal size Ø mm	Thread	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 B2-16 M16</b>	364	M16	1	1,600.000	<b>5402958</b>

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

### Connection joint

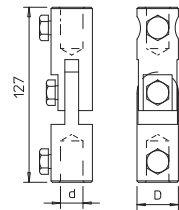


Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 IAG</b>	20	107	40	10	40.000	<b>5408504</b>

Alu Aluminium

- Attaching link for installation on concrete stones
- With thread M16 on slanting roof surfaces
- With M10 bolts

### Articulated connector

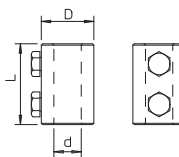


Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 IGL-16</b>	16	127	30	10	32.000	<b>5408630</b>

Alu Aluminium

- Link for installation of insulation pipes, including M10 screws.

### Extension



Type	Dimension d Ø mm	Length mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 IV-16</b>	16	60	30	10	16.000	<b>5408557</b>

Alu Aluminium

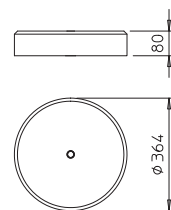
- Extension of insulating rods
- With M10 bolts

### Concrete block for FangFix-System 16 kg

Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>F-FIX-S16</b>	365	1	1,700.000	<b>5403227</b>

**BET** Concrete

- 16 kg stone of Ø 365 mm, high level of stability
- Frost-resistant concrete
- Stackable

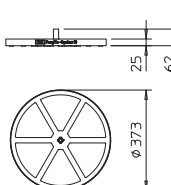


### Base for FangFix system 16 kg

Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>F-FIX-B16</b>	373	10	16.400	<b>5403235</b>

**PP** Polypropylene

Edge protection with integrated dowel (basic) suitable for FangFix system.

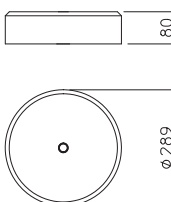


### Concrete block for FangFix system 10 kg

Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>F-FIX-S10</b>	289	1	1,000.000	<b>5403117</b>

**BET** Concrete

- 10 kg stone of Ø 289 mm, high level of stability
- Frost-resistant concrete
- Stackable

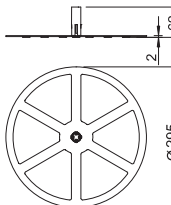


### Base for FangFix system 10 kg

Type	Nominal size Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>F-FIX-B10</b>	295	10	7.600	<b>5403124</b>

**PP** Polypropylene

Edge protection with integrated dowel (basic) suitable for FangFix 10 kg system.



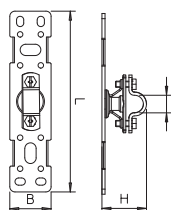
### Fastening plate

Type	Length mm	Dimen- sion B mm	Dimen- sion H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 BP-16</b>	175	40	42	1	21.200	<b>5408984</b>

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

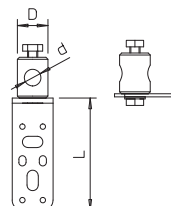


### Wall connection, angled

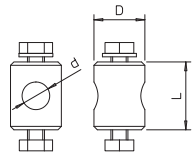
Type	Dimen- sion d mm	Dimen- sion L mm	Dimen- sion D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 WG-16</b>	16	110	30	1	27.960	<b>5408986</b>

**V2A** Stainless steel, grade 304

- Wall connection for GFK rods
- Dimension D Ø: 16 mm



## Fastening bolts

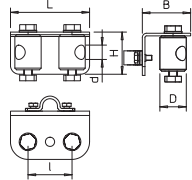


Type	Dimension d mm	Dimension L mm	Dimension D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 BB-16</b>	16	40	30	1	13.920	<b>5408988</b>

Alu Aluminium

For GFK rods, Dimension D Ø: 16 mm

## Holder, V support

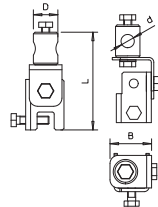


Type	Dimension d mm	Dimension L mm	Dimension H mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 HV-16</b>	16	90	55	48	1	50.700	<b>5408990</b>

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

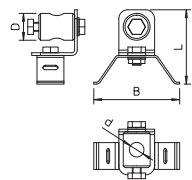


Type	Dimension d mm	Dimension L mm	Dimension D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 F-16</b>	16	121	30	1	45.120	<b>5408992</b>

V2A Stainless steel, grade 304

To fasten a GFK rod on constructions of 4 to 20 mm, Dimension D Ø: 16 mm

## Pipe fastening

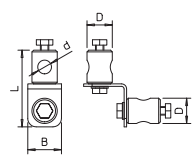


Type	Dimension d mm	Dimension L mm	Dimension D mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 R-16</b>	16	81	30	96	1	26.830	<b>5408994</b>

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

## Multi adapter

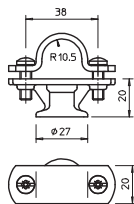


Type	Dimension d mm	Dimension L mm	Dimension D mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 MA-16</b>	16	91	30	40	1	36.280	<b>5408996</b>

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.
<b>113 Z-20</b>	Rd 20	20	8.200	<b>5230527</b>

Zn Die-cast zinc

VZ Galvanised

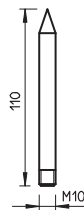
- Installed with over-piece and hex-head screws M6 x 16
- With female thread M8 or through hole Ø 7 mm

## Air-termination tip

Type	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 ISP M10</b>	110	10	10.000	<b>5408458</b>

Alu Aluminium

Air-termination tip for attaching to end piece, type 101 IES, with M10 thread

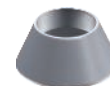
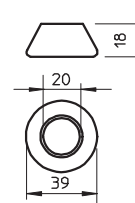


## Water repellent

Type	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>101 IAB</b>	18	10	2.000	<b>5408733</b>

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.
<b>ISAV1000R</b>	1	130.000	<b>5408849</b>

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)



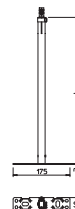
## Adjustable insulating beam – wall

Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>ISAV1000W</b>	1	130.000	<b>5408852</b>

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)

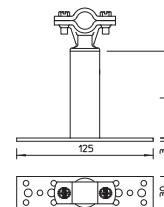


## Insulated spacer

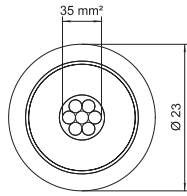
Type	Length mm	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>ISO-A-500</b>	500	Rd 16	15	36.000	<b>5408806</b>
<b>ISO-A-800</b>	800	Rd 16	15	55.000	<b>5408814</b>
<b>ISO-A-1030</b>	1030	Rd 16	15	68.000	<b>5408820</b>
<b>ISO-A-150 8</b>	150	Rd 8	15	13.800	<b>5408800</b>

Alu Aluminium PA Polyamide

- Mounting foot with 10 connection holes  $\varnothing 6.5$  mm and 4 connection holes  $\varnothing 8.5$  mm
- Type ...150 8 with holder suitable for round conductor RD 8
- Application for shelters, e.g. golf, barbecue or mountain huts



### isCon® conductor, professional plus black

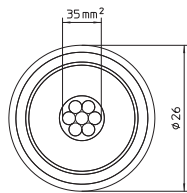


Type	Cross-section mm <sup>2</sup>	Nominal size Ø mm	Equivalent separation distance m	Pack. m	Weight kg/100 m	Item No.
isCon Pro+ 75 SW	35	23	0.75	25	69.400	5408002
isCon Pro+ 75 SW	35	23	0.75	100	69.400	5408004
isCon Pro+ 75 SW	35	23	0.75	250	69.400	5408006

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  $se \leq 0.75$  m (air) and  $se \leq 1.5$  (solid material)
- Tested according to IEC TS 62561-8 (VDE V 0185-561-8)
- 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® conductor, professional plus light grey

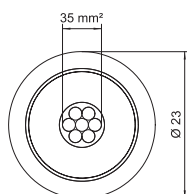


Type	Cross-section mm <sup>2</sup>	Nominal size Ø mm	Equivalent separation distance m	Pack. m	Weight kg/100 m	Item No.
isCon Pro+ 75 GR	35	26	0.75	25	86.800	5407995
isCon Pro+ 75 GR	35	26	0.75	100	86.800	5407997

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  $se \leq 0.75$  m (air) and  $se \leq 1.5$  (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 mm <sup>2</sup>	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.

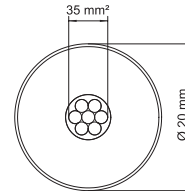
- Highly voltage-resistant, insulated conductor
- Floating discharge-free
- Tested according to IEC/EN 62561-1 (VDE 0185-561-1) with H2/200 kA
- Equivalent separation distance  $se \leq 0.90$  m (air) and  $se \leq 1.8$  m (solid material)
- Tested according to IEC TS 62561-8 (VDE V 0185-561-8)
- Halogen-free
- Fire load 4.2 kWh/m



### isCon® conductor, professional black



Type	Cross-section mm <sup>2</sup>	Nominal size Ø mm	Equivalent separation distance m	Pack. m	Weight kg/100 m	Item No.
<b>isCon Pro 75 SW</b>	35	20	0.75	100	57.000	<b>5408008</b>



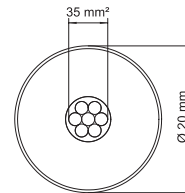
Please refer to the mounting instructions for information on routing the OBO isCon® Pro conductor.

- 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  $se \leq 0.75$  m (air) and  $se \leq 1.5$  m (solid material)
- Tested according to IEC TS 62561-8 (VDE V 0185-561-8)
- Halogen-free
- Fire load 3.3 kWh/m

### isCon® conductor, basic black



Type	Cross-section mm <sup>2</sup>	Nominal size Ø mm	Equivalent separation distance m	Pack. m	Weight kg/100 m	Item No.
<b>isCon BA 45 SW</b>	35	20	0.45	100	57.000	<b>5408014</b>



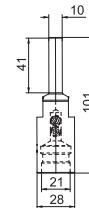
Please refer to the mounting instructions for information on routing the OBO isCon® Basic conductor.

- 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  $se \leq 0.45$  m (air) and  $se \leq 0.90$  m (solid material)
- Tested according to IEC TS 62561-8 (VDE V 0185-561-8)
- Halogen-free
- Fire load 3.3 kWh/m

### isCon® Connection element



Type	Dimension Ø mm	Fit mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isCon con 2</b>	20	10	H1/150	2	21.500	<b>5408021</b>
<b>isCon connect</b>	23	10	H1/150	2	21.500	<b>5408022</b>
<b>isCon con PRE</b>	23	10	H2/200	2	21.500	<b>5408023</b>



V2A Stainless steel, grade 304

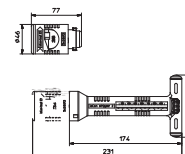
- Screw-on termination of the connection for the isCon® conductor
- Incl. heat-shrinkable sleeve, hexagonal
- Tested up to 200 kA (lightning protection class I)

### Stripping tool for isCon conductor

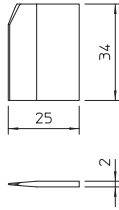
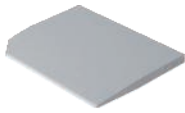
Type	Clamping range D mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isCon stripper 2</b>	20 - 23	1	170.000	<b>5408013</b>

PA/PE Polyamide/Polyethylene

Stripping tool to remove the insulation of OBO isCon® conductor.



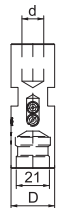
### isCon® cut stripping tool



Type	Dimension	Pack. Weight		Item No.
		pcs	kg/100 pcs.	
isCon cut	34mm	5	1.200	5408011

- Replacement blade for replacing the isCon® stripping pliers

### Connection element for installation in the insulated air-termination rod isFang IN

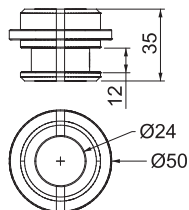


Type	Dimension D Ø mm	Lightning current carrying capacity kA	Pack. Weight		Item No.
			pcs	kg/100 pcs.	
isCon IN con 2	20	H1/150	1	27.800	5408019
isCon IN con PRE	23	H2/200	1	27.800	5408020

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

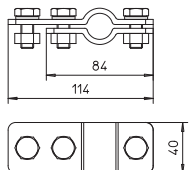


Type	Dimension D Ø mm	Dimension d mm	Dimension L mm	Pack. Weight		Item No.
				pcs	kg/100 pcs.	
isCon IN PAE	23	49.9	35	1	5.900	5408031

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

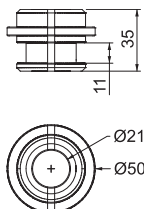


Type	Fit mm	Pack. Weight		Item No.
		pcs	kg/100 pcs.	
isCon PAE	Ø 17-25mm	2	36.500	5408036

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 mm	Dimension L mm	Pack. Weight		Item No.
				pcs	kg/100 pcs.	
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

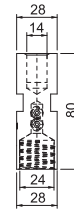
## Connection element for installation in the insulated air-termination rod isFang IN



Type	Dimension D Ø mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isCon IN connect</b>	23	H1/150	1	26.900	<b>5408024</b>

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)

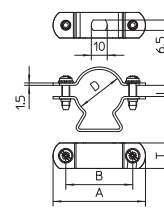


## VA cable bracket for isCon® conductor for mounting on roof/wall structures

Type	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isCon H VA</b>	21 - 23	50	2.850	<b>5408056</b>
<b>isCon H 26 VA</b>	26	20	3.400	<b>5408064</b>

V2A Stainless steel, grade 304

- For isCon® conductor for mounting on roof/wall structures
- With sprung discs to protect the screws against loosening



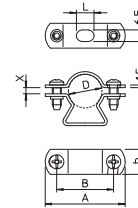
## Conductor and pipe spacer clip 733 V2A



Type	Clamping range D mm	Hole size mm	Bolt	Shipping box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>733 21 A2</b>	19 - 21	6,5 x 10	M5 x 16	500	50	2.740	<b>1362046</b>

V2A Stainless steel, A2

- \* Size M16 is not suitable for nail device
- \* Sizes M16 - PG16 are not suitable for bolt-firing tool



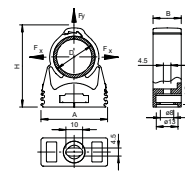
## starQuick clip, black



Type	Colour	Dimension D mm	Dimension A mm	Dimension B mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>SQ-20 SW</b>	Jet black	23	29	17	50	0.848	<b>2146164</b>
<b>SQ-25 LGR</b>	Light grey	26	40	17	50	0.970	<b>2146207</b>

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.



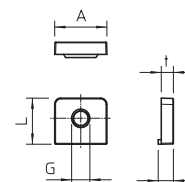
## starQuick nut



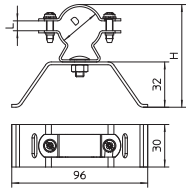
Type	Colour	Nominal size	Dimension L mm	Dimension h mm	Dimension t mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>SQ M6</b>	Light grey	M6	15	5	4	100	0.070	<b>2146509</b>

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.



### VA cable bracket with tightening strap

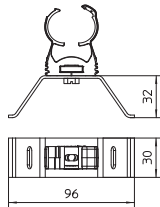


Type	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon HS VA	23	10	25.200	5408052
isCon HS 26 VA	26	10	25.900	5408068

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

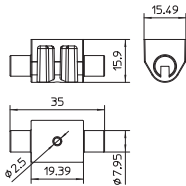


Type	Colour	Dimension Ø mm	Dimension D Ø mm	Pack. pcs	Weight kg/100 pcs.	Item No.
isCon HS 26 PA	Light grey	Ø 26mm	26	10	23.200	5408066

PA Polyamide

For isCon® conductor for pipe mounting including 2 m tightening strap.

### Universal flat conductor adapter for roof conductor holder, type 165/MBG

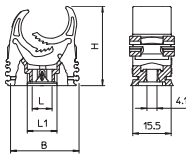


Type	Colour	Fit mm	Pack. pcs	Weight kg/100 pcs.	Item No.
165 MBG UH	Black	Rd 8	25	0.254	5218882

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

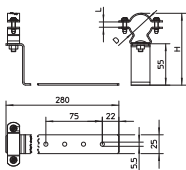


Type	Clamping range D mm	Pull- out value N	Colour	Shipp- ing box pcs	Pack. pcs	Weight kg/100 pcs.	Item No.
M-Quick M32 LGR	25 - 32	60	Light grey	600	50	1.390	2153734

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

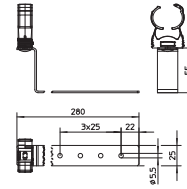
- For routing of the isCon® conductor on pitched roofs
- Cable bracket with sprung discs to protect the screws against loosening

### 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.

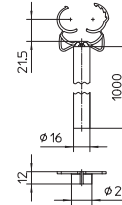


### Spacer

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.



## isFang, insulated air-termination rod for inner-routed isCon® conductor with side exit



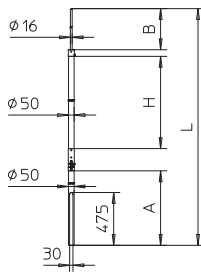
Type	Dimension D Ø mm	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang IN-A 4000</b>	50	1325	1500	1000	4000	1	535.000	<b>5408938</b>
<b>isFang IN-A 6000</b>	50	3325	1500	1000	6000	1	835.000	<b>5408940</b>
<b>isFang IN-A 8000</b>	50	5335	1500	1000	8000	1	1,385.000	<b>5408888</b>
<b>isFang IN-A10000</b>	50	6000	1733	2000	10000	1	1,540.000	<b>5408890</b>



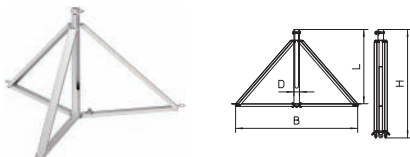
**GFK** Fibre-glass-reinforced plastic

- 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.
<b>isFang 3B-100-A</b>	1026	50	600	885	1	610.000	<b>5408930</b>
<b>isFang 3B-150-A</b>	1500	50	900	1275	1	950.000	<b>5408932</b>
<b>isFang 3B-250-A</b>	2900	50	1450	2055	1	2,500.000	<b>5408902</b>

**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

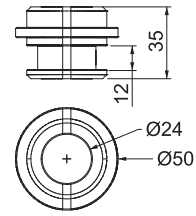
## Potential connection for installation in the insulated air-termination rod isFang IN



Type	Dimension D Ø mm	Dimension d mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isCon IN PAE</b>	23	49.9	35	1	5.900	<b>5408031</b>

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



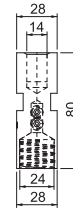
## Connection element for installation in the insulated air-termination rod isFang IN



Type	Dimension D Ø mm	Lightning current carrying capacity kA	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isCon IN connect</b>	23	H1/150	1	26.900	<b>5408024</b>

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)



## Insulated air-termination rod

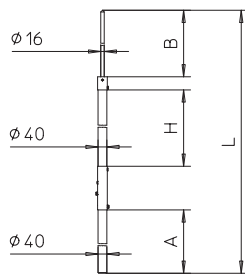


Type	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang 4000 AL</b>	1240	1500	1000	4000	1	580.000	<b>5408943</b>
<b>isFang 6000 AL</b>	3340	1500	1000	6000	1	600.000	<b>5408947</b>
<b>isFang 4000</b>	1240	1500	1000	4000	1	680.000	<b>5408942</b>
<b>isFang 6000</b>	3340	1500	1000	6000	1	680.000	<b>5408946</b>

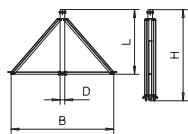
**GFK** Fibre-glass-reinforced plastic

- 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

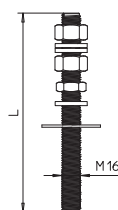


Type	Dimension B mm	Dimension D Ø mm	Dimension L mm	Dimension H mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang 3B-100 AL</b>	1000	40	600	885	1	380.000	<b>5408966</b>
<b>isFang 3B-150 AL</b>	1500	40	900	1275	1	560.000	<b>5408967</b>
<b>isFang 3B-100</b>	1000	40	600	885	1	620.000	<b>5408968</b>
<b>isFang 3B-150</b>	1500	40	900	1275	1	950.000	<b>5408969</b>

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.
<b>isFang 3B-G1</b>	270	3	48.000	<b>5408971</b>
<b>isFang 3B-G2</b>	340	3	60.400	<b>5408972</b>
<b>isFang 3B-G3</b>	430	3	69.500	<b>5408973</b>
<b>isFang 3B-G4</b>	500	3	75.000	<b>5408905</b>

V2A Stainless steel, grade 304

- For fastening on one, two, three or four FangFix concrete bases with tripod stand

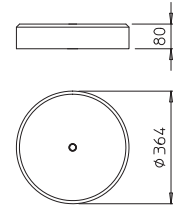


### Concrete block for FangFix-System 16 kg

Type	Nominal size Ø		Pack. pcs	Weight		Item No.
	mm	mm		kg/100 pcs.	pcs.	
<b>F-FIX-S16</b>	365		1	1,700.000		<b>5403227</b>

**BET** Concrete

- 16 kg stone of Ø 365 mm, high level of stability
- Frost-resistant concrete
- Stackable

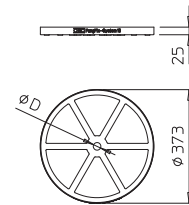


### Base for FangFix system 16 kg for mounting the isFang tripod

Type	Nominal size Ø	Dimension D	Pack. pcs	Weight		Item No.
	mm	Ø mm		kg/100 pcs.	pcs.	
<b>F-FIX-B16 3B</b>	373	25	10	15.800		<b>5403238</b>

**PP** Polypropylene

- Edge protection with through hole
- For mounting isFang-3B threaded rod and FangFix concrete block F-FIX-S16



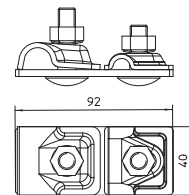
### Connection plate for one isCon® conductor



Type	Dimension		Pack. pcs	Weight		Item No.
	mm	mm		kg/100 pcs.	pcs.	
<b>isCon AP1-16 VA</b>	16x8-10		1	27.400		<b>5408026</b>

**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)



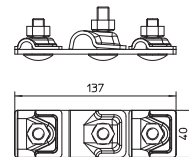
### Connection plate for two isCon® conductors



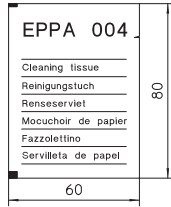
Type	Dimension		Pack. pcs	Weight		Item No.
	mm	mm		kg/100 pcs.	pcs.	
<b>isCon AP2-16 VA</b>	16x8-10		1	39.500		<b>5408028</b>

**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)



## Cleaning cloth



Type	Width mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isCon EPPA 004</b>	140	200	50	0.420	<b>5408060</b>

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

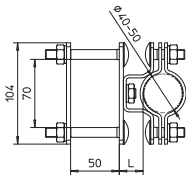


Type	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isCon HWS</b>	1	2.000	<b>5408058</b>
<b>isCon HWS EN</b>	1	2.000	<b>5408059</b>

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  $\varnothing$  6.5 mm

## isFang support for corner pipe mounting, 50 x 50 mm

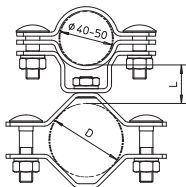


Type	Dimen- sion D Ø mm	Dimen- sion L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang TS50x50</b>	—	30	2	82.000	<b>5408964</b>

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, $\varnothing$ 50–60 mm

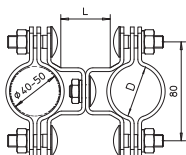


Type	Dimen- sion D Ø mm	Dimen- sion L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang TS50-60</b>	60	30	2	76.000	<b>5408960</b>

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  $\varnothing$  50–60 mm.

## isFang support for pipe mounting, $\varnothing$ 40–50 mm

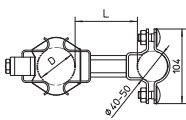


Type	Dimen- sion D Ø mm	Dimen- sion L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang TS40-50</b>	50	40	2	90.000	<b>5408958</b>

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  $\varnothing$  40–50 mm.

## isFang support for spaced pipe mounting, $\varnothing$ 50–300 mm



Type	Dimen- sion D Ø mm	Dimen- sion L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang TR100 100</b>	300	100	2	95.500	<b>5408955</b>
<b>isFang TR100 200</b>	300	200	2	121.000	<b>5408957</b>
<b>isFang TR100 300</b>	300	300	2	146.000	<b>5408959</b>

V2A Stainless steel, grade 304

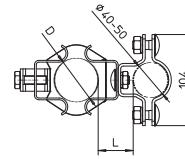
Tightening strap clip to fasten the insulated support pipes on the structure to be protected or for construction-side pipes of  $\varnothing$  50–300 mm.

### isFang support for pipe mounting, $\varnothing$ 50–300 mm

Type	Dimension D $\varnothing$ mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang TR100</b>	300	40	2	77.000	<b>5408956</b>

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  $\varnothing$  50–300mm.

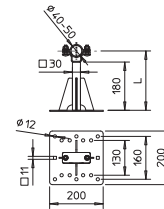


### Support for wall mounting, 200 mm spacing

Type	Dimension D $\varnothing$ mm	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang TW200 12</b>	50	200	2	240.000	<b>5408910</b>

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.

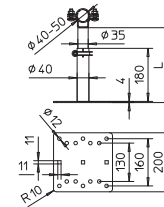


### isFang support for wall mounting, 200–300 mm spacing

Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang TW200</b>	300	2	230.000	<b>5408954</b>

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.

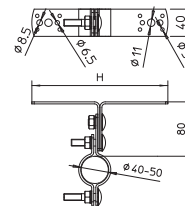


### isFang support for wall mounting, 80 mm spacing

Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang TW80</b>	80	2	63.000	<b>5408950</b>

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.

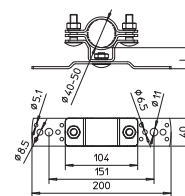


### isFang support for wall mounting, 30 mm spacing

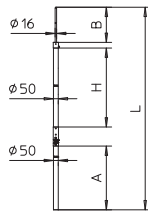
Type	Dimension L mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang TW30</b>	30	2	62.000	<b>5408952</b>

V2A Stainless steel, grade 304

Fastening clip to fasten the insulated support pipes on the structure to be protected or on the wall.



## isFang, insulated air-termination rod for inner-routed isCon® conductor Professional Plus

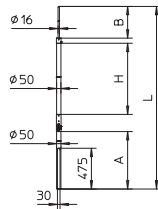


Type	Dimension D Ø mm	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang IN 4000</b>	50	1325	1500	1000	4000	1	535.000	<b>5408934</b>
<b>isFang IN 6000</b>	50	3325	1500	1000	6000	1	835.000	<b>5408936</b>
<b>isFang IN 8000</b>	50	5335	1500	1000	8000	1	1,315.000	<b>5408868</b>
<b>isFang IN 10000</b>	50	6000	1733	2000	10000	1	1,540.000	<b>5408870</b>

**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)

## isFang, insulated air-termination rod for inner-routed isCon® conductor with side exit

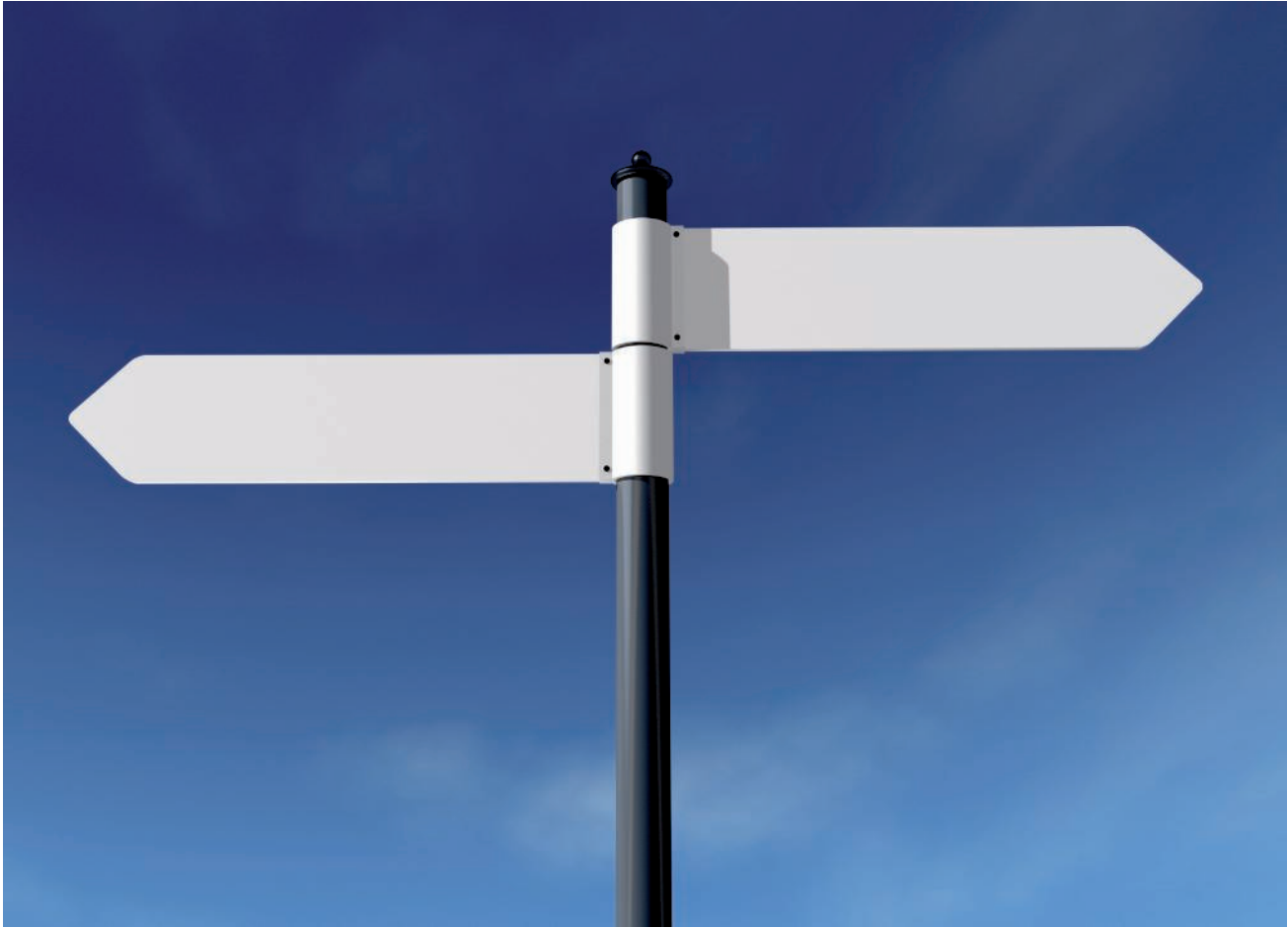


Type	Dimension D Ø mm	Dimension A mm	Dimension H mm	Dimension B mm	Length mm	Pack. pcs	Weight kg/100 pcs.	Item No.
<b>isFang IN-A 4000</b>	50	1325	1500	1000	4000	1	535.000	<b>5408938</b>
<b>isFang IN-A 6000</b>	50	3325	1500	1000	6000	1	835.000	<b>5408940</b>
<b>isFang IN-A 8000</b>	50	5335	1500	1000	8000	1	1,385.000	<b>5408888</b>
<b>isFang IN-A 10000</b>	50	6000	1733	2000	10000	1	1,540.000	<b>5408890</b>
<b>isFang IN-A L4</b>	50	1325	1500	1000	4000	1	535.000	<b>5408874</b>
<b>isFang IN-A L6</b>	50	3325	1500	1000	6000	1	835.000	<b>5408876</b>
<b>isFang IN-A L8</b>	50	5335	1500	1000	8000	1	1,385.000	<b>5408878</b>
<b>isFang IN-A L10</b>	50	6000	1733	2000	10000	1	1,540.000	<b>5408880</b>
<b>isFang IN L4</b>	50	1325	1500	1000	4000	1	535.000	<b>5408854</b>
<b>isFang IN L6</b>	50	3325	1500	1000	6000	1	835.000	<b>5408856</b>
<b>isFang IN L8</b>	50	5335	1500	1000	8000	1	1,350.000	<b>5408858</b>
<b>isFang IN L10</b>	50	6000	1733	2000	10000	1	1,540.000	<b>5408860</b>



**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)





## Directories

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5432494	1167022	46		/pc. 5001560	63	5800477	5018706	50	5400158	5102197	118			
5432555	1167030	46	6431120	5001590	63	5022015	5018730	50	5400219	5102219	118		/100 pc. 5304407	112
5432616	1167049	46	6431212	5001592	63	5680468	5019340	50	5400271	5102235	118	5416357	5304504	112
			6431267	5001594	63	5694007	5019342	50	5400332	5102251	118	5416418	5304520	112
5116714	1362011	106	6431274	5001601	74	5694014	5019344	50	5400394	5102278	118	5503057		
5116837	1362046	107		/pc. 5001612	70	5680475	5019345	50						
			5721123	5001617	63	5680482	5019347	50		/pc. 5106002	125	6466283	5311404	108
5655367	2146164	139	5635239	5001625	63	5680499	5019350	50	6089505	5106003	125	6428144	5311405	121
5595717	2146207	139	5752653	5001633	63	5680505	5019355	50	6089512	5106041	125	5737063	5311503	45
5016069	2146509	139	5862697	5001641	62	5680512	5019360	50	6431137	5106045	125	5835394	5311530	41
			5372912	5001668	62				6431311	5106050	121	5835349	5311554	41
5741671	2153734	140	5372974	5001672	63	5801016	5020638	50	6439614	5106071	121	5693789	5311573	46
6421046	2360041	71	5901259	5001749	62	5316756	5020751	50	6431281			5466192	5311585	45
6421053	2360043	71	5754879			5381310	5020808	50						
	/pc. 2360055	76				6565023	5020980	53		/100 pc. 5207258	102	6428038	5312292	120
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5230595			6427925	5009200	76	5423898	5021050	51	5110392	5207339	101	6428106	5312302	120
			6431298	5009250	121	5381556	5021081	51	5404774	5207342	101	6428113	5312308	120
5518419	2362970	127	6431304	5009256	121	5381617	5021103	51	5735762	5207347	101	5418092	5312310	66
						5381730	5021162	51	5404835	5207371	101	5700869	5312318	66
5242710	3041204	57		/100 pc. 5012015	70	5801375	5021227	52	5069546	5207371	101	5418153	5312345	67
5242772	3041212	56	5377719	5012015	70	5680529	5021235	52	5404897	5207444	102	5893103	5312346	67
5242833	3041255	57	6431113	5012270	121	5680567	5021239	52	5009726	5207451	103	5418214	5312418	66
5617235	3041409	56				5381914	5021286	51	5404958	5207460	102	5418276	5312442	67
5242956	3041956	56		/pc. 5014212	72	5901273	5021294	51	5405016	5207487	102	6466306	5312582	65
			5378013	5014468	70	6286232	5021296	51	5904991	5207746	102	6428083	5312592	119
5243137	3042200	57	5105015	5014469	71	5381976	5021308	51	5905059	5207754	102	6428090	5312594	119
5243199	3042251	57	6391059	5014476	70	5067474	5021332	51	5905110	5207762	102	5418337	5312604	65
6431243	3042270	57	5105077	5014477	71	6564804	5021380	53	5904878	5207800	101	5418399	5312655	67
	/pc. 3042308	57	6391042						5904939	5207819	101	5893141	5312656	68
5617297			5378075	5015014	37	5382034	5021480	52	5336433	5207851	102	6454563	5312657	68
			5378136	5015057	39	5382096	5021502	52	5334811	5207878	102	5418573	5312809	66
5243311	3043207	58	5378198	5015065	38	6282425	5021640	52	5915836	5207901	102	5418696	5312906	68
5243373	3043258	58	5378259	5015073	36	5902058	5021642	52	5407959		100	5418757	5312922	68
5717492	3043312	58	5931669	5015075	37	5680574	5021644	52				5700876	5312925	68
5243557	3043401	58	5378310	5015081	36	5680581	5021647	52	5904274	5218314	99	5103158	5312930	119
5243618	3043452	58	6587292	5015105	39	6033768	5021652	52	5548478	5218616	121	5740537	5313015	69
5111160	3043602	59	5959427	5015111	39	5836209	5021654	52	5408796	5218683	97	5740476	5313023	69
5617419	3043606	59	5800118	5015200	36	5938668	5021656	52	6648290	5218700	97	5543015	5313031	69
5087076	3043610	59	6427628	5015265	42	6431199	5021830	80	6648306	5218704	97	5237372	5313058	69
5087137	3043614	59	6427680	5015270	42				6648313	5218708	97	5806530	5313066	69
5111641	3043618	59	5378372	5015502	37				6648320	5218716	97			
5421627	3043628	59	5378433	5015545	38	5385219	5040035	45	6435234	5218780	121	5419174	5314518	64
5243793	3043703	58	5378495	5015553	37	5385271	5040051	45	5408918	5218810	99	5419235	5314534	64
5243854	3043754	58	5477839	5015557	37	5385332	5040078	45	5408970	5218829	99	6428120	5314572	119
5642312	3043908	58	5378556	5015650	34	5385394	5040094	45	5409038	5218861	98	6428137	5314574	119
5453796	3043916	59	5313021	5015680	38	5385455	5040116	45		/pc. 5218882	98	5419297	5314615	65
			5378617	5015707	35	5385516	5040132	45	5674580			5893097	5314616	65
5642978	3044831	59	5378679	5015715	35	5385578	5040159	45		/100 pc. 5218885	98	5419358	5314623	65
5643036	3044904	59	5378730	5015723	35				5623052	5218885	98	5419471	5314658	64
5453970	3044912	59	5378792	5015731	35	5388517	5057507	44	5462972	5218888	97	5893080	5314659	64
			5378792	5015731	35	5388579	5057515	44	5409090	5218926	116	5419532	5314666	64
5244219	3051013	127	5378914	5015766	34	5388630	5057523	44	5952213	5218977	98	5925873	5314720	64
			5455837	5015774	35	5388692	5057558	44	6388196	5218999	98			
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			5002253	5015830	40	5805458	5057922	44	5410836	5228026	105	5237198	5315557	70
5371298	5000017	56	5699330	5015832	40				5410959	5228123	104			
5371359	5000025	56	5699347	5015836	40	5805519	5057930	44	5411017	5228131	104	5420439	5317010	112
5371472	5000203	56	5002260	5015842	40				5851011	5228134	104	5420491	5317053	113
5617358	5000300	54	5699354	5015844	40				5411079	5228220	106	5420552	5317207	113
5708834	5000335	54	5699361	5015847	40	5461111	5091322	31	5411192	5228328	104	5893158	5317208	113
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	/pc. 5000500	55	5699408	5015854	40	5461470	5091527	30	5412212	5229960	103	5420675	5317258	113
6336340	5000742	54	5002277	5015854	40				5840886	5229961	104	5420736	5317274	115
5018049	5000750	54	5002284	5015866	40	5461654	5091683	31				5420798	5317401	114
5814450	5000755	54	5033615	5015880	40	5896111	5091691	31	5446231	5230217	103	5420859	5317428	115
5111047	5000769	54	5033677	5015884	40	6465644	5091722	31	5629535	5230322	103	5420910	5317452	114
5740650	5000858	55	5033738	5015890	41				5629474	5230365	104	5420972	5317479	115
5371830	5000866	55				5027652	5095599	24	5739999	5230446	73	5850861	5317481	114
5371892	5000947	55	5379096	5016029	41				5740056	5230462	73	6622368	5317502	111
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5885580	<b>5331017</b>	117	5674702	<b>5408028</b>	145	5674931	<b>5408969</b>	89
5423430	<b>5331501</b>	117	5871569	<b>5408031</b>	138	5674948	<b>5408971</b>	91
			6591633	<b>5408032</b>	138	5674979	<b>5408972</b>	91
5629115	<b>5334934</b>	72	5674719	<b>5408036</b>	138	5674986	<b>5408973</b>	91
5959663	<b>5334942</b>	72	5674863	<b>5408043</b>	141	5613329	<b>5408976</b>	130
			5674870	<b>5408047</b>	140	5613336	<b>5408978</b>	130
5427575	<b>5400155</b>	60	5674887	<b>5408049</b>	141	5613343	<b>5408980</b>	130
5629054	<b>5400627</b>	60	5674726	<b>5408052</b>	140	5613350	<b>5408982</b>	130
	/pc.		5699668	<b>5408056</b>	139	5613367	<b>5408984</b>	133
6219339	<b>5400810</b>	95	5813774	<b>5408058</b>	146	5613374	<b>5408986</b>	133
6219346	<b>5400812</b>	95	6586981	<b>5408059</b>	146	5613381	<b>5408988</b>	134
6219353	<b>5400814</b>	95		/100 pc.		5613411	<b>5408990</b>	134
6219360	<b>5400817</b>	95	5813781	<b>5408060</b>	146	5613428	<b>5408992</b>	134
	/100 pc.			/pc.		5613435	<b>5408994</b>	134
5901334	<b>5401771</b>	86	5872696	<b>5408064</b>	139	5613442	<b>5408996</b>	134
5427810	<b>5401801</b>	86	5872702	<b>5408066</b>	140		/100 pc.	
5427872	<b>5401836</b>	86	5872740	<b>5408068</b>	140	5429616	<b>5412609</b>	105
5898399	<b>5401852</b>	86	5872757	<b>5408072</b>	141	5752356	<b>5412803</b>	106
5902119	<b>5401879</b>	86	5872764	<b>5408074</b>	140		/pc.	
5034810	<b>5401970</b>	83	5690733	<b>5408105</b>	131	6505869	<b>5420020</b>	72
5105619	<b>5401980</b>	83	5613206	<b>5408107</b>	131	6505890	<b>5420022</b>	72
5107774	<b>5401983</b>	83	5613213	<b>5408108</b>	131	6505906	<b>5420024</b>	72
5108672	<b>5401986</b>	83	5613220	<b>5408109</b>	131		/100 pc.	
5108733	<b>5401989</b>	83	5636731	<b>5408148</b>	131	5751571	<b>5420504</b>	60
5045359	<b>5401993</b>	83	5681496	<b>5408156</b>	131	5331575	<b>5420539</b>	60
5050803	<b>5401995</b>	83	5613237	<b>5408158</b>	131		/pc.	
			5895817	<b>5408245</b>	131	5430094	<b>5424100</b>	86
			5895879	<b>5408296</b>	131	5430216	<b>5424151</b>	60
5428053	<b>5402107</b>	86	5613251	<b>5408298</b>	131	5430339	<b>5424208</b>	60
5428176	<b>5402158</b>	86	5674474	<b>5408350</b>	132		/pc.	
5428411	<b>5402808</b>	86	5613268	<b>5408352</b>	132	5901457	<b>5430011</b>	61
5428473	<b>5402859</b>	86	5674412	<b>5408393</b>	132	5901570	<b>5430062</b>	61
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5674733	<b>5402864</b>	88	5674351	<b>5408458</b>	135	5430575	<b>5430151</b>	61
5674740	<b>5402866</b>	88	5674290	<b>5408504</b>	132		/pc.	
5674757	<b>5402868</b>	88	5613299	<b>5408557</b>	132	6456161	<b>5430720</b>	60
5674764	<b>5402870</b>	88	5613312	<b>5408630</b>	132		/100 pc.	
5674795	<b>5402872</b>	88	5673811	<b>5408687</b>	131	6040438	<b>6404001</b>	46
5674801	<b>5402874</b>	88	5613305	<b>5408689</b>	131	6049080	<b>6404006</b>	46
5674818	<b>5402876</b>	88	5673750	<b>5408733</b>	135	6049202	<b>6404014</b>	46
5674825	<b>5402878</b>	88	6036226	<b>5408800</b>	135		/pc.	
5674856	<b>5402880</b>	88	5542773	<b>5408806</b>	135		/100 pc.	
	/100 pc.		5542834	<b>5408814</b>	135		/pc.	
6389766	<b>5402958</b>	86	5770497	<b>5408820</b>	135		/100 pc.	
			5004608	<b>5408849</b>	135		/pc.	
5070061	<b>5403110</b>	85	5009733	<b>5408852</b>	135		/100 pc.	
5070078	<b>5403117</b>	85	6647842	<b>5408854</b>	90		/pc.	
5070085	<b>5403124</b>	85	6647859	<b>5408856</b>	90		/100 pc.	
5548713	<b>5403200</b>	84	6647866	<b>5408858</b>	90		/pc.	
5110637	<b>5403205</b>	84	6647873	<b>5408860</b>	90		/100 pc.	
5548775	<b>5403219</b>	85	6219391	<b>5408868</b>	92		/pc.	
5548898	<b>5403227</b>	84	6219407	<b>5408870</b>	92		/100 pc.	
5548959	<b>5403235</b>	85	6647804	<b>5408874</b>	91		/pc.	
5926320	<b>5403238</b>	91	6647811	<b>5408876</b>	91		/100 pc.	
	/pc.		6647828	<b>5408878</b>	91		/pc.	
5034872	<b>5403308</b>	83	6647835	<b>5408880</b>	91		/100 pc.	
5034933	<b>5403324</b>	83	6219414	<b>5408888</b>	90		/pc.	
	/100 pc.		6219421	<b>5408890</b>	90		/100 pc.	
5428657	<b>5405068</b>	83	6219452	<b>5408902</b>	91		/pc.	
	/pc.		6219469	<b>5408905</b>	91		/100 pc.	
5428718	<b>5405769</b>	87	6219476	<b>5408910</b>	93		/pc.	
	price/100		5859550	<b>5408930</b>	91		/100 pc.	
5888123	<b>5407995</b>	136	5859567	<b>5408932</b>	91		/pc.	
5888154	<b>5407997</b>	136	5871613	<b>5408934</b>	92		/100 pc.	
			5871620	<b>5408936</b>	92		/pc.	
5674573	<b>5408002</b>	136	5871668	<b>5408938</b>	90		/100 pc.	
5674627	<b>5408004</b>	136	5871675	<b>5408940</b>	90		/pc.	
5854265	<b>5408006</b>	136	5670056	<b>5408942</b>	89		/100 pc.	
6591640	<b>5408008</b>	137	5785330	<b>5408943</b>	89		/pc.	
	/pc.		5670063	<b>5408946</b>	89		/100 pc.	
6095346	<b>5408013</b>	137	5785347	<b>5408947</b>	89		/pc.	
	price/100		5670070	<b>5408950</b>	93		/100 pc.	
6591664	<b>5408014</b>	137	5670087	<b>5408952</b>	93		/pc.	
6591657	<b>5408018</b>	136	5670094	<b>5408954</b>	93		/100 pc.	
	/pc.		5849360	<b>5408955</b>	93		/pc.	
6591695	<b>5408019</b>	138	5670100	<b>5408956</b>	93		/100 pc.	
6591701	<b>5408020</b>	138	5849391	<b>5408957</b>	93		/pc.	
6591671	<b>5408021</b>	137	5670117	<b>5408958</b>	94		/100 pc.	
5674689	<b>5408022</b>	137	5849407	<b>5408959</b>	93		/pc.	
6591688	<b>5408023</b>	137	5670124	<b>5408960</b>	94		/100 pc.	
			5670131	<b>5408964</b>	94		/pc.	
			5802433	<b>5408966</b>	89		/100 pc.	

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101 A-1500	5427575	5400155	123
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101 F1500	5430216	5424151	123
101 F1500	5430216	5424151	86
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101 F2000	5430339	5424208	123
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