

SAFETY AND PROTECTION INSTALLATIONS



## External lightning protection

**OBO**  
BETTERMANN

# Building Connections



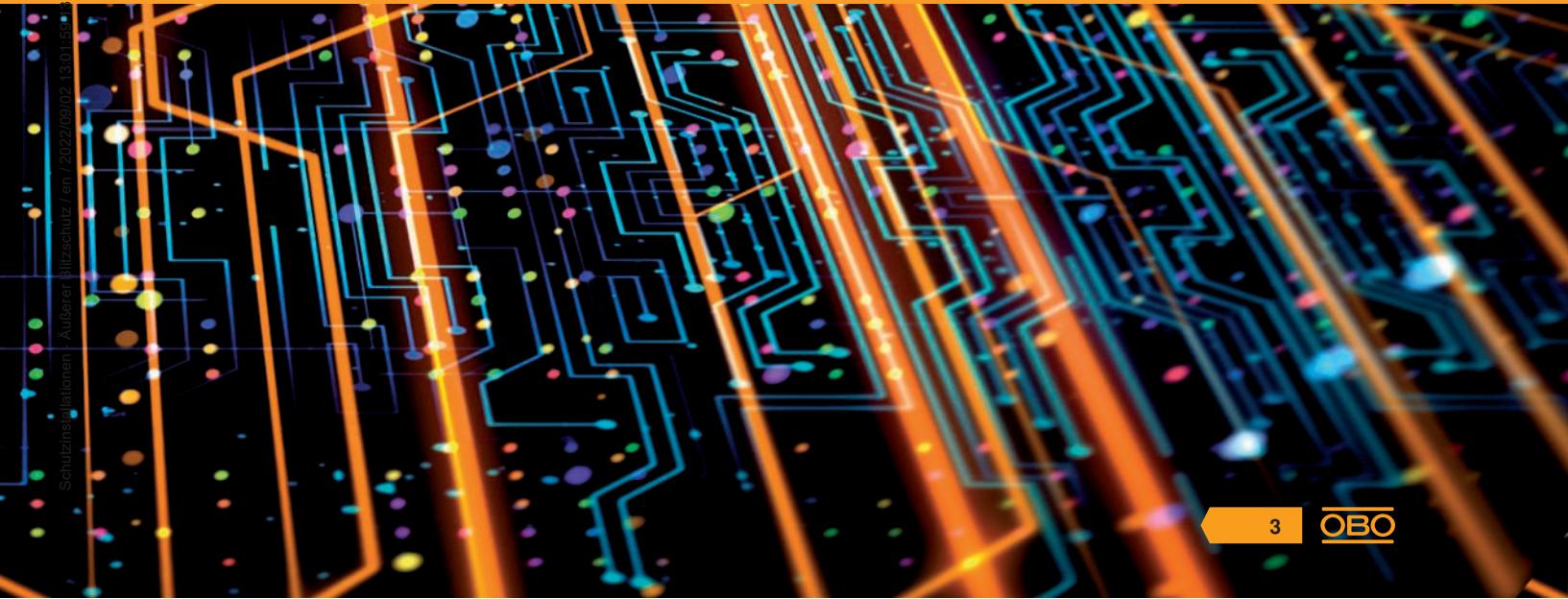
Digitalisation, the Energiewende (energy transition), mobility – the future is gathering speed. At OBO Bettermann, we're proud to be a driving force. And as a facilitator, we make connections. Today, we are already developing the innovative electrical infrastructure systems and solutions of tomorrow. Reliably, flexibly, sustainably.

Already today, OBO is one of the leading manufacturers of installation systems for the electrical infrastructure in buildings and plants. When it comes to the friction-free flow of power, energy and data, engineers and tradespeople worldwide rely on the comprehensive range from OBO.



OBO applies its slogan "Building Connections" to around 30,000 high-quality branded electrical products and services, which are used in application solutions for projects in industry, business and infrastructure.

OBO operates a global network and employs more than 4,200 people in more than 60 countries. The headquarters of the family company, which was founded in 1911, is located in Menden, Germany. In addition, more than 40 subsidiaries are present in markets on all continents.



# Improved structure, sharpened profile



Each of our products carries a benefit which only the OBO brand can offer. Products are developed, manufactured and tested with a high level of competence – from the idea through to the final check. From flawless logistics through to practical information – we can provide support at every level. We can offer additional security through certificates on the conformity of our products with the most important standards and directives. In a nutshell – OBO helps you more. In every location and in every phase of a project.

To maintain this, we continually challenge ourselves. Not as an end in itself but for the better processing of each customer's requests – fast, reliably and future-oriented. That is the reason we have not only established our three central application areas, but also reworked our catalogue structure. In this way, we can display our service offers more clearly, highlight the product benefits more effectively and illustrate the respective application areas more tangibly.

# OBO Product Worlds



## Industrial installations

- Cable support systems
- Connection and routing systems
- Fastening material



## Building installations

- Cable routing systems
- Device installation ducts and poles
- Floor installation systems and underfloor applications
- Installation systems



## Safety and protection installations

- Surge protection
- External lightning protection
- Equipotential bonding and earthing
- Insulation and cable bandages
- Fire-tested support and routing systems
- Fire protection ducts



It's your choice – from now on there's a catalogue for each OBO product category. Simply select the catalogues and order together with a collection case.

# Always at your service

If you have questions about products, installation or planning – OBO staff offer exceptionally competent support at each and every phase of your project. So that you are always on the safe side.

- Product and system information, digitally or printed
- Selection and planning aids on the web, as a CAD application or in printed form, as well as in the myOBO app
- 2D and 3D product data for planning
- Field service and branch offices in 60 countries
- Engineering services for major projects

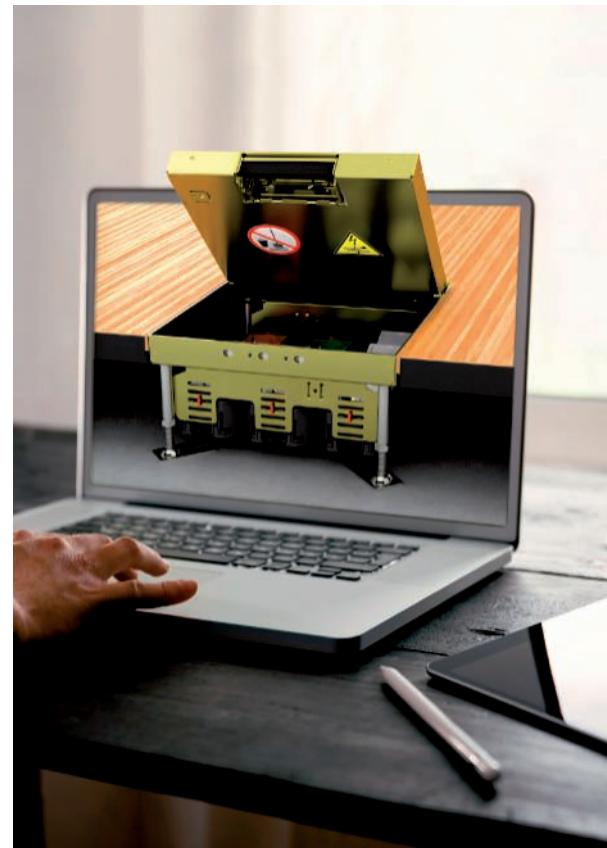
**Our Customer Service  
can be contacted on**

**+49 23 73 89 - 17 00**

Monday–Thursday      07.30 - 17.00  
Friday                    07.30 - 15.00

or via e-mail at [export@obo.de](mailto:export@obo.de)





## OBO Construct: Planning has never been so easy!

OBO Construct is a collection of planning tools that were developed especially for electrical installation engineers and planners. This platform offers support in product configuration and a selection aid for the matching systems, and automatically generates a corresponding parts list. With OBO Construct, you can therefore access and edit projects at any time and at any location – via your smartphone, tablet or desktop PC. Versions of the app are available for iOS and Android.

Laden im  
App Store

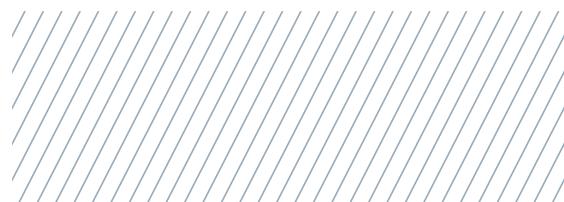


JETZT BEI  
Google Play



## OBO Academy: From the basics to the concrete application

The OBO Academy has been offering an extensive further education programme for many years. This programme helps with first-hand information and expertise, giving you that essential head start in terms of in-depth knowledge. In our seminars, planner days or online seminars, we provide you with current developments, trends, norms and regulations – systematically, comprehensively and practically oriented.





## Planning virtually, implementing efficiently

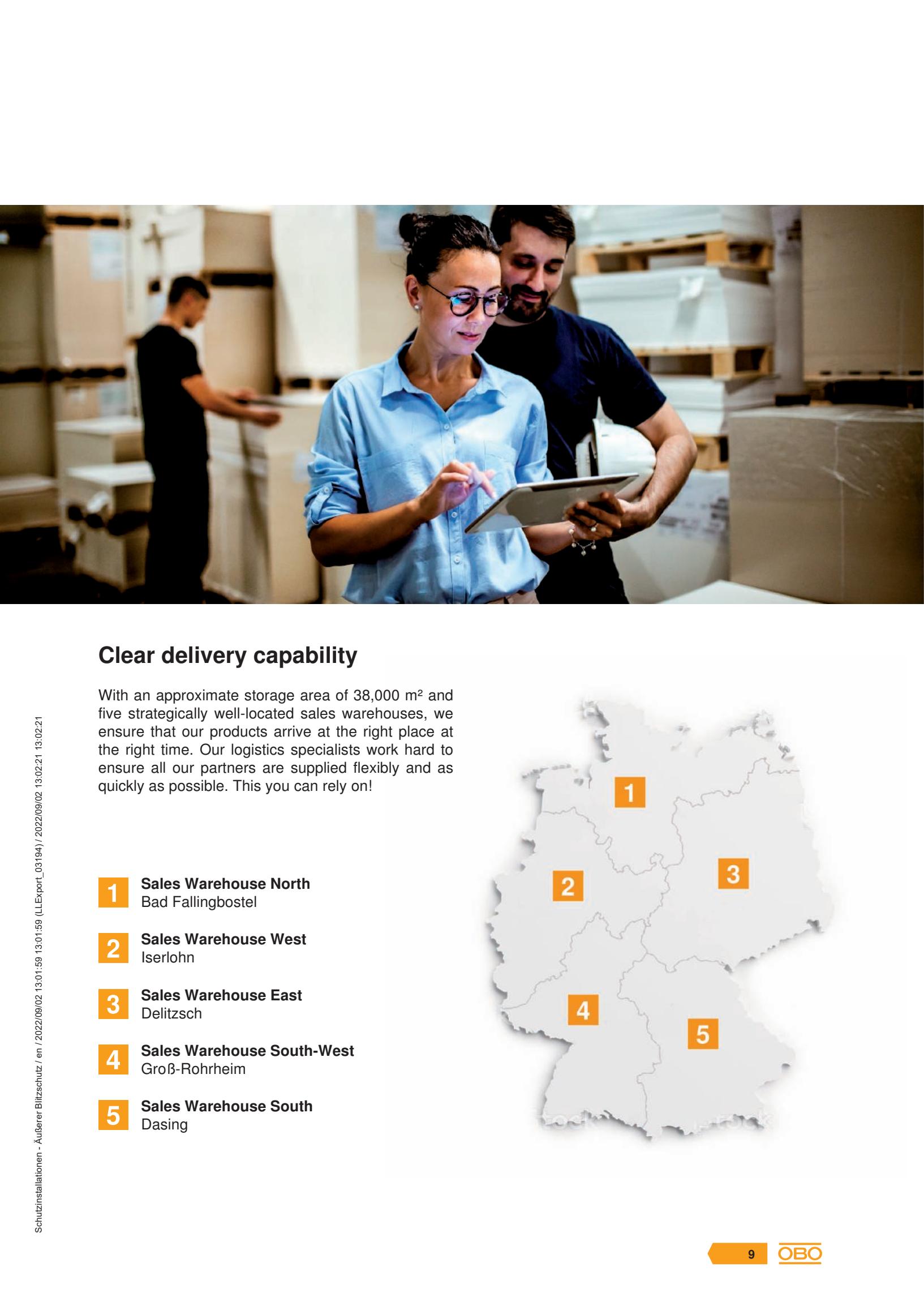
When planning and implementing electrical technology, BIM (building information modelling) is becoming increasingly more important. We can now offer our partners the first solution to unlock the full potential of the BIM method for practical applications. For more planning efficiency, transparency and cost security with complex projects. Find out about the advantages of BIM@OBO now:

- Intelligent libraries structured according to individual systems
- Available for Revit, as a plug-in and directly via the OBO website
- Simple integration via drag & drop
- Practical display of material lists for ordering directly
- Intuitive user interface

You can find further information at [obo.de/BIM](http://obo.de/BIM).  
Welcome to the future!

**BIM@  
OBO**

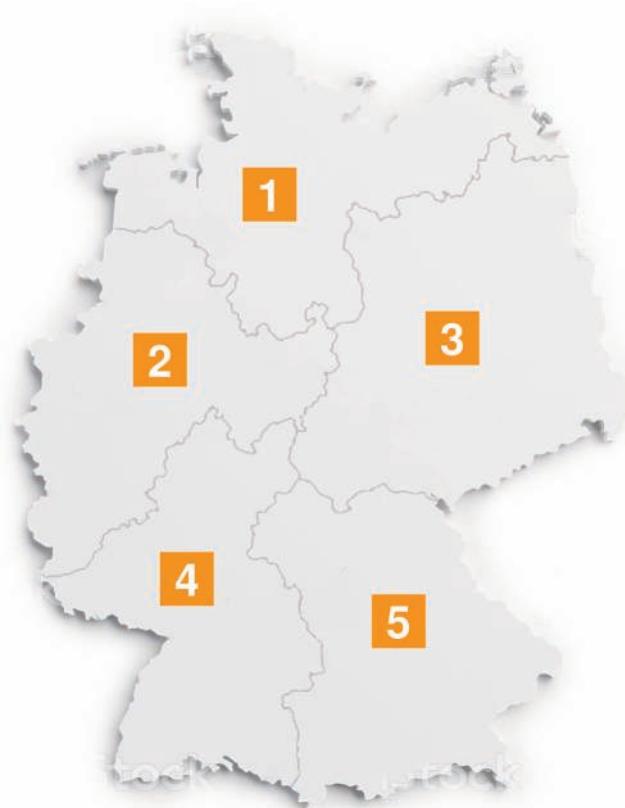




## Clear delivery capability

With an approximate storage area of 38,000 m<sup>2</sup> and five strategically well-located sales warehouses, we ensure that our products arrive at the right place at the right time. Our logistics specialists work hard to ensure all our partners are supplied flexibly and as quickly as possible. This you can rely on!

- 1 Sales Warehouse North**  
Bad Fallingbostel
- 2 Sales Warehouse West**  
Iserlohn
- 3 Sales Warehouse East**  
Delitzsch
- 4 Sales Warehouse South-West**  
Groß-Rohrheim
- 5 Sales Warehouse South**  
Dasing





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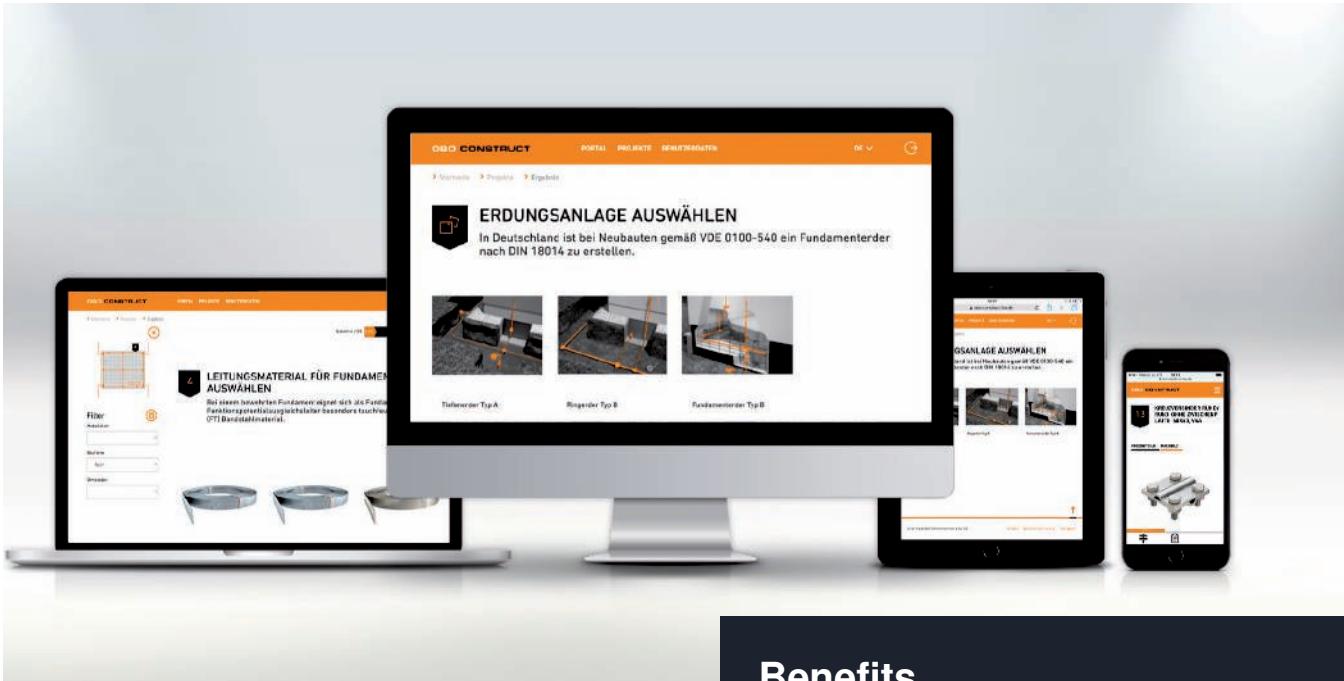
# Planning aids



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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 questions simplify the search for suitable products and guaranteed surge protection systems and earthing systems which fulfil the standards.

### OBO Construct for surge protection

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

## 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

### OBO Construct for earthing systems

Earthing systems can be planned and configured easily using the digital selection aid. 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.

# Lightning protection guide. Safely routed.

## Reference work and planning aid for electrical installation engineers and technical planners

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

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

The new lightning protection guide can be requested by calling +49 23 73 89 - 17 00 and is also available 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 earth electrode to current DIN 18014
- The internal lightning protection system
- Equipotential bonding systems
- Overvoltage protection systems
- Current standards
- New selection and planning aids
- Examples





# First-hand support and knowledge



**RAL-GZ 642/5**

## 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

## Invitations to tender for lightning protection/earthing at the highest level:

OBO manufactures 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).



### **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.

- 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 and 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 damage



Financial losses can only be considered in isolation when no legal or insurance requirements for the safety of people 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

**Additional 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)
- Faulty heating system
- Costs due to faults and false alarms in fire or burglar alarm systems

## Financial losses are on the rise

Recent statistics and numbers show: Surge voltage damages per year have been on the decline since 2014. The positive development could be a result, amongst other things, of the mandatory use of surge protection measures to VDE 0100-443. At the same time, the figures also show that the costs per year are rising significantly. A reason for this is the growing dependency on electrical devices and the increasing number of smart home solutions. Therefore it is always recommended to retrofit surge protection systems, even when they are not required by norms. Although costs will be covered by insurance policies, the annoyance about the preventable damage is initially large. Information on protection measures can be found in, for example, the German Directive VdS 2010.

Year	Amount of lightning and surge voltage damage	Paid damages for lightning and surge voltage damage
2010	290,000	€170 million
2011	380,000	€230 million
2012	360,000	€230 million
2013	290,000	€170 million
2014	380,000	€250 million
2015	350,000	€240 million
2016	320,000	€250 million
2017	300,000	€240 million
2018	280,000	€250 million
2019	230,000	€250 million
2020	200,000	€260 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 guidelines 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.

## Internal lightning protection

## External lightning protection



*External and internal lightning protection systems*



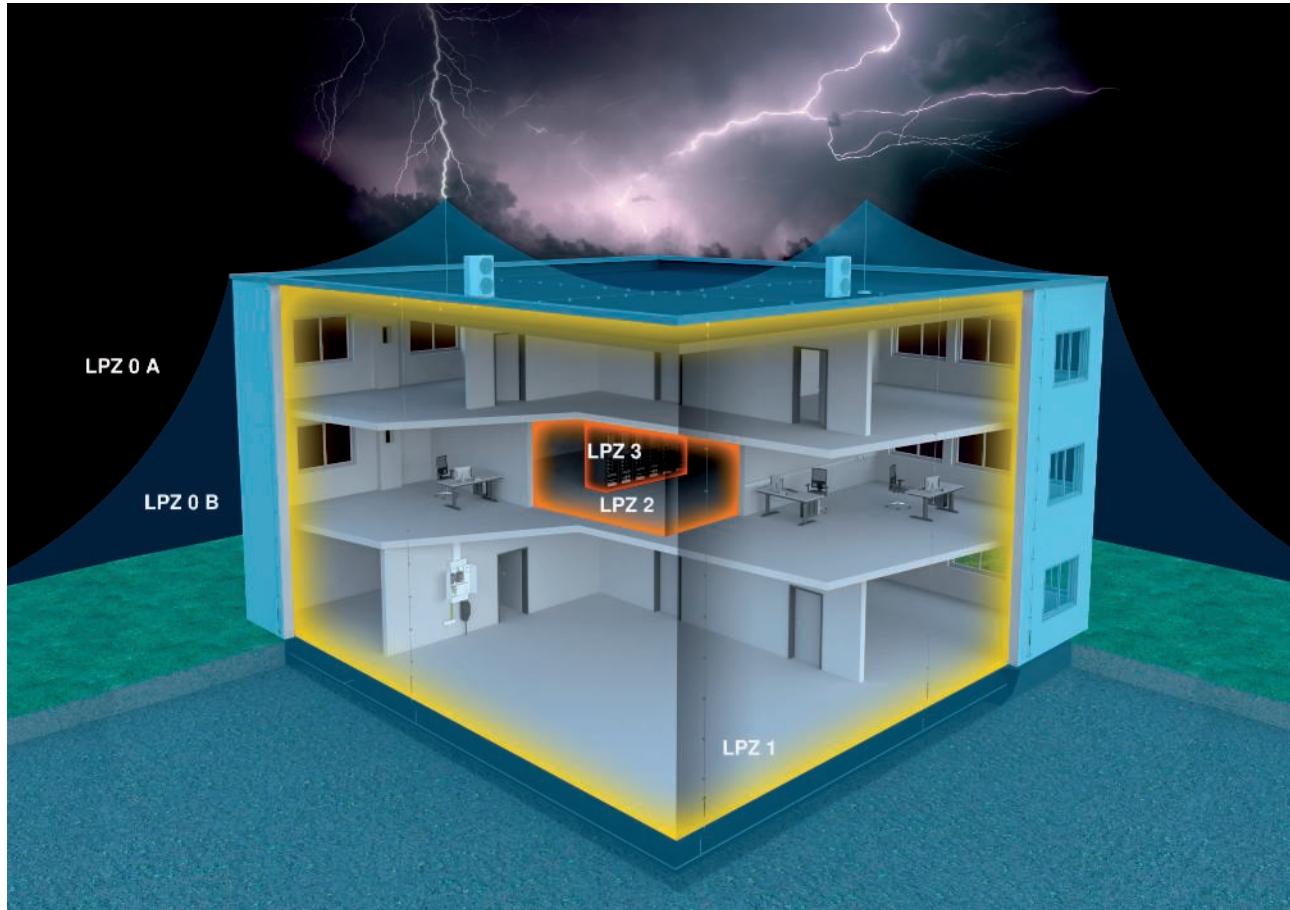
Standard	German supplement	Contents
VDE 0185-305-1 (IEC 62305-1)		Protection against lightning – Part 1: General principles
VDE 0185-305-2 (IEC 62305-2)		Protection against lightning – Part 2: Risk management
	1	Lightning risk in Germany
	2	Calculation aids for estimating the risk of damage for buildings
	3	Additional information on use of EN 62305-2
VDE 0185-305-3 (IEC 62305-3)		Protection against lightning – Part 3: Physical damage to structures and life hazard
	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 protective devices – Part 11: Surge protective 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 protective 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 sit-

uation, 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 arresters 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 protective devices



The classification of surge protective 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 protective 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 Test Centre – for lightning protection, electrical engineering and support systems



## 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 protective devices and lightning conductors. 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 protective 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.

# Certification

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

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



**Zertifikat zur Anerkennung**  
**Certificate of acceptance**

von / of  
OBO Bettermann GmbH & Co. KG  
BET Testcenter  
Hünger Ring 52  
58710 Menden  
GERMANY

durch die / by the  
VDE Prüf- und Zertifizierungsinstitut GmbH  
VDE Testing and Certification Institute

**Zertifikat**  
Mitteilung über die Bewertung des Qualitätsicherungssystems

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

2. Nummer des Zertifikates: **BVS 16 ATEX ZQS/E310**

3. Produktkategorie: Geräte und Komponenten  
Gerätekategorie II, Kategorien 1G, 2G: Transienten- und Blitzschutz-Systeme

4. für das / for the

**Acceptance Program**  
Stufe 2/ in Stage 2  
40046136  
2019-06-22  
5022908-9501-0001/237781

in mit dem gültigen Dokument „TDAP SCOPE“. Es berechtigt  
h geschützten Zeichens des VDE.  
or with the valid document „TDAP SCOPE“. It does not  
entitle VDE marks.

**VDE INSTITUT**

**OBO BETTERMANN**  
Werte. Wahren.  
FEUERVERZINKEN

**Industrieverband Feuerverzinken e.V.**  
Hünger Ring 52  
58710 Menden

**Industrieverband Feuerverzinken e.V., Düsseldorf.**

**Confirmation**

Herewith we confirm, that

**OBO BETTERMANN GmbH & Co. KG**  
Hünger Ring 52  
58710 Menden

is a member of our association

**Industrieverband Feuerverzinken e. V., Düsseldorf.**

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

**Industrieverband Feuerverzinken e.V.**  
- Director -

**Industrieverband Feuerverzinken e.V.**  
Hünger Ring 52  
58710 Menden

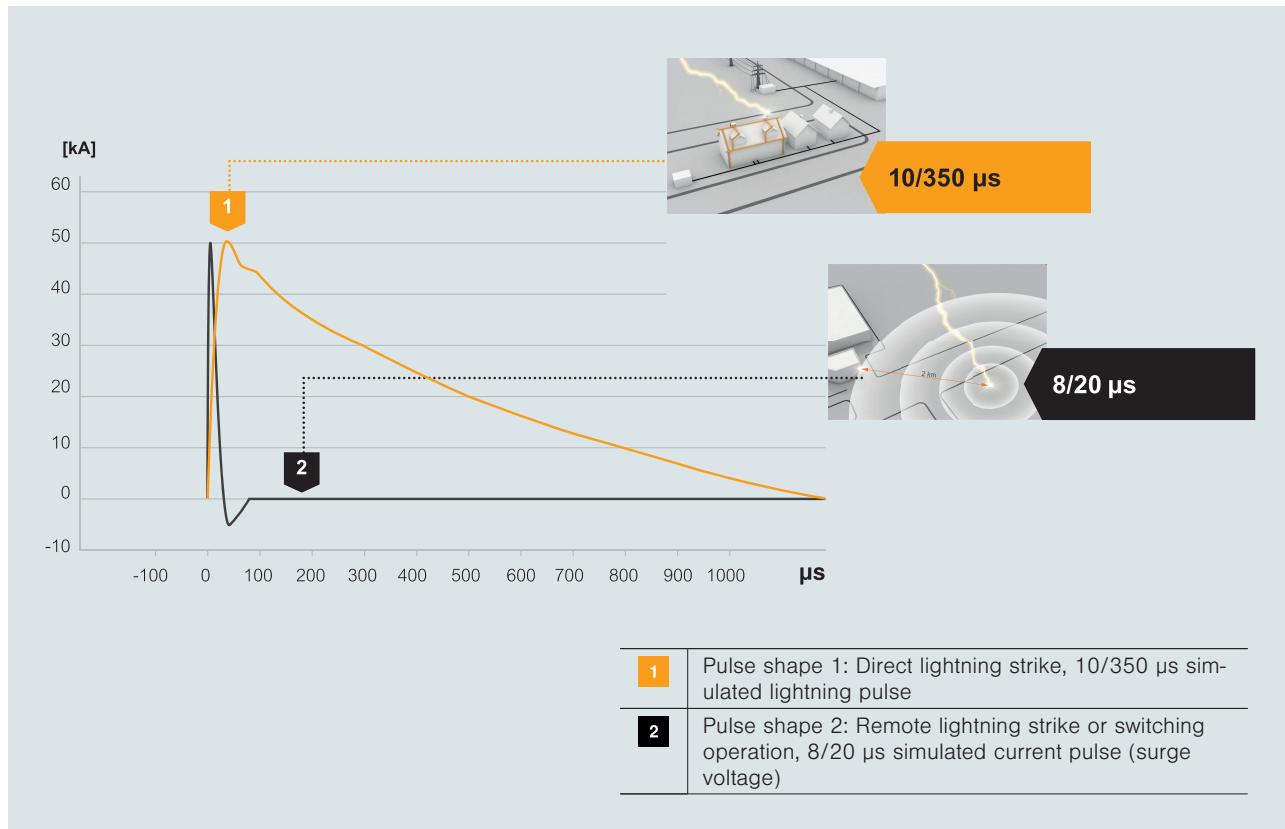
**Mark Huckholz**

Düsseldorf, February 3rd, 2017

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urteil darf nur elektronisch und unverändert weiterverbreitet werden.  
Se. 9, 44009 Bochum, Telefon +49 234 3595-100, Telefax +49 234 3595-110, zs-eniro@dkvo.com



# 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

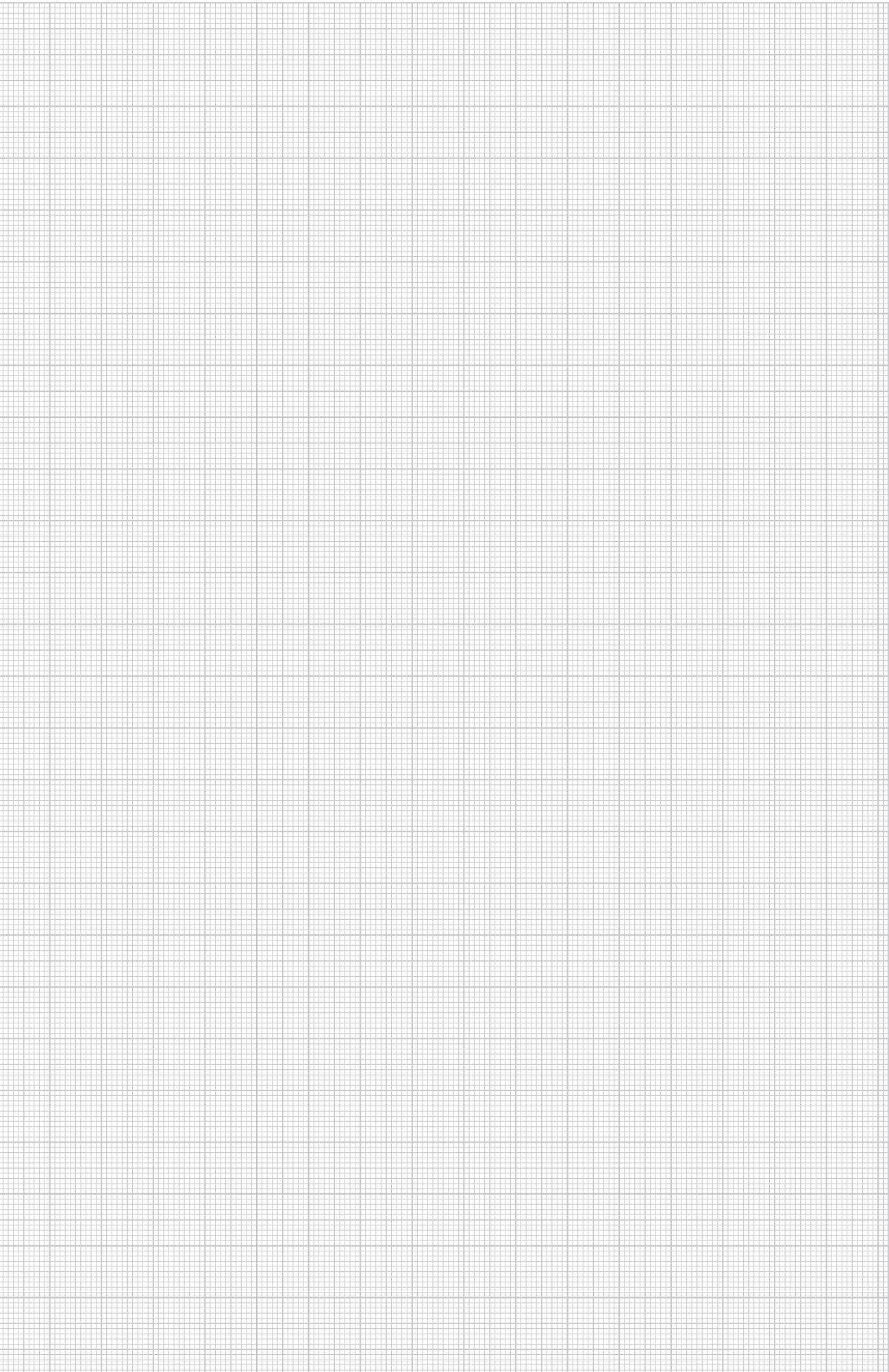
To carry out standardised tests on components intended for external use, they must be pretreated under real environmental conditions. This takes place in a salt spray trough and a sulphur dioxide testing chamber.

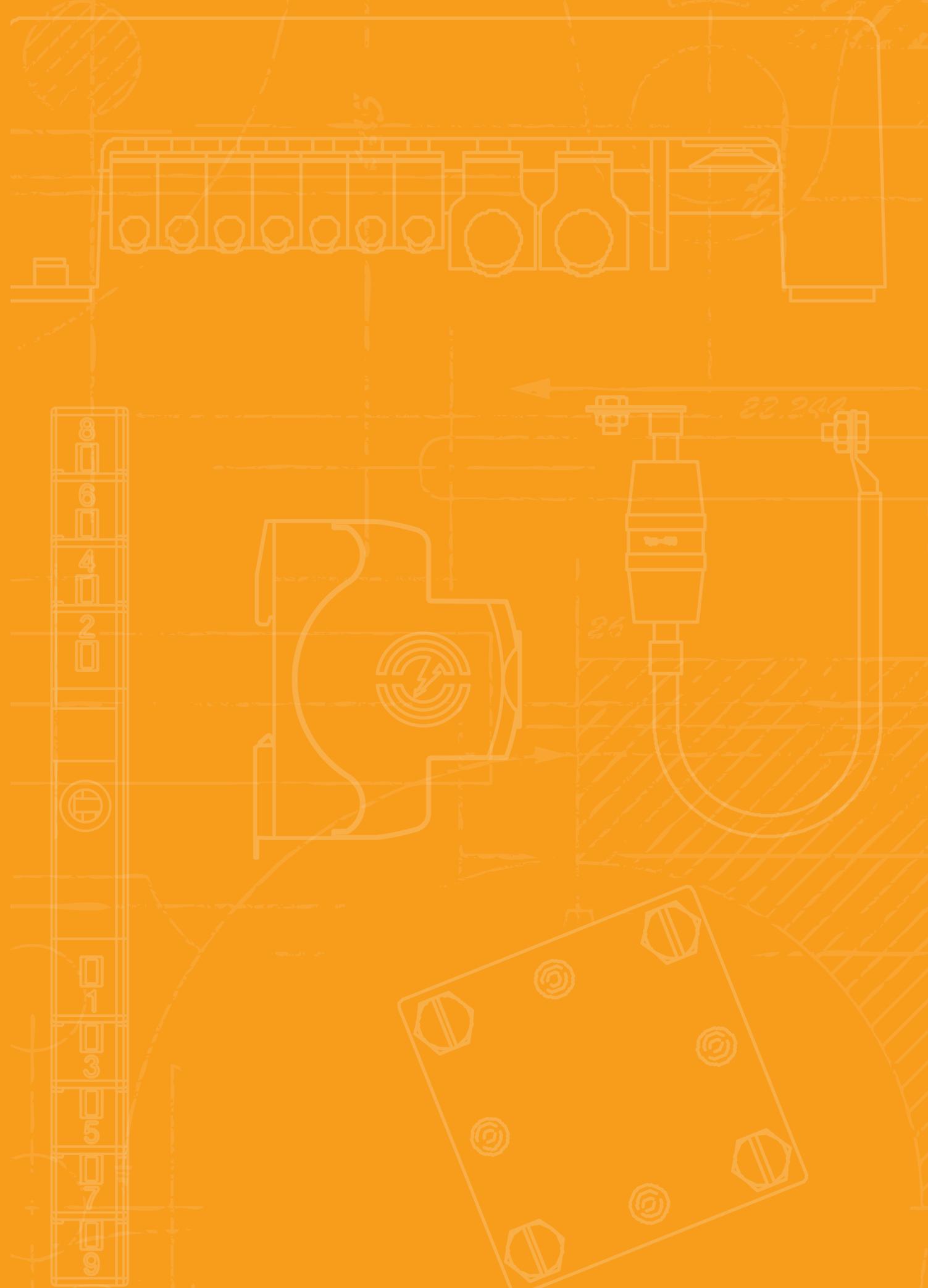
Depending on the test, the test length and the concentration of the salt spray or sulphur dioxide in the testing chambers may vary. This means that it is possible to conduct tests according to IEC 60068-2-52, ISO 7253, ISO 9227 and EN ISO 6988.

## 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.





# OBO isCon® system



isCon® conductors

30



isCon® conductor accessories

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# Insulated isCon® conductor



The high-voltage-resistant, insulated isCon® down-conductor is the modern solution for planners and erectors of lightning protection systems, in order to maintain the necessary separation distances safely according to VDE 0185-305-3 (IEC/EN 62305-3).

As an innovative international provider of complete lightning and surge protection systems, OBO has adjusted its product range according to the different demands of our customers in the area of insulated lightning protection.

The result: We can now offer the appropriate isCon® conductor system with external certification according to the most recent testing norms (VDE V 0185-561-8/IEC TS 62561-8) for any lightning protection project.

BASIC

$s_e \leq 45 \text{ cm}$

PROFESSIONAL

$s_e \leq 75 \text{ cm}$

EX

PROFESSIONAL+

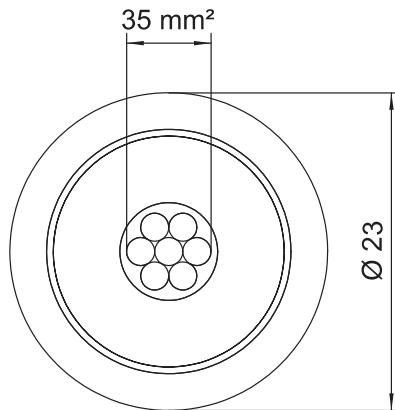
$s_e \leq 75 \text{ cm}$

PREMIUM

$s_e \leq 90 \text{ cm}$

## 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.

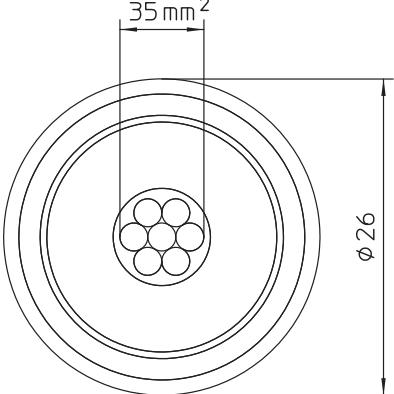
- Highly voltage-resistant, insulated conductor
- Floating discharge-free
- Additional mechanical protection (black protective jacket)
- For maintenance of the separation distance according to IEC 62305 (VDE 0185-305-3)
- Tested according to IEC/EN 62561-1 (VDE 0185-561-1) with H1/150 kA
- Equivalent 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® conductors Professional

## 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

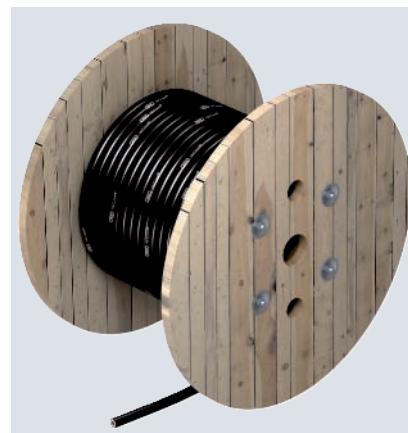
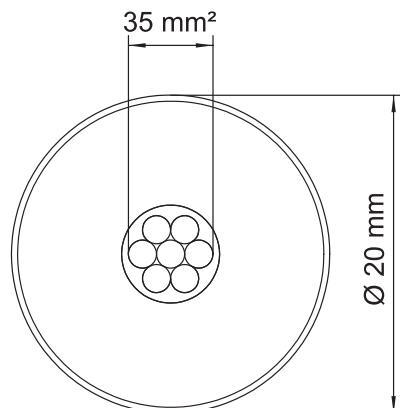


Please refer to the mounting instructions for information on routing the OBO IsCon® conductor.

- Highly voltage-resistant, insulated arrester
- Protection against contact voltage during rain (VDE 0432-1 (IEC/EN 60060-1))
- 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 (VDE V 0185-561-8)
- 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, 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.
isCon Pro 75 SW	35	20	0.75	100	57.000	5408008



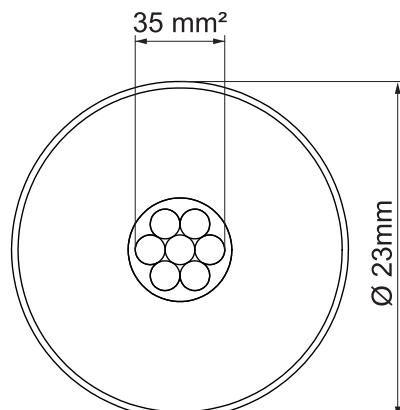
Please refer to the mounting instructions for information on routing the OBO isCon® Pro conductor.

- Highly voltage-resistant, insulated conductor
- Floating discharge-free
- For maintenance of the separation distance according to IEC 62305 (VDE 0185-305-3)
- Tested according to IEC/EN 62561-1 (VDE 0185-561-1) with H1/150 kA
- Equivalent separation distance  $se \leq 0.75$  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® conductors, Premium

## 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.

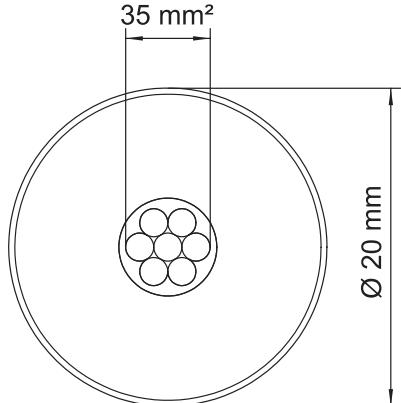
- Highly voltage-resistant, insulated conductor
- Floating discharge-free
- Tested according to IEC/EN 62561-1 (VDE 0185-561-1) with H2/200 kA
- Equivalent separation distance  $se \leq 0.90$  m (air) and  $se \leq 1.8$  m (solid material)
- Tested according to IEC TS 62561-8 (VDE V 0185-561-8)
- Halogen-free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

## isCon® conductors, Basic

### isCon® conductor, Basic black

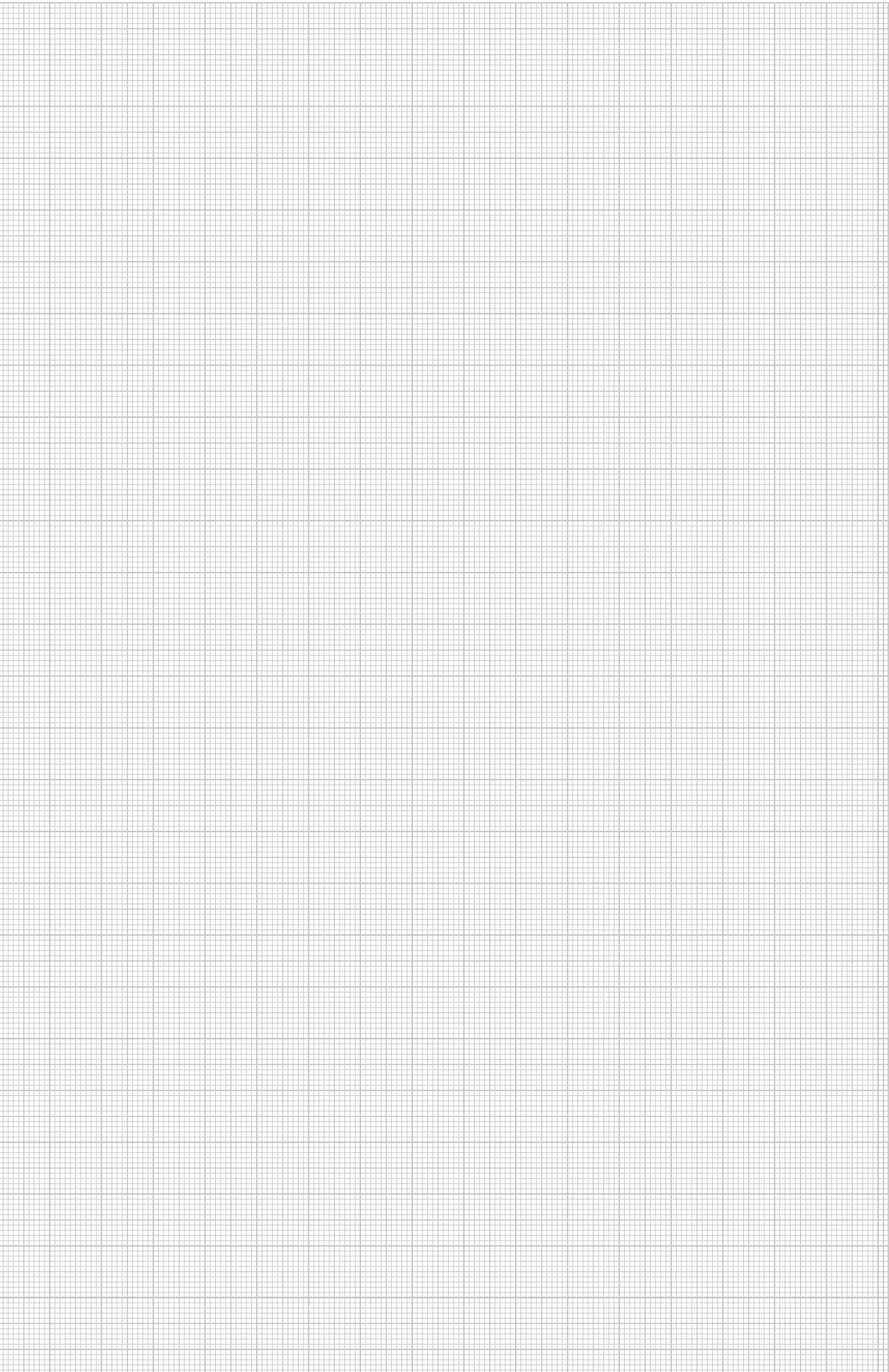


Type	Cross-section mm <sup>2</sup>	Nominal size Ø mm	Equivalent separation distance m	Pack m	Weight kg/100 m	Item no.
isCon BA 45 SW	35	20	0.45	100	57.000	5408014



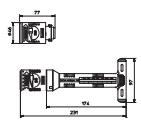
Please refer to the mounting instructions for information on routing the OBO IsCon® Basic conductor.

- Highly voltage-resistant, insulated conductor
- For maintenance of the separation distance according to IEC 62305 (VDE 0185-305-3)
- Tested according to IEC/EN 62561-1 (VDE 0185-561-1) with H1/150 kA
- Equivalent separation distance  $se \leq 0.45$  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



# Tool

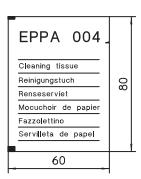
## Stripping tool for isCon® conductor

PA/  
PE

Type	Clamping range D mm	Pack Piece	Weight kg/100 pc.	Item no.
isCon stripper 2	20-23	1	170.000	5408013

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

## Cleaning cloth

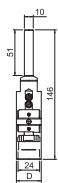


Type	Width mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
isCon EPPA 004	140	200	50	0.420	5408060

- 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

## isCon® connection elements

### isCon® connection element set ASE, testable

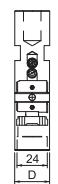
VA  
BEST TESTED

Type	Dim. D Ø mm	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
isCon ASE 23	28	23	1	52.400	5408080

- For the isCon® Pro+ and Premium conductor
- Set consisting of 2 testable connection elements
- For function and state determination with integrated ASE technology (Adaptive Switching Element)
- For comprehensive repeat testing according to VDE 0185-305-3 (IEC/EN 62305-3)
- Screw-on termination
- Testable with the simplest insulation measuring devices ( $\geq 1 \text{ kV DC}$ )
- Can be used in all lightning protection classes
- For highest system availability - no switch-off, dismantling or testing with dangerous pulse voltages
- QR code to open the test report
- Incl. heat-shrinkable hose and Allen key

### isCon® connection elements set ASE, testable for isFang IN

VA



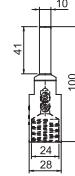
Type	Dim. D Ø mm	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
isCon ASE 23 IN	28	23	1	56.200	5408082

- For the isCon® Pro+ and Premium conductor
- Set consisting of 2 testable connection elements
- Connection and routing of the cable in the insulated air-termination mast
- For function and state determination with integrated ASE technology (Adaptive Switching Element)
- For comprehensive repeat testing according to VDE 0185-305-3 (IEC/EN 62305-3)
- Screw-on termination
- Testable with the simplest insulation measuring devices ( $\geq 1 \text{ kV DC}$ )
- Can be used in all lightning protection classes
- For highest system availability - no switch-off, dismantling or testing with dangerous pulse voltages
- QR code to open the test report
- Incl. heat-shrinkable hose and Allen key

VA

**isCon® connection element**

Type	Dim. Ø mm	Lightning current D carrying capacity mm kA	Pack Piece	Weight kg/100 pc.	Item no.
isCon con 2	20	10 H1/150	2	21.500	5408021
isCon connect	23	10 H1/150	2	21.500	5408022
isCon con PRE	23	10 H2/200	2	21.500	5408023



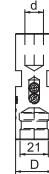
- Screw-on termination of the connection for the isCon® conductor
- Incl. heat-shrinkable sleeve, hexagonal
- Tested up to 200 kA (lightning protection class I)

**isCon® Professional+ connection elements**

VA

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

Type	Dim. Ø mm	Lightning current D carrying capacity mm kA	Pack Piece	Weight kg/100 pc.	Item no.
isCon IN connect	23	10 H1/150	1	26.900	5408024



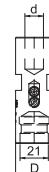
- Screw-on termination of the connection for the isCon® conductor
- Connection and installation of the cable in the insulated air-termination rod
- Tested up to 200 kA (lightning protection Class I)

**isCon® Basic, Premium and Professional connection elements**

VA

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

Type	Dim. Ø mm	Lightning current D carrying capacity mm kA	Pack Piece	Weight kg/100 pc.	Item no.
isCon IN con 2	20	10 H1/150	1	27.800	5408019
isCon IN con PRE	23	10 H2/200	1	27.800	5408020



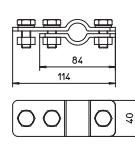
- Screw-on termination of the connection for the isCon® conductor
- Connection and installation of the cable in the insulated air-termination rod
- Tested up to 200 kA (lightning protection Class I)

**Potential connections**

VA

**Potential connection**

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
isCon PAE	ø 17-25	2	36.500	5408036



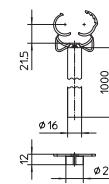
- Potential connection
- To avoid floating discharges on the isCon® conductor
  - With sprung discs to protect screws against loosening





Type isCon DH	Clamping range D mm 23-26	Pack Piece 2	Weight kg/100 pc. 41.400	Item no. 5408043
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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.



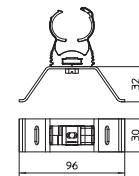
## Spacer



## PA cable bracket with tightening strap

Type	Colour	Dimension D Ø mm	Pack Piece 10	Weight kg/100 pc. 23.200	Item no. 5408066
isCon HS 26 PA	Light grey	ø 26mm	26		

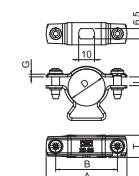
For isCon® conductor for pipe mounting including 2 m tightening strap.



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

Type	Dim. D Ø mm	Pack Piece 50	Weight kg/100 pc. 2.850	Item no. 5408056
isCon H VA	21-23	50	2.850	5408056
isCon H 26 VA	26	20	3.400	5408064

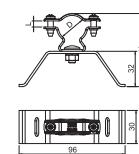
- For isCon® conductor for mounting on roof/wall structures
- With sprung discs to protect the screws against loosening



## VA cable bracket with tightening strap

Type	Dim. D Ø mm	Pack Piece 10	Weight kg/100 pc. 25.200	Item no. 5408052
isCon HS VA	23	10	25.200	5408052
isCon HS 26 VA	26	10	25.900	5408068

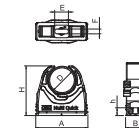
- For isCon® conductor for pipe mounting
- Including 2 m tightening strap
- Cable bracket with sprung discs to protect the screws against loosening



## Multi-Quick clip, metric

Type	Clamping range D mm	Out value N	Pull-value	Shipping box	Pack Piece	Weight kg/100 pc.	Item no.
M-Quick M32 LGR	25-32	60	Light grey	600	50	1.390	2153734

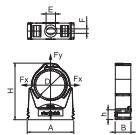
Flush-mounted clip to accept metric pipes and Quick Pipe electrical installation pipes. Flexible clamping range of several millimetres. Universal fastening options on walls and ceilings, both indoors and outdoors. Toolless pipe mounting. Can also be arranged with OBO Quick or starQuick clip.



## Cable brackets

### starQuick clip, black

PP PA

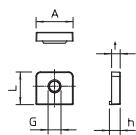


Type	Colour	Dim.			Pack Piece	Weight kg/100 pc.	Item no.
		A mm	B mm	H mm			
SQ-20 SW	Jet black	29	17	43.5	50	0.848	2146164
SQ-25 LGR	Light grey	40	17	49.5	50	0.970	2146207

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

PC



Type	Colour	Nominal size	Dim.			Pack Piece	Weight kg/100 pc.	Item no.	
			A mm	L mm	Dim. t mm				
SQ M6	Light grey	M6	17	15	5	4	100	0.070	2146509

Nut for insertion in starQuick clip, to mount the clip on an M6 thread.

## Information signs

### isCon® information panel

PS



Type	Pack Piece	Weight kg/100 pc.	Item no.
isCon HWS	1	2.000	5408058

Label: "NOTE! Insulated lightning protection with the OBO isCon® system. Only a lightning protection specialist may carry out changes"

- To label the lightning protection system
- Self-adhesive and with 4 fastening holes ø 6.5 mm

### isCon® information panel EN

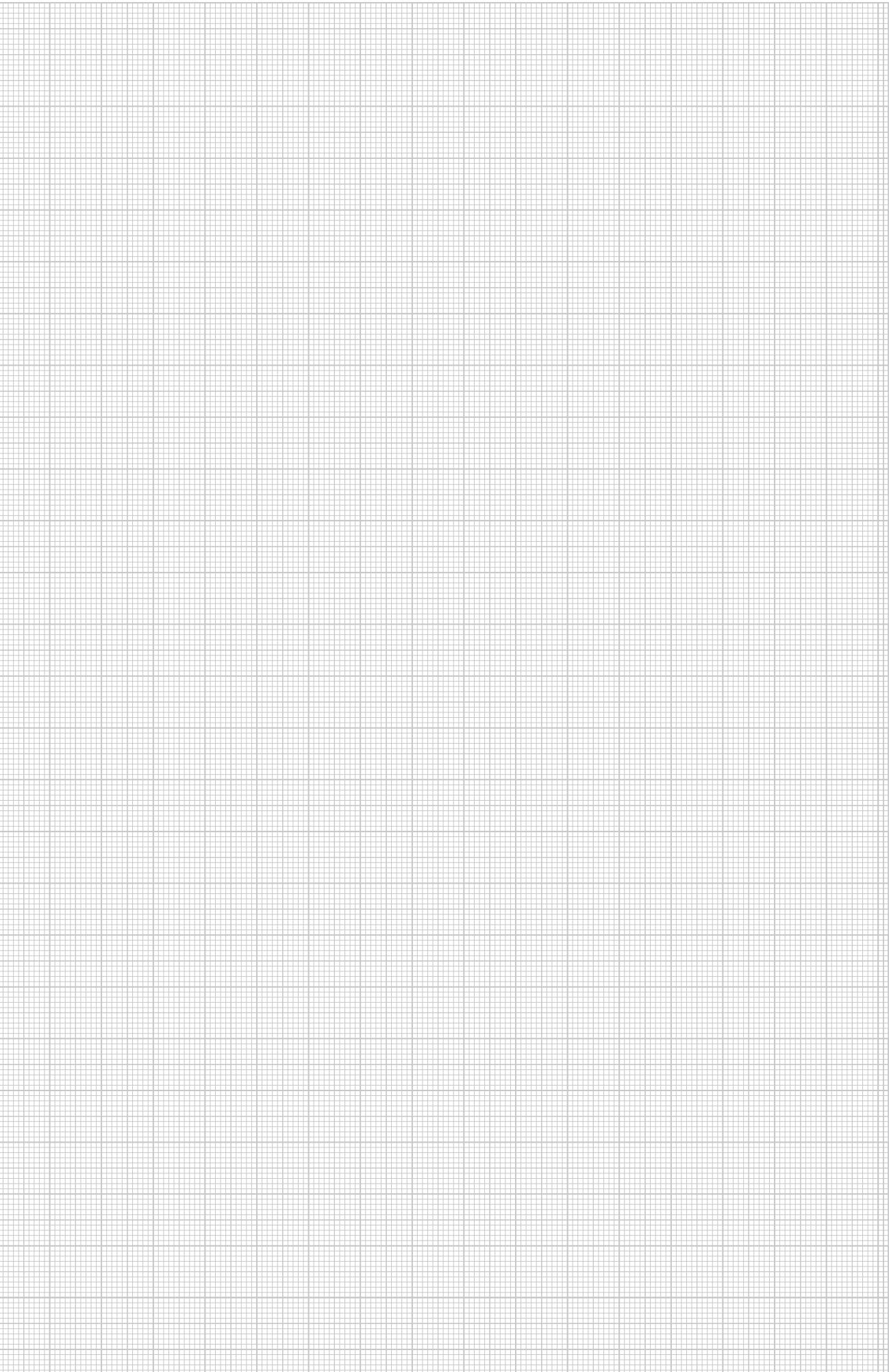
PS



Type	Pack Piece	Weight kg/100 pc.	Item no.
isCon HWS EN	1	2.000	5408059

Label: "NOTE! Insulated lightning protection with the OBO isCon® system. Only a lightning protection specialist may carry out changes"

- To label the lightning protection system
- Self-adhesive and with 4 fastening holes ø 6.5 mm



Conductor material

# Conductor material

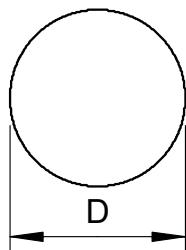
	Cable material	44
	Cable bracket	50
	Connection clamps and connection terminals	62
	Connection and separating terminals	90
	Connection material	96
	Protection and spark gaps	112
	Accessories	114



## Cable material

### Round conductor, galvanised steel

St FT  
TESTED

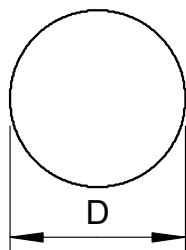


Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
<b>RD 8-FT</b>	8	50	125	50	125	40.000	<b>5021081</b>
<b>RD 8-FT 50</b>	8	50	50	20	50	40.000	<b>5021050</b>
<b>RD 10</b>	10	78	80	50	80	63.000	<b>5021103</b>

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)
- RD 10 can also be used in the earth
- Zinc coating: ≥ 350 g/m² (approx. 50 µm in mean value)

### Round conductor, stainless steel A2

VA VA  
TESTED

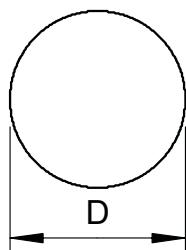


Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
<b>RD 8-V2A</b>	8	50	125	50	125	40.000	<b>5021235</b>
<b>RD 10-V2A</b>	10	78	50	32	50	63.000	<b>5021227</b>
<b>RD 10-V2A</b>	10	78	80	50	80	63.000	<b>5021239</b>
<b>RD 8-V4A</b>	8	50	125	50	125	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>

- 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 earth electrode standard DIN 18014, V4A is required in the earth

### Round conductor, copper

Cu  
TESTED



Type	Nominal size Ø mm	Cross-section mm²	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>

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

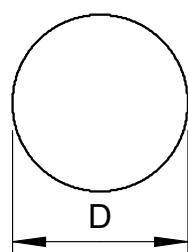
## Alu



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-ALU	8	50	150	20	150	13.500	5021286
RD 8-ALU-T	8	50	150	20	150	13.500	5021294
RD 8-ALU-T 75	8	50	75	10	75	13.500	5021296
RD 10-ALU	10	78	95	20	95	21.000	5021308

- 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



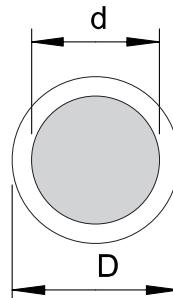
## Alu



## Round conductor, aluminium, with PVC jacketing

Type	Dim. d Colour	Dim. D 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-PVC	Cream	8	11	50	100	20	100	20.000

- 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



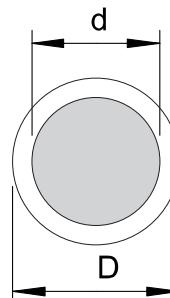
## St FT



## Round conductor, galvanised steel with PVC jacketing

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

- Corresponds to the requirements according to VDE 0185-305 (IEC 62305)
- Zinc coating: ≥ 350 g/m<sup>2</sup> (approx. 50 µm in mean value)
- With PVC jacketing

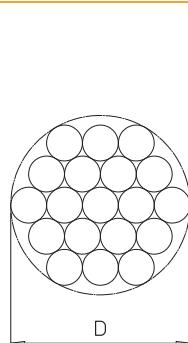


## Cu



Type	Dim. D mm	Single wires	Cross-section mm <sup>2</sup>	Normal ring ca. m	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
S 11-CU	10.5	19x0.21	70	50	30	50	58.600	5021654
S 9-CU	9	19x0.18	50	100	45	100	45.000	5021652
S-11-CU SN	10.5	19x0.21	70	50	30	50	58.600	5021656

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

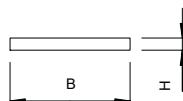


## Copper cable

## Cable material

### Galvanised steel flat conductor for earth

St FT  
TESTED

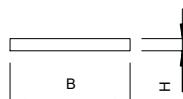


Type	Dim. B mm	Dim. H mm	Cross-section mm²	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
5052 DIN 30X3.5	30	3.5	105	25	30	84.000	5019345
5052 DIN 30X3.5	30	3.5	105	50	60	84.000	5019347
5052 DIN 40X4	40	4	160	51	40	128.000	5019355
5052 DIN 40X5	40	5	200	50	30	162.000	5019360

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Meets the requirements of VDE 0185-305 (IEC 62305)
- Zinc coating:  $\geq 500 \text{ g/m}^2$  (approx. 70  $\mu\text{m}$  in mean value)
- For lightning protection, earthing systems and ring equipotential bonding

### Stainless steel flat conductor

VA VA  
TESTED

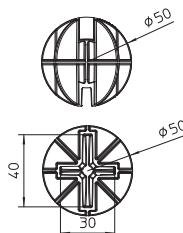


Type	Dim. B mm	Dim. H mm	Cross-section mm²	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
5052 V2A 30X3.5	30	3.5	105	42	50	82.500	5018501
5052 V4A 30X3.5	30	3.5	105	42	50	82.425	5018706
5052 V4 A 30X3.5	30	3.5	105	21	25	82.425	5018730

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)
- According to the foundation earth electrode 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

PE



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
ProtectionBall	RD 8-10/ FL 25/30/40	25	2.050	5018014

- For snapping onto round conductors or flat conductors
- Noticeable, reflective label
- For accident protection during the construction phase



Type	Pack PU	Weight kg/100 PUs	Item no.
PCS	1	5.000	5091438

Peak Current Sensor (PCS) card for recording pulsed/lightning currents. A continuous check of whether lightning has struck the lightning protection system and how high the most recent lightning current was in kA can thus be carried out in the simplest manner by the system operator, specialist lightning protection company or by a surveyor. Here, the printed maintenance circuit and the labelling panels support the maintenance work of the entire lightning protection system which must be performed at defined intervals according to VDE 0185-305-3 (IEC/EN 62305-3).

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

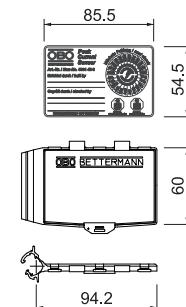


## Magnetic card and holder MK-B

Type	Pack PU	Weight kg/100 PUs	Item no.
MK-B	1	31.000	5091322

PCS magnetic card to record pulsed/lightning currents including holder

- Holder can be leaded
- For mounting on round conductor Rd 8-10
- Simple holder mounting through clamping
- 1 PU = 10 units

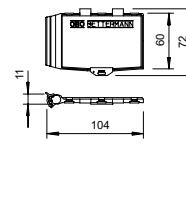


## Magnetic card holder PCS-H

Type	Pack PU	Weight kg/100 PUs	Item no.
PCS-H	1	31.000	5091527

Magnetic card holder for mounting PCS cards.

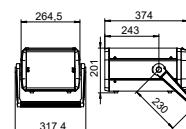
- Sealable holder
- For installing on round conductor Rd 8-10
- Simple holder installation by means of clamp
- 1 PU = 10 pieces



Type	Country version	Nom. V	Measuring range	Measuring tolerances	Pack Piece	Weight kg/100 pc.	Item no.
PCS-CS-D	EN	230	3..120 kA	<2 kA (<2%)	1	750.000	5091683

Magnetic card reader for reading and analysing PCS cards.

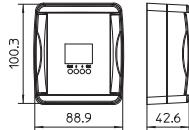
- Inc. rechargeable battery for 4 h continuous, no-mains operation
- Large, clear display



## Card reader PCS-CS..



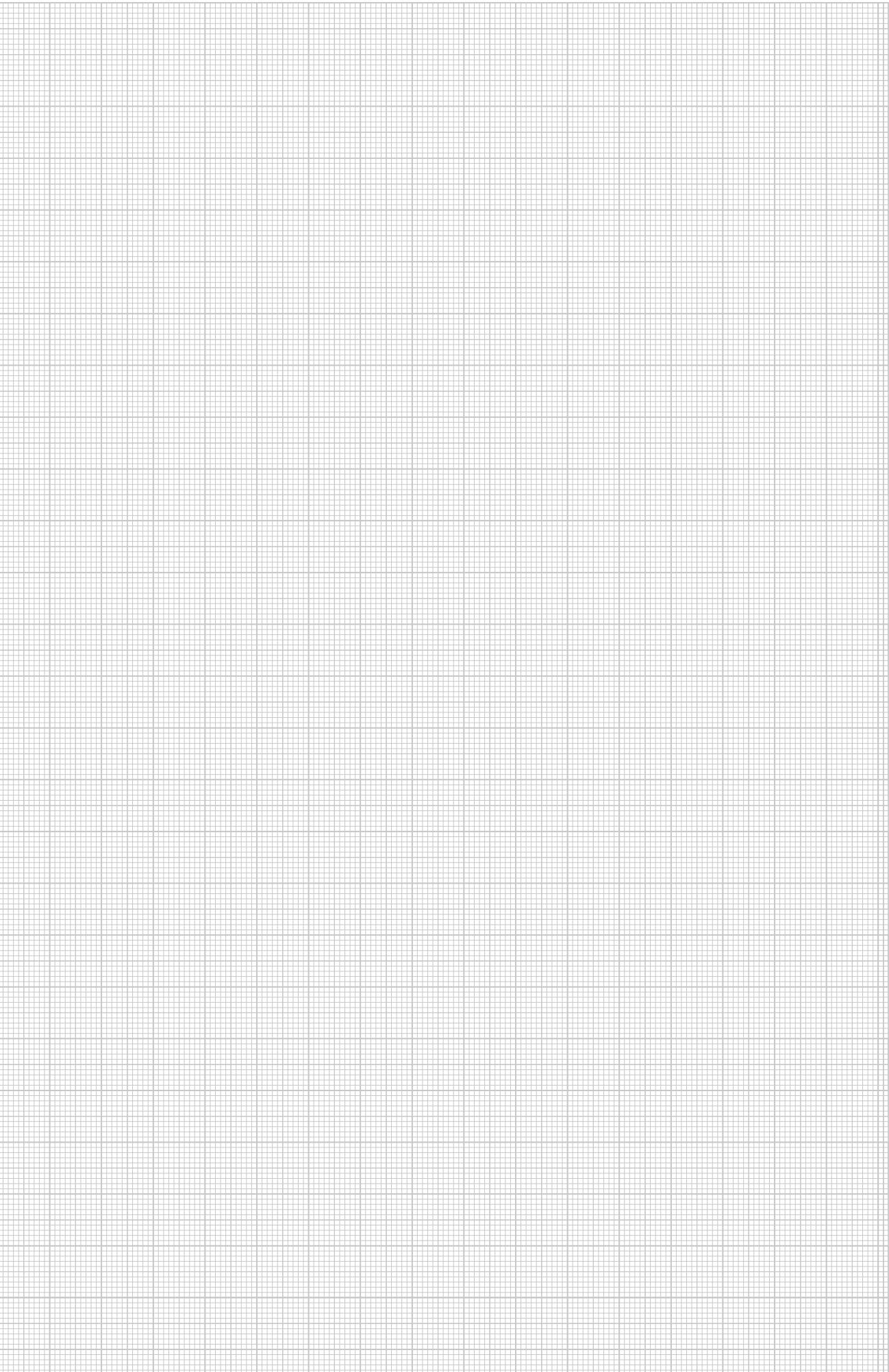
## Lightning strike and surge counter

IP  
65  
TESTED

Type	Measuring range	Pack	Weight	Item no.
LSC I+II	1 kA-100 kA	1	32.500	5091722

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 protective device
- Long lifespan of the internal lithium batteries
- LCD display
- Internal battery
- Tested according to VDE 0185-561-6 (IEC 62561-6)

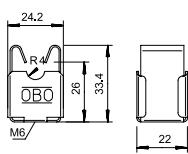




## Screwless cable brackets

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

VA

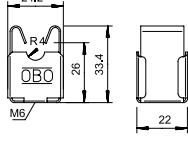


Type	Installation		Pack	Weight	Item no.
	Fit	height			
177 20 VA M8	Rd 8	20	20	1.838	5207347

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

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

VA

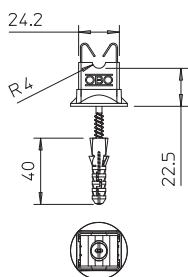


Type	Installation		Pack	Weight	Item no.
	Fit	height			
177 20 VA M6	Rd 8	20	20	2.500	5207339

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

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

VA

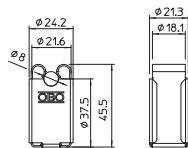


Type	Installation		Pack	Weight	Item no.
	Fit	height			
177 20 VA B-HD	Rd 8	20	50	2.900	5207901

- 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)

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

VA



Type	Installation		Pack	Weight	Item no.
	Fit	height			
177 35 VA M6	Rd 8	35	20	2.680	5207342

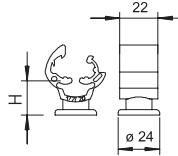
- With female thread M6 or through hole Ø 5 mm
- From stainless steel (V2A)

PA

**Cable bracket Rd 8–10 mm, copper-plated**

Type	Fit mm	height mm	Pack Piece	Weight kg/100 pc.	Item no.
177 30 CU	Rd 8-10	30	10	0.784	5207754

- With female thread M8 for screwing and through hole for wood screws
- Colour: copper
- Weather and temperature-resistant from -35 °C to +90 °C

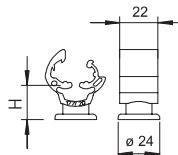


PA

**Cable bracket Rd 8–10 mm with pre-mounted wood screw**

Type	Fit mm	height mm	Pack Piece	Weight kg/100 pc.	Item no.
177 B-HD20	Rd 8-10	20	50	1.930	5207851
177 B-HD30	Rd 8-10	30	50	1.503	5207878

- 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)

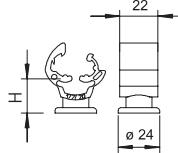


PA

**Cable bracket Rd 8–10 mm**

Type	Fit mm	height mm	Pack Piece	Weight kg/100 pc.	Item no.
177 20 M8	Rd 8-10	20	20	0.723	5207444
177 30 M8	Rd 8-10	30	20	0.790	5207460
177 55 M8	Rd 8-10	55	20	1.007	5207487

- With female thread M8 or through hole Ø 7 mm
- Weather and temperature-resistant from -35 °C to +90 °C

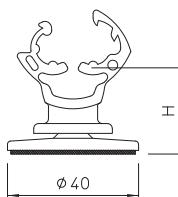


PA

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

Type	Dim. H mm	Pack Piece	Weight kg/100 pc.	Item no.
177 20 KL	25	50	1.239	5207451

- 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
- When installing flat conductors and round conductors, expansion elements are to be used for thermal compensation
- Use on film roofs after consultation with the responsible roof construction company

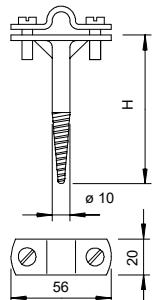




## Cable bracket with crossbar

### Cable bracket Rd 8–10 mm, with wood screw thread

TG F

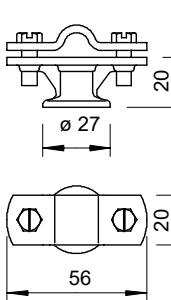


Type	Fit mm	H mm	Dim.		
			Pack Piece	Weight kg/100 pc.	Item no.
176 A 65	Rd 8-10	65	50	9.536	5227070
176 A 80	Rd 8-10	80	50	10.025	5227089
176 A 100	Rd 8-10	100	50	11.500	5227100
176 A 150	Rd 8-10	150	20	13.100	5227151

- Also for flat conductor to FL 30
- With wood screw thread
- Bottom section, hot-dip galvanised cast iron
- Over-piece and screws, hot dipped galvanised steel

### Cable bracket Rd 8–10 mm with wood screw, plastic anchor

Zn Cu

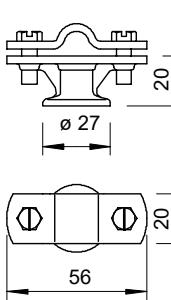


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 B-MS-HD 8-10	Rd 8-10	100	7.280	5230365

- 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 Rd 8–10 mm with wood screw, plastic anchor

Zn

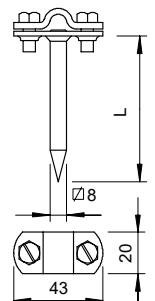


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 B-Z-HD	Rd 8-10	100	6.580	5230322

- 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 Rd 8–10 mm, with square pin, copper-plated

Cu



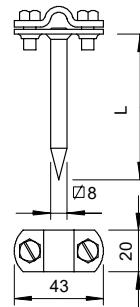
Type	Fit mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
163 100 CU	Rd 8-10	100	10	10.840	5223601

- Complete with crossbar and hexagonal bolts
- With square pin for rapid mounting
- With hexagonal bolts made of VA

St FT

Type	Fit mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
163 70 FT	Rd 8-10	70	50	8.476	5223075
163 100 FT	Rd 8-10	100	50	10.056	5223105

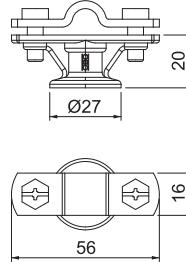
- Complete with crossbar and hexagonal bolts
- With square pin for rapid mounting
- With hexagonal bolts made of VA



Zn Cu

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 8-10	Rd 8-10	20	6.247	5230217

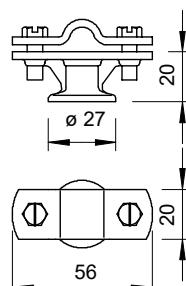
- With female thread M8 or through hole Ø 7 mm
- Over-piece installed with 2 hexagonal bolts



Zn G

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 Z8-10	Rd 8-10	20	5.956	5229960

- 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)

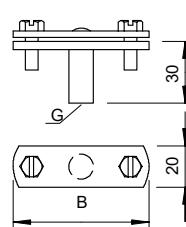


Zn G

Type	Dim. B mm	Fit mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
168 FL30-M6	56	FL 30	M6	20	7.640	5229464
168 DIN 30	56	FL 30	M8	20	6.570	5229480

- For flat strip
- With female thread (G)
- Installed height 30 mm

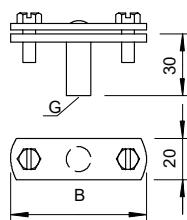
Cable bracket for flat conductors





## Cable bracket with crossbar

### Cable bracket for flat conductors

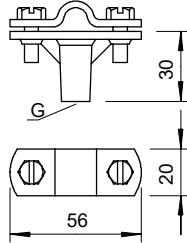
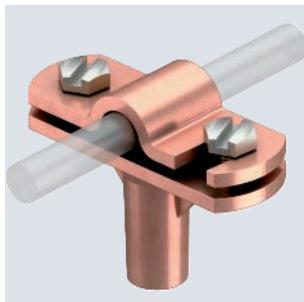


Type	B mm	Fit mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
168 FL40-M8	66	FL 40	M8	20	8.200	5229553

- For flat strip
- With female thread (G)
- Installed height 30 mm

## Cable bracket with hinged crossbar

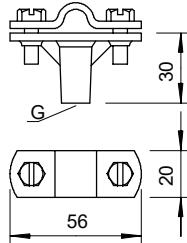
### Cable bracket with hinged crossbar



Type	Fit mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
168 DIN-K-M8	Rd 8-10	M8	20	8.440	5229383

- With female thread (G)
- With over-piece and 2 hexagonal bolts
- Installed height 30 mm

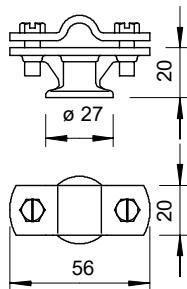
## Cable bracket Rd 8–10 mm, 30 mm mounting height



Type	Fit mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
168 8-10 M6	Rd 8-10	M6	20	7.800	5229162
168 DIN-K-M8	Rd 8-10	M8	20	7.780	5229839

- With female thread (G)
- With over-piece and 2 hexagonal bolts
- Installed height 30 mm

## Cable bracket with hinged crossbar Rd 8–10 mm



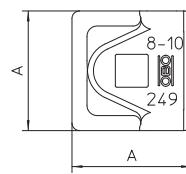
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 Z-K 8-10	Rd 8-10	20	6.202	5229961

- With female thread M8 or through hole Ø 7 mm
- Hinge crossbar for quick swivel mounting
- Crossbar mounted with 2 hexagonal bolts

**Cu****Quick connector, upper part Rd 8–10 mm**

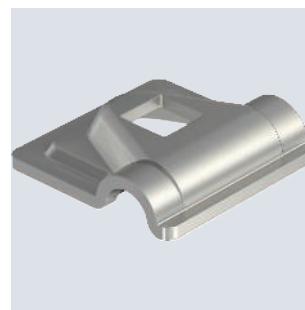
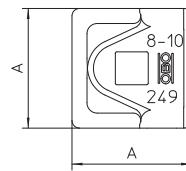
Type	Fit	Dim.	Pack	Weight	Item no.
	mm	mm	Piece	kg/100 pc.	
249 8-10 CU-OT	Rd 8-10	40	100	3.580	5311530

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

**VA****Quick connector, upper part Rd 8–10 mm**

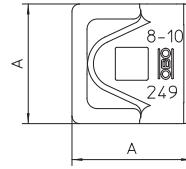
Type	Fit	Dim.	Pack	Weight	Item no.
	mm	mm	Piece	kg/100 pc.	
249 8-10 VA-OT	Rd 8-10	40	100	3.130	5311554

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

**Alu****Quick connector, upper part Rd 8–10 mm**

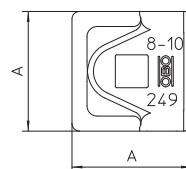
Type	Fit	Dim.	Pack	Weight	Item no.
	mm	mm	Piece	kg/100 pc.	
249 8-10 ALU-OT	Rd 8-10	44	100	2.100	5311585

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

**St FT****Quick connector, upper part Rd 8–10 mm**

Type	Fit	Dim.	Pack	Weight	Item no.
	mm	mm	Piece	kg/100 pc.	
249 8-10 ST-OT	Rd 8-10	40	100	3.240	5311503

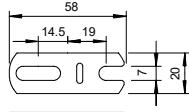
- For round conductor fastening RD 8-10
- Suitable for M10 bolts



## Hinge crossbar

### Cable bracket, upper part for FL 30 mm

St FT



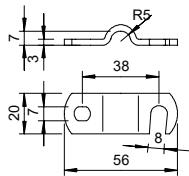
Fit  
Type mm  
**156 FL** FL30

Pack Weight  
Piece kg/100 pc. **Item no.**  
50 2.460 **5228328**

- With slot for quick installation

### Cable bracket, upper part for Rd 8–10 mm

St FT



Fit  
Type mm  
**156 8-10** Rd 8-10

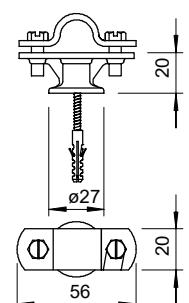
Pack Weight  
Piece kg/100 pc. **Item no.**  
100 2.680 **5228026**

- With open slot for quick installation

## Holder for interception and ground insertion rods

### Rod holder, 16 mm, with screw and anchor

Zn Cu



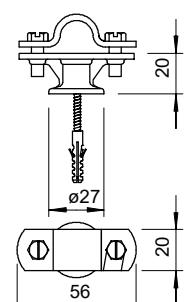
Fit  
Type mm  
**113 B-HD-16** Rd 16

Pack Weight  
Piece kg/100 pc. **Item no.**  
100 10.100 **5412811**

- For lightning and ground insertion rods Rd 16
- Installed with over-piece and hexagonal bolts M6 x 16 (VA)
- Female thread M8 for screwing and through hole for wood screws
- Pre-mounted with wood screw 5 x 60 and plastic dowels 8 x 40

### Rod holder, 16 mm, with screw and anchor

Zn



Fit  
Type mm  
**113 B-Z-HD** Rd 16

Pack Weight  
Piece kg/100 pc. **Item no.**  
100 6.000 **5412803**

- 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

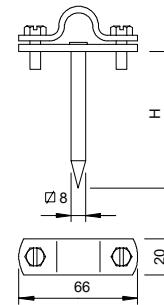
# Holder for interception and ground insertion rods

**St** **F**

Type	Fit mm	H mm	Dim.		Pack Piece	Weight kg/100 pc.	<b>Item no.</b>
			Pack 10	Weight 12.412			
<b>112 DIN-100</b>	Rd 16	100					<b>5410096</b>

- For lightning and ground insertion rods
- Over-piece with 2 hexagonal bolts M6 x 16 (VA)
- With square pin

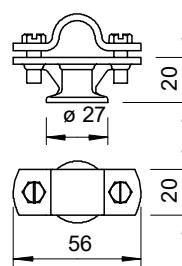
## Rod holder, 16 mm, with square pin



**Zn** **Cu**

Type	Fit mm	Pack		Weight kg/100 pc.	<b>Item no.</b>
		Piece	10		
<b>113 ZN-16</b>	Rd 16			10.100	<b>5412633</b>

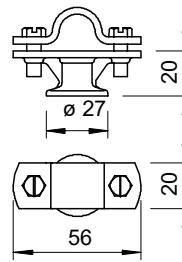
- For lightning and ground insertion rods Rd 16
- Installed with over-piece and hex-head screws M6 x 16
- With female thread M8 or through hole Ø 7 mm



**Zn**

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

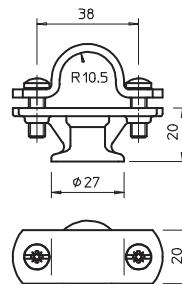
- For lightning and ground insertion rods Rd 16
- Installed with over-piece and hex-head screws M6 x 16
- With female thread M8 or through hole Ø 7 mm



**Zn**

Type	Fit mm	Pack		Weight kg/100 pc.	<b>Item no.</b>
		Piece	20		
<b>113 Z-20</b>	Rd 20			8.200	<b>5230527</b>

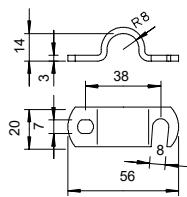
- Installed with over-piece and hex-head screws M6 x 16
- With female thread M8 or through hole Ø 7 mm



## Crossbar

St FT

### Cable bracket, round conductors and air-termination rods 16 mm

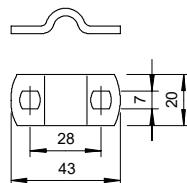
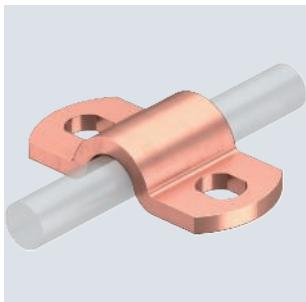


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 16	Rd 16	50	3.230	5228220

- With open slot for quick installation

### Cable bracket, upper part for Rd 8–10 mm, copper

Cu

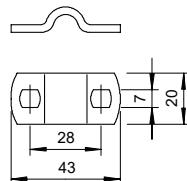
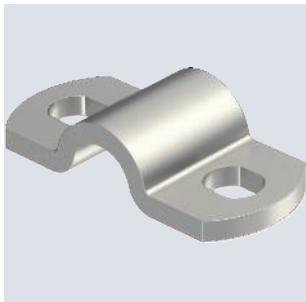


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 K8-10 CU	Rd 8-10	100	2.260	5228131

- For Rd 8–10 mm

### Cable bracket, upper part for Rd 8–10 mm, stainless steel

VA

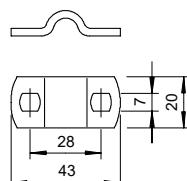


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 K8-10 VA	Rd 8-10	100	2.100	5228134

- For Rd 8–10 mm

### Cable bracket, upper part for Rd 8–10 mm, steel

St FT



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 K8-10 ST	Rd 8-10	100	2.000	5228123

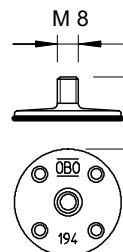
- For Rd 8–10 mm

PA

**Bonding base including industrial bonding pad**

Type	Colour	Thread	Pack	Weight	Item no.
194 K	Grey	M8	20	0.600	5207266

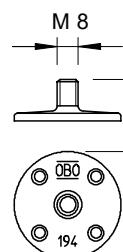
- With threaded stem M8
- For mounting cable supports with M8 female thread
- For bonding to concrete, steel or smooth substrates
- Not suitable for rough surfaces such as plaster, wood, bitumen strips
- Processing at > +15 °C and on cleaned substrate
- When installing flat conductors and round conductors, expansion elements are to be used for thermal compensation
- Use on film roofs after consultation with the responsible roof construction company



PA

Type	Colour	Thread	Pack	Weight	Item no.
194	Grey	M8	100	0.389	5207258

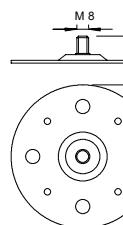
- With threaded stem M8
- For mounting cable supports with M8 female thread
- For bonding to concrete, steel or brickwork
- When installing flat conductors and round conductors, expansion elements are to be used for thermal compensation



St FS

Type	Thread	Pack	Weight	Item no.
199 DIN	M8	10	14.200	5208017

- With threaded pin M8
- Suitable for direct bonding
- Threaded pin brass and base plate hot-dip galvanised steel

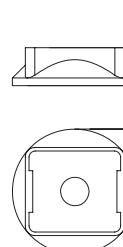


PP

**Washer for cable bracket, type 177**

Type	Colour	Pack	Weight	Item no.
177 U	Light grey	20	0.286	5207371

- For simple wall installation
- UV-resistant

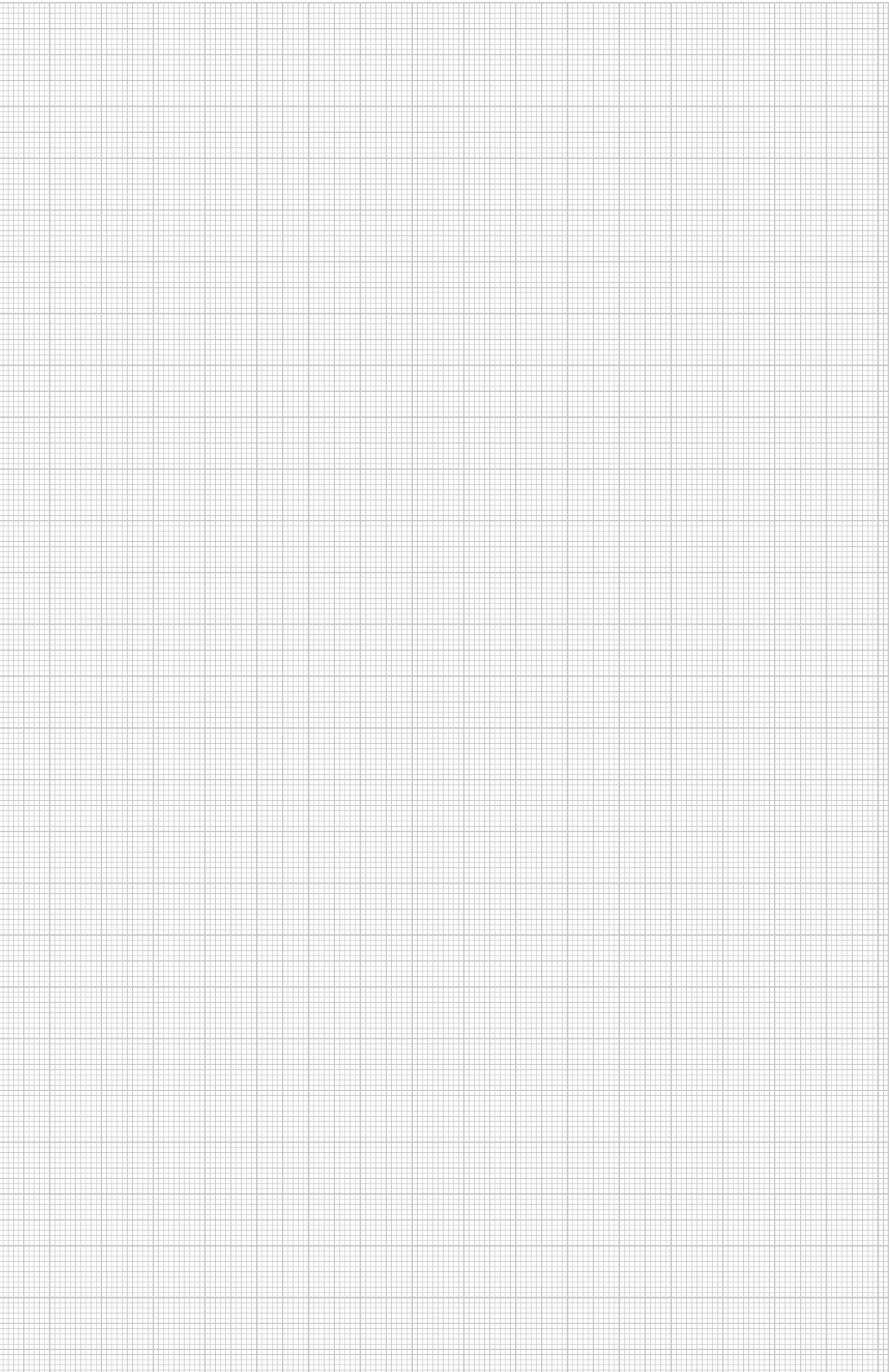


## Hard foam plate anchor



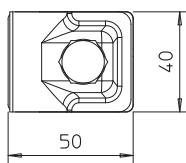
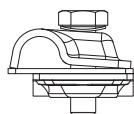
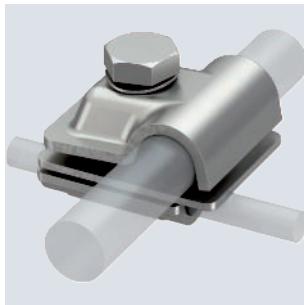
Type	Dowel Length mm	Wood Ø mm	Screws Ø mm	Break load kN	Pack Piece	Weight kg/100 pc.	Item no.
177 WDVS 64x25 B	63.5	9	4-5	0.05	50	0.658	5207375

Anchor for universal light-duty fastening in plastered composite heat insulation systems (WDVS). The self-tapping point makes pre-drilling superfluous.



## Connector

### Vario quick connector Rd 8-10x16

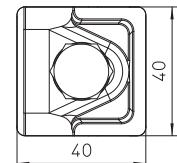
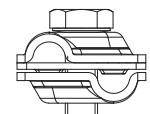
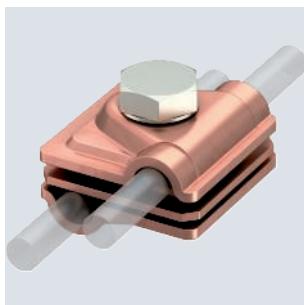


Type	Fit mm	Dim. A mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10X16 VA	8-10x16	40	H/100	10	14.958	5311590

- For T, intersection and parallel connections with adapter plates
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel
- With sprung washer to DIN 137
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)



### Variable earthing connector Rd 6-8 / 8-10 mm

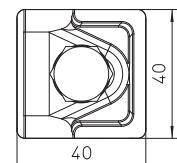
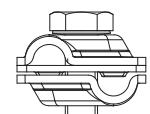


Type	Fit mm	Dim. A mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
249 6-10 CU	RD 68/8-10	40	H/100	10	14.540	5311417

- For T, cross-over and parallel connections with adapter plates
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel A2
- With sprung washer to DIN 137
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)



### Variable earthing connector Rd 6-8 / 8-10 mm

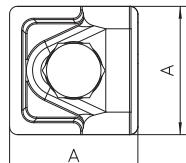


Type	Fit mm	Dim. A mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
249 6-10 ST	RD 68/8-10	40	H/100	20	13.100	5311410

- For T, intersection and parallel connections with adapter plates
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel
- With sprung washer to DIN 137
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)



### Variable bi-metal quick connector



Type	Fit mm	Dim. A mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.	
249 8-10 ZV	Rd 8-10	44	H/100	Cu	10	14.220	5311535

- Intermediate plate, copper/aluminium, top section copper and aluminium
- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- With spring washer according to DIN 137
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

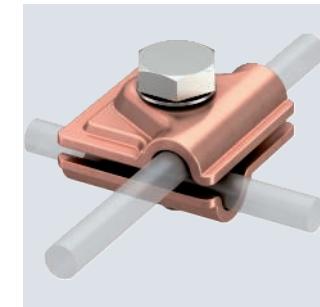
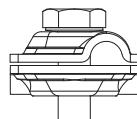


Cu



Type	Fit mm	A mm	Dim. kA	Lightning current carrying capacity	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 CU	Rd 8-10	40	H/100		10	11.900	5311527

- 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)

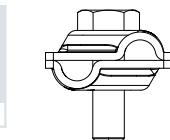


VA



Type	Fit mm	A mm	Dim. kA	Lightning current carrying capacity	Short-circuit current (50 Hz)	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 V4A	Rd 8-10	H/100		1.4	1 s; < 300 °C	10	9.500	5311404

- For T, cross-over and parallel connections
- Complete component made of A4
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel
- Meets the requirements of VDE 0185-305 (IEC 62305)

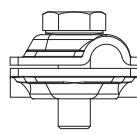


VA



Type	Fit mm	A mm	Dim. kA	Lightning current carrying capacity	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 VA	Rd 8-10	40	H/100		10	9.276	5311551

- 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)

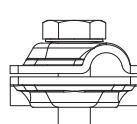


Alu



Type	Fit mm	A mm	Dim. kA	Lightning current carrying capacity	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 ALU	Rd 8-10	44	H/100		30	6.600	5311519
249 B ALU	Rd 8-10	44	H/100		100	7.250	5311713

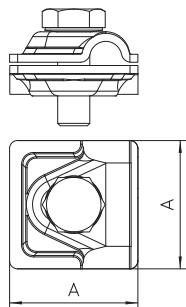
- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



# Connector

## Vario quick connector

St FT  
TESTED

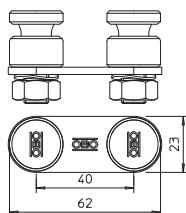


Type	Fit mm	A mm	Dim. current (50 Hz) kA	Short-circuit current (1 s; <=300 °C)	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
				(1 s; <=300 °C)				
249 8-10 ST	Rd 8-10	40	5.6		H/100	20	9.306	5311500
249 B ST	Rd 8-10	40	5.6		H/100	100	10.800	5311705

- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

## Connector, Rd 8–10 mm, double, with pressure trough

VA  
TESTED

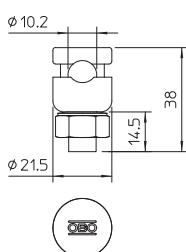


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5002 N-VA	Rd 8-10	N/50	10	16.200	5304270

- With 2 Fix contact clamping screws, nuts and serrated washers
- With pre-mounted pressure trough made of VA
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

## Connector, Rd 8–10 mm with pressure trough

Cu  
TESTED

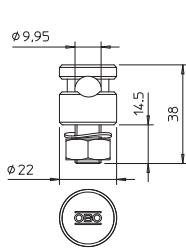


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5001 N-CU	Rd 8-10	H/100	10	6.750	5304172

- With 1 fix contact clamping screw, nut and serrated washer
- Including pre-mounted pressure sump, steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

## Connector, Rd 8–10 mm with pressure trough

VA  
TESTED



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5001 N-VA	Rd 8-10	N/50	10	6.800	5304176

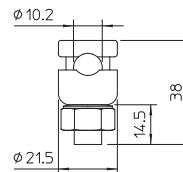
- With 1 fix contact clamping screw, nut and serrated washer
- Including pre-mounted pressure sump, steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



## Connector, Rd 8–10 mm with pressure trough

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5001 N-FT	Rd 8-10	N/50	20	5.900	5304164

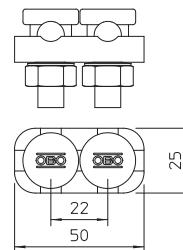
- With 1 fix contact clamping screw, nut and serrated washer
- Including pre-mounted pressure sump, steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



## Connector Rd 8–10 mm, double

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5002 DIN-FT	Rd 8-10	H/100	20	14.240	5304202

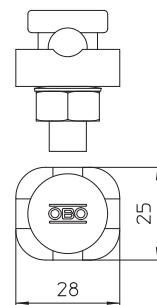
- With 2 fix contact clamping screws, nut and serrated washer
- Including pre-mounted connecting pressure piece, die-cast zinc or copper-plated die-cast zinc
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



## Connector Rd 8–10 mm, single, copper

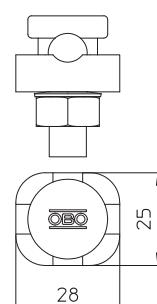
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5001 ZN-CU	Rd 8-10	H/100	10	8.760	5304113

- With fix contact clamping screw, nut and serrated washer
- With bore hole 10.2 mm
- With pre-mounted pressure piece, die-cast zinc
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5001 DIN-FT	Rd 8-10	H/100	20	7.450	5304105
5001 DIN-FT+VA	Rd 8-10	N/50	20	7.450	5304107

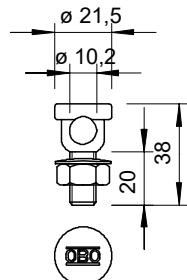
- With fix contact clamping screw, nut and serrated washer
- With bore hole 10.2 mm
- With pre-mounted pressure piece, die-cast zinc
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



## Connector

### Connector, Rd 8–10 mm with M10 thread

St F



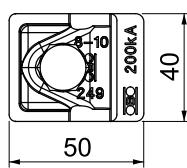
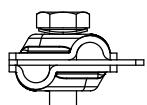
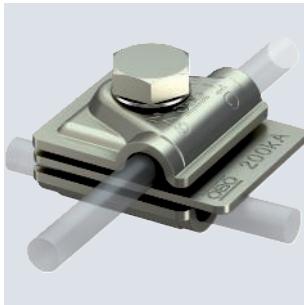
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
5000	Rd 8-10	20	4.630	5304008

- With bore hole 10.2 mm
- With thread M10
- Including pre-mounted nut M10 and serrated washer
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



### Vario quick connector 200 kA

VA  
TESTED



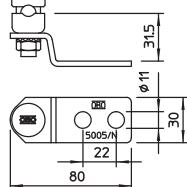
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 V2A 200	Rd 8-10	H2/200	10	12.374	5311595

- For T, intersection and parallel connections
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel
- Meets the requirements of VDE 0185-305 (IEC 62305)
- Tested according to VDE 0185-561-1 (IEC/EN 62561-1) with 200 kA
- For use in lightning protection class I with the isCom® Premium conductor

## Connection and end pieces

### Connection and end piece with connector and pressure trough

St FT  
TESTED



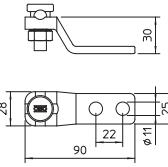
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
5005 N-FT	Rd 8-10	10	11.600	5304660

- With 2 attaching holes Ø 11 mm
- Including pre-mounted connector 5001 N
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



Type	Fit mm	Material	Pack Piece	Weight kg/100 pc.	Item no.
5005 DIN-FT	Rd 8-10	St	10	15.518	5304601

- With 2 attaching holes and 1 fix contact clamping screw 5000...
- With 2 attaching holes Ø 11 mm
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



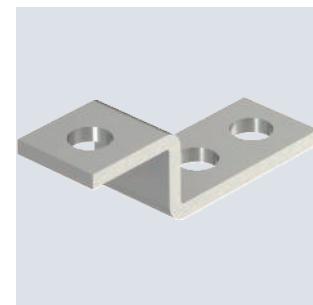
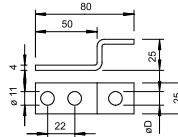
Conductor material



VA

Type	Dim. D Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
5011 VA M10	11	10	7.064	5334934
5011 VA M12	13	10	7.048	5334942

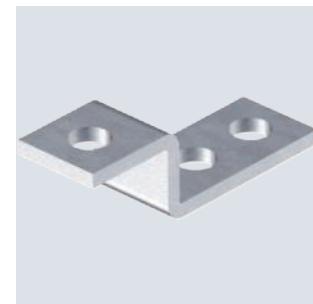
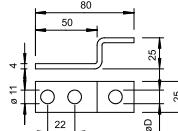
- For attaching to steel structures or bolting to fixed earthing terminals
- For attachments: Round conductor Rd 8-10 and flat conductor FL 30 x 3.5
- 2 attaching holes Ø 11 mm
- 1 attaching hole Ø D mm



St FT

Type	Dim. D Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
5011	11	10	7.064	5304997

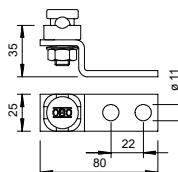
- For attaching to steel structures or bolting to fixed earthing terminals
- For attachments: Round conductor Rd 8-10 and flat conductor FL 30 x 3.5
- 2 attaching holes Ø 11 mm
- 1 attaching hole Ø D mm



St F

Type	Fit mm	Material	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5009	Rd 8-10	St	H/100	10	14.500	5304970

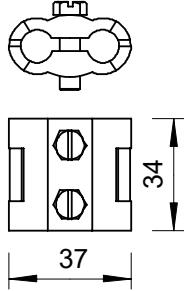
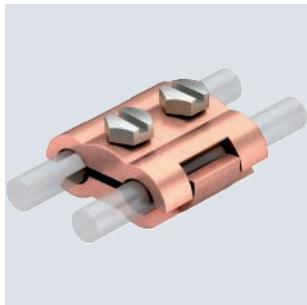
- With 2 attaching holes Ø 11 mm
- Installed with connector (single-piece) type 5001 DIN-FT
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



## Parallel connector

### Parallel connector Rd 6–10 mm, M6 x 20

CuZn  
37  

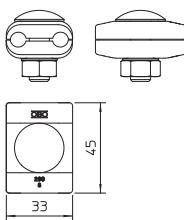



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
260 8-10 MS	Rd 6-10	N/50	50	15.820	5315654

- With 2 hexagonal bolts M6 x 20 made of stainless steel (V2A)

### Parallel connector Rd 8 mm, M10 x 30

Zn  
G  

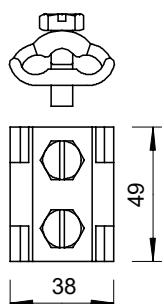



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
260 8	Rd 8	H/100	50	13.930	5315700

- With flat, round bolt M10 x 30 and hexagonal nut, hot-dip galvanised steel

### Parallel connector Rd 8–10 mm, M8 x 25

TG  
FT  

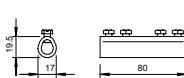



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
259 8-10	Rd 8-10	N/50	25	13.230	5315506

- With 2 hex-head bolts M8 x 25, hot-dip galvanised steel

### Straight connector Rd 6–10 mm

Cu  

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
237 N CU	Rd 6-10	H/100	10	8.760	5328284

- With 4 hexagonal bolts M6 x 12
- Complies with the requirements of VDE 0185-305-3 (IEC/EN 62305-3)



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
237 N FT	Rd 8-10	H/100	20	8.560	5328209

- With 4 hexagonal bolts M6 x 10
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

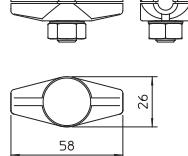
### Straight connector Rd 8-10 mm



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
239	Rd 8	N/50	20	12.510	5329078

- With truss-head bolt M10 x 30 and hexagonal nut M10
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

### Straight connector Rd 8 mm



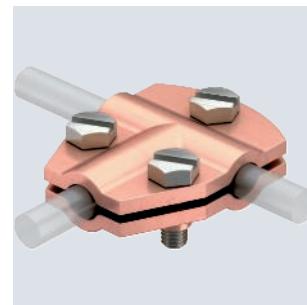
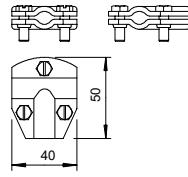
## T connector



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
247 8-10 CU	Rd 8-10	N/50	10	10.750	5311268

- With 3 hexagonal bolts M6 x 16 (VA)
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

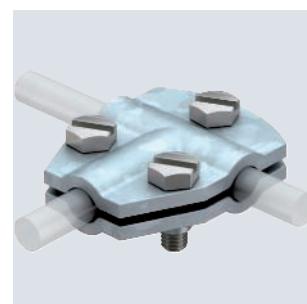
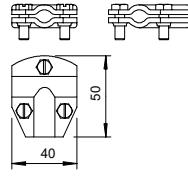
### T connector Rd 8-10 mm, triple-screwed



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
247 8-10 FT	Rd 8-10	N/50	10	10.934	5311209

- With 3 hexagonal bolts M6 x 16 (VA)

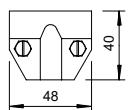
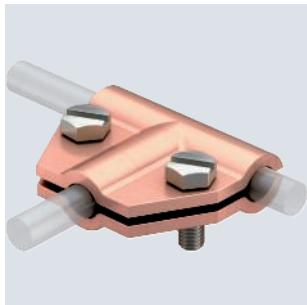
### T connector Rd 8-10 mm, triple-screwed



## T connector

### T connector Rd 8–10 mm

**Cu**  
TESTED

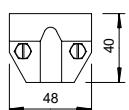


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
245 8-10 CU	Rd 8-10	N/50	10	11.560	5311152

- With 2 hexagonal bolts M6 x 16 (VA)
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

### T connector Rd 8–10 mm

**St** **FT**  
TESTED

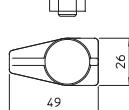


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
245 8-10 FT	Rd 8-10	N/50	10	9.401	5311101

- With 2 hexagonal bolts M6 x 16 (VA)
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

### T connector Rd 8 mm

**Zn** **G**  
TESTED



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
244	Rd 8	N/50	10	11.580	5311039

- With truss-head bolt M10 x 30 and hexagonal nut M10
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

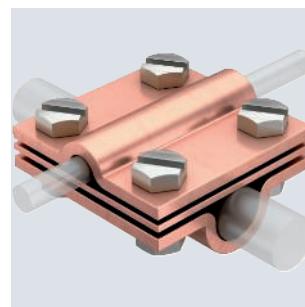
Cu



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

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10X16 CU	Rd 8-10 x 16	H/100	10	43.985	5312442

- 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 made of rust-proof stainless steel (A2)



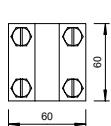
VA



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

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10x16 V4A	Rd 8-10 x 16	H/100	10	39.000	5312346

- 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



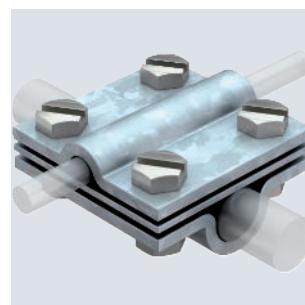
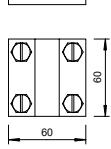
St FT



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

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10X16 FT	Rd 8-10 x 16	H/100	25	38.800	5312345

- 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



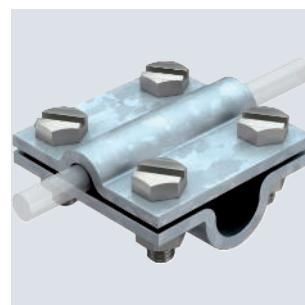
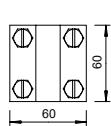
St FT



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

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
253 10X16	Rd 8-10 x 16	H/100	25	29.800	5312809

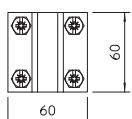
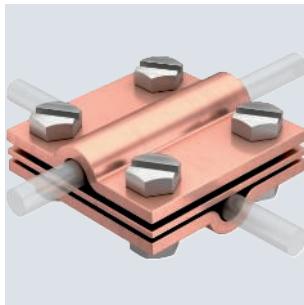
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8–10 x Rd 16 / FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)



## Cross-connectors

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

**Cu**  
TESTED

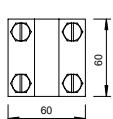
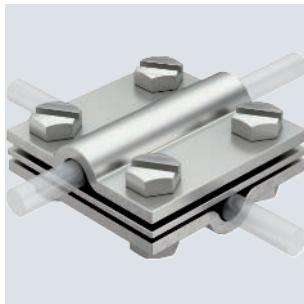


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10 CU	Rd 8-10	H/100	10	38.940	5312418

- 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 made of rust-proof stainless steel (A2)

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

**VA**  
TESTED

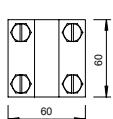
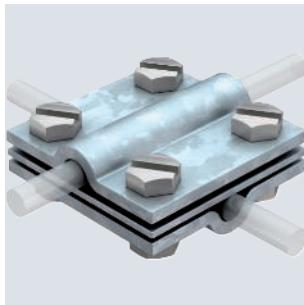


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10 V4A	Rd 8-10	H/100	10	33.530	5312318

- 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

**St** **FT**  
TESTED

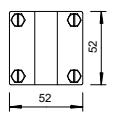
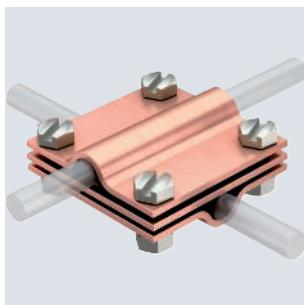


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10 FT	Rd 8-10	H/100	25	33.530	5312310

- 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

**Cu**  
TESTED



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
254 DIN 8-10 CU	Rd 8-10	H/100	10	17.410	5314135

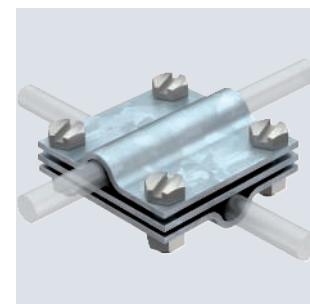
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10
- With adapter plate
- Mounted with 4 hexagonal bolts M6 x 20 and 4 hexagonal nuts M6 (F) made of rustproof steel (VA)



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

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
254 DIN 8-10 FT	Rd 8-10	H/100	25	16.660	5314038

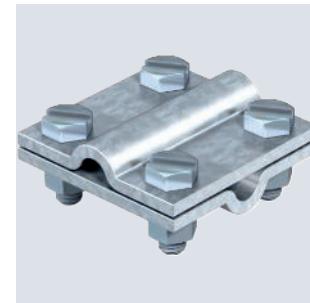
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- For round conductors, fit: Rd 8-10 x Rd 8-10
- With adapter plate
- Mounted with 4 hexagonal bolts M6 x 20 and 4 hexagonal nuts M6



## Cross-connector Rd 8–10 mm

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
253 8X8	Rd 8-10	H/100	25	30.700	5312604

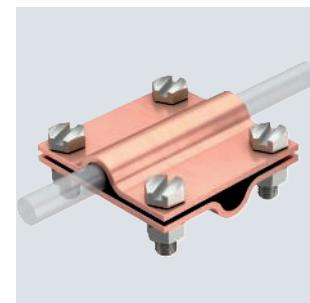
- Meets the requirements of VDE 0185-305-3 (IEC/EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10/FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)



## Cross-connector Rd 8–10 mm

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
251 CU	Rd 8-10	H/100	10	12.400	5312132

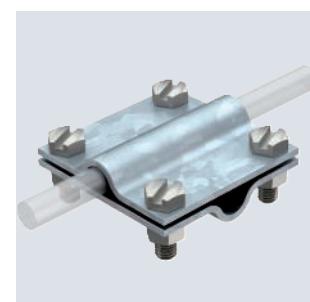
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10
- With 4 hexagonal bolts M6 x 16, made of rust-proof steel (VA)



## Cross-connector Rd 8–10 mm

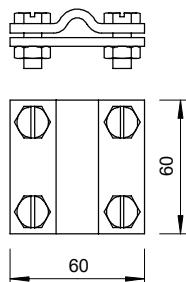
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
251 8-10	Rd 8-10	H/100	25	11.690	5312035

- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- For round conductors, fit: Rd 8-10 x Rd 8-10
- With 4 hexagonal bolts M6 x 16 (VA)



## Cross-connectors

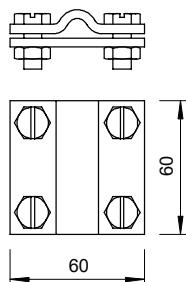
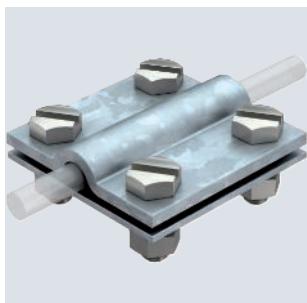
### Cross-connector for round conductors and flat conductors

VA  
TESTED

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10xFL30V4A	8-10xFL30	H/100	10	28.500	5312656

- 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

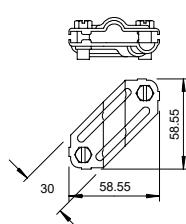
### Cross-connector for round and flat conductors

St FT  
TESTED

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10XFL30 FT	8-10xFL30	H/100	25	28.500	5312655

- 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

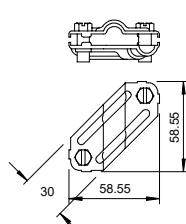
### Cross-connector for flat conductors and round conductors

VA VA  
TESTED

Type	Fit mm	Lightning current carrying capacity kA	Short-circuit current (50 Hz) (1 s;≤300 °C) kA	Pack Piece	Weight kg/100 pc.	Item no.
250 VA	Rd 8-10/ FL30	H/100	1.4	25	10.260	5312922
250 V4A	Rd 8-10/ FL30	H/100	1.4	10	10.260	5312925

- 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

St FT  
TESTED

Type	Fit mm	Lightning current carrying capacity kA	Short-circuit current (50 Hz) (1 s;≤300 °C) kA	Pack Piece	Weight kg/100 pc.	Item no.
250	Rd 8-10/ FL30	N/50	5.6	25	10.260	5312906

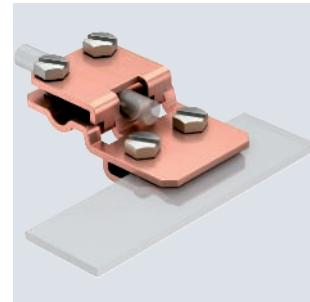
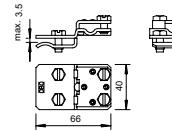
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10
- Fit: Rd 8-10 x FL 30
- Fit: FL 30 x FL 30
- Mounted with 2 hexagonal bolts M8 x 20 (F)



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

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
274 CU	Rd 8-10	max. 10	N/50	10	11.340	5317479

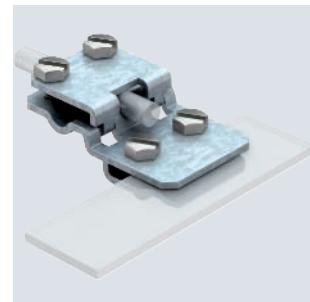
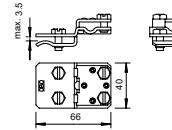
- Plate thickness to 10 mm
- For conductor routing transverse and longitudinal to plate
- 4 hexagonal bolts M6 x 16
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



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

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
274 8-10	Rd 8-10	max. 10	N/50	20	10.400	5317428

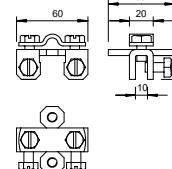
- Plate thickness to 10 mm
- For conductor routing transverse and longitudinal to plate
- 4 hexagonal bolts M6 x 16
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



## Folding clamp up to 10 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
273 8-10	Rd 8-10	max. 10	N/50	50	17.200	5317223

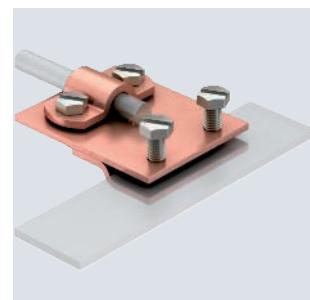
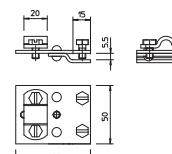
- Plate thickness to 10 mm
- Conductor routing transverse and longitudinal to plate with 2 hexagonal bolts M8 x 10 and 2 hexagonal bolts M8 x 16 (F)



## Folding clamp up to 5 mm plate thickness

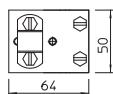
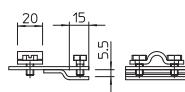
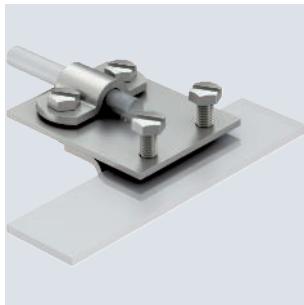
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
271 CU	Rd 8-10	max. 5	N/50	10	15.230	5317452

- 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)



## Saddle terminals

### Folding clamp up to 5 mm plate thickness

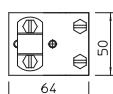
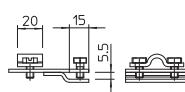


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
271 8-10 VA	Rd 8-10	max. 5	N/50	10	15.000	5317481

- 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

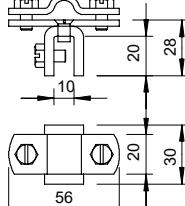
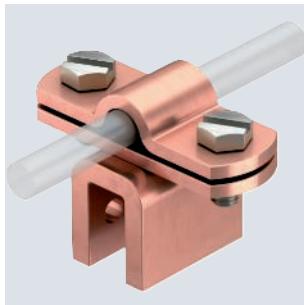


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
271 8-10	Rd 8-10	max. 5	N/50	20	14.060	5317401

- 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 Rd 8-10 up to 10 mm plate thickness

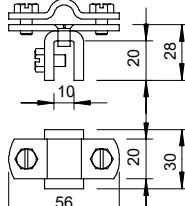


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
270 8-10 CU	Rd 8-10	max. 10	H/100	10	14.740	5317258

- 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 Piece	Weight kg/100 pc.	Item no.
270 8-10 VA	Rd 8-10	max. 10	N/50	10	13.800	5317208

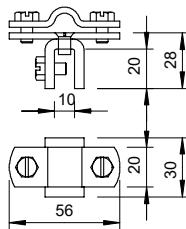
- Metal thickness to 10 mm
- For conductor routing transverse and in parallel to the plate
- Corresponds to the requirements to DIN V VDE V 0185-3 section 4.5



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

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
270 8-10 FT	Rd 8-10	max. 10	N/50	20	13.810	5317207

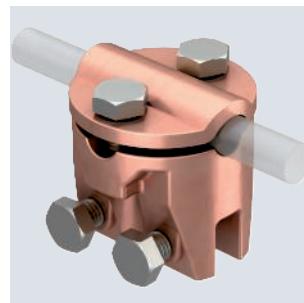
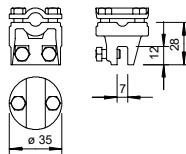
- Metal thickness to 10 mm
- For conductor routing transverse and in parallel to the plate
- Corresponds to the requirements to DIN V VDE V 0185-3 section 4.5



## Folding clamp up to 7 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
269 MS	Rd 8-10	max. 7	H/100	10	14.480	5317053

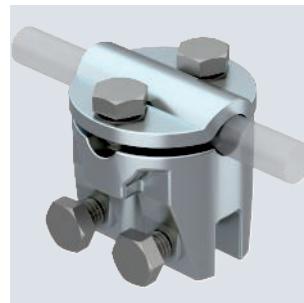
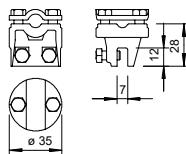
- Plate thickness to 7 mm
- For conductor arrangement transverse and parallel to plate with 4 hexagonal bolts M6 x 16
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



## Folding clamp up to 7 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
269 8-10	Rd 8-10	max. 7	N/50	20	14.460	5317010

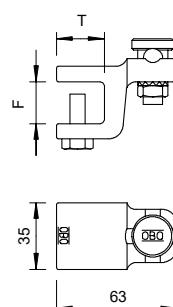
- Plate thickness to 7 mm
- For conductor arrangement transverse and parallel to plate with 4 hexagonal bolts M6 x 16
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



## Folding and construction clamp, 10–20 mm

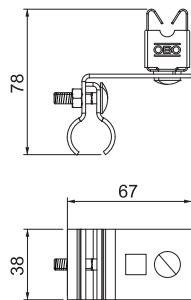
Type	Fit mm	Clamping range mm	Dim. T mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5004 DIN-FT 12	Rd 8-10	max. 12	20	N/50	10	18.730	5304407
5004 DIN-FT 20	Rd 8-10	10-20	25	N/50	10	30.600	5304504

- Flange thickness to 12 or 10–20 mm
- With pre-mounted Fix kontakt clamping screw 5000
- 2 hexagonal bolts M8 x 20, bolts 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



## Saddle terminals

### Folding and construction clamp

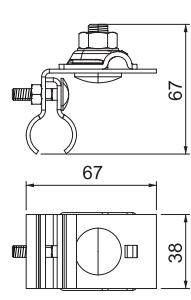


Type	Clamping		Pack Piece	Weight kg/100 pc.	Item no.
	Fit mm	range mm			
<b>RSF 177 20 VA M8</b>	8	8		50	13.400

- For round standing seam systems, loose cable routing
- Manufacturer release by Kalzip
- Tested according to VDE 0185-561-4 (IEC/EN 62561-4)



### Folding and construction clamp



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

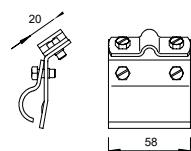
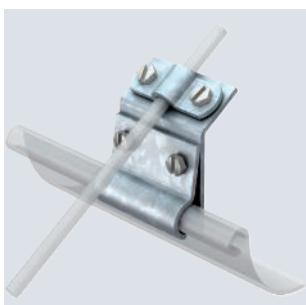
- For round standing seam systems, fixed cable routing
- Manufacturer release by Kalzip
- Tested according to VDE 0185-561-1 (IEC/EN 62561-1)



## Roof gutter clamps

### Gutter clamp for bead thickness 15–22 mm

St FT



Type	Fit		Pack Piece	Weight kg/100 pc.	Item no.
	mm	mm			
<b>262 A-DIN FT</b>	Rd 8-10			25	19.610

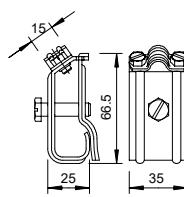
- Suitable for bulge thickness 15–22 mm
- With 4 hexagonal bolts M6 x 16 (VA)

VA

## Gutter clamp for all bead thicknesses

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
267 VA	Rd 8-10	10	11.360	5316324

- Fits all bead thicknesses
- With 1 hexagonal bolt M8 x 30
- 2 hexagonal bolts M6 x 12
- VA version also for use as bimetal conductor (holder)

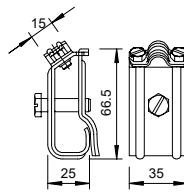


St FT

## Gutter clamp for all bead thicknesses

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
267	Rd 8-10	25	13.950	5316308

- Fits all bead thicknesses
- With 1 hexagonal bolt M8 x 30
- 2 hexagonal bolts M6 x 12



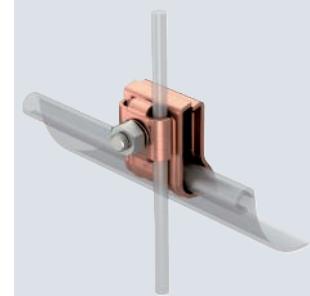
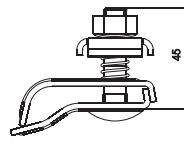
VA Cu



## Gutter clamp RK-FIX

Type	Fit mm	Lightning current carrying capacity kA	Material	Pack Piece	Weight kg/100 pc.	Item no.
RK-FIX CU	2xRd 8/2xRd 6	H/100	A2	10	21.000	5316468

- For up to 2 conductors Rd 6 or Rd 8
- Suitable for all bead thicknesses (15–25 mm)
- With 1 truss-head bolt M10 x 45
- Nut and bolt made of VA stainless steel
- With spring for prefixing on rain gutter
- Tested to VDE 0185-561-1 (IEC/EN 62561-1)

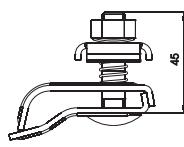


St FT

## Gutter clamp RK-FIX

Type	Fit mm	Lightning current carrying capacity kA	Material	Pack Piece	Weight kg/100 pc.	Item no.
RK-FIX	2xRd 8	H/100	St	25	19.100	5316450

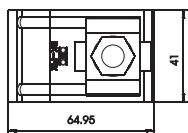
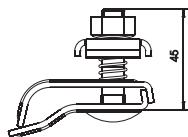
- For up to 2 round conductors Rd 8
- Suitable for all bead thicknesses (15–25 mm)
- With 1 truss-head bolt M10 x 45
- Nut and bolt made of VA stainless steel
- With spring for prefixing on rain gutter
- Tested to VDE 0185-561-1 (IEC/EN 62561-1)



## Roof gutter clamps

### Gutter clamp RK-FIX

Conductor material  
Copper



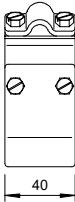
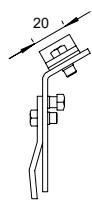
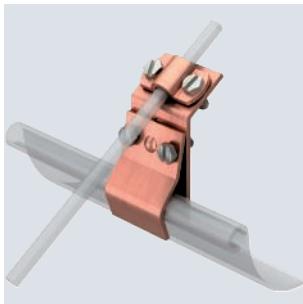
Type	Fit mm	Lightning current carrying capacity kA	Material	Pack Piece	Weight kg/100 pc.	Item no.
RK-FIX VA	2xRd 8/2xRd 6	H/100	A2	10	19.100	5316459

- For up to 2 round conductors Rd 6 or Rd 8
- Suitable for all bead thicknesses (15–25 mm)
- With 1 truss-head bolt M10 x 45
- Nut and bolt made of VA stainless steel
- With spring for prefixing on rain gutter
- Tested to VDE 0185-561-1 (IEC/EN 62561-1)

## Roof gutter clamps

### Roof gutter clamp for all bead thicknesses

Cu

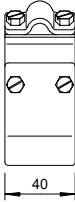
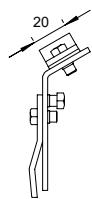
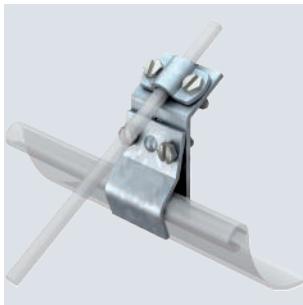


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
262 CU	Rd 8-10	10	20.940	5316154

- With 4 hexagonal bolts M6 x 16
- Fits all bead thicknesses

### Roof gutter clamp for all bead thicknesses

St FT



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
262	Rd 8-10	25	20.300	5316014

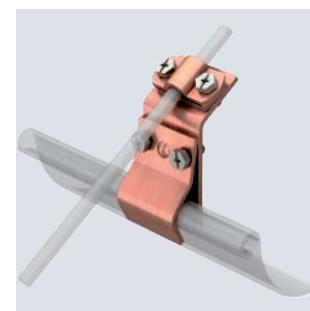
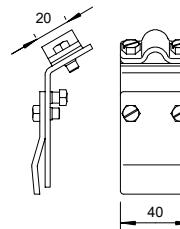
- With 4 hexagonal bolts M6 x 16
- Fits all bead thicknesses

St FT

## Bi-metal roof gutter clamp for all bead thicknesses

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
262 ZM	Rd 8-10	10	23.100	5316170

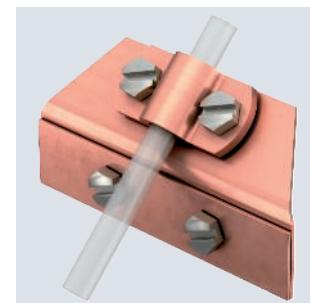
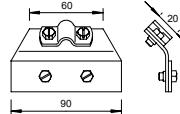
- Fits all bead thicknesses
- Bi-metal for attaching round conductors aluminium or steel to roof gutters without corrosion to different metals



Cu

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
264 CU	Rd 8-10	10	21.140	5316553

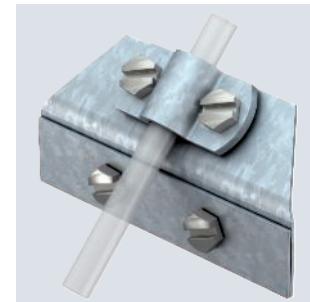
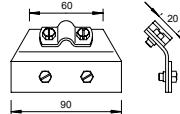
- Plate thickness to 8 mm
- With 4 hexagonal bolts M6 x 16



St F

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
264	Rd 8-10	25	18.640	5316510

- Plate thickness to 8 mm
- With 4 hexagonal bolts M6 x 16



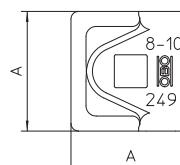
## Snow catching grate clamp

Cu

## Quick connector, upper part Rd 8–10 mm

Type	Fit mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 CU-OT	Rd 8-10	40	100	3.580	5311530

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

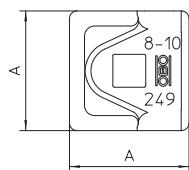




## Connection terminals

### Quick connector, upper part Rd 8–10 mm

VA

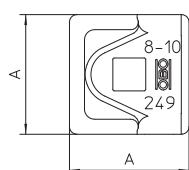


Type	Fit	Dim.		Pack	Weight	Item no.
		mm	mm			
249 8-10 VA-OT	Rd 8-10	40		100	3.130	5311554

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

### Quick connector, upper part Rd 8–10 mm

Alu

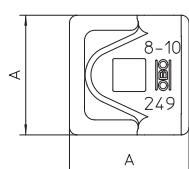


Type	Fit	Dim.		Pack	Weight	Item no.
		mm	mm			
249 8-10 ALU-OT	Rd 8-10	44		100	2.100	5311585

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

### Quick connector, upper part Rd 8–10 mm

St FT

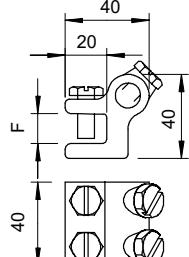


Type	Fit	Dim.		Pack	Weight	Item no.
		mm	mm			
249 8-10 ST-OT	Rd 8-10	40		100	3.240	5311503

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

### Connection terminal to 14 mm

TG FT



Type	Fit	Clamping range	Lightning current carrying capacity	Pack	Weight	Item no.
272 8	Rd 8-10	max. 8	N/50	20	22.800	5318084
272 14	Rd 8-10	max. 14	N/50	20	25.230	5318149

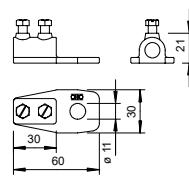
- Flange thickness to 8 and/or 14 mm
- With 4 hexagonal bolts M8
- Conforms to the requirements according to DIN V VDE V 0185-3, Section 4.5

## End pieces

Zn G

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
280 8-10	Rd 8-10	20	6.300	5320011

- With Ø 11 mm attaching hole
- 2 hexagonal bolts M6 x 12, bolts hot-dip galvanised steel or VA
- Clamping element from die-cast zinc or copper-plated die-cast zinc

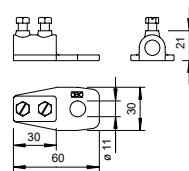


## End piece

Zn

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
280 VK	Rd 8-10	20	9.000	5320054

- With Ø 11 mm attaching hole
- 2 hexagonal bolts M6 x 12, bolts hot-dip galvanised steel or VA
- Clamping element from die-cast zinc or copper-plated die-cast zinc



## End piece

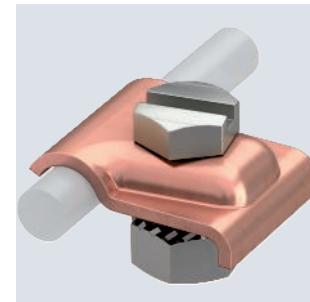
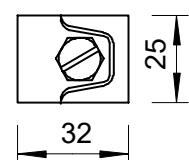
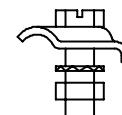
## Universal terminal blocks

Cu

### Universal clamping block Rd 8-10 mm

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
324 S-CU	Rd 8-10	10	3.660	5326338

- Including hexagonal bolt M8 x 25, washer and nuts

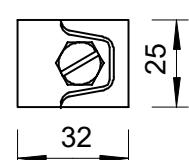
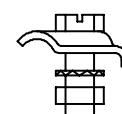


VA

### Universal clamping block Rd 8-10 mm

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
324 S-VA	Rd 8-10	10	3.400	5326311

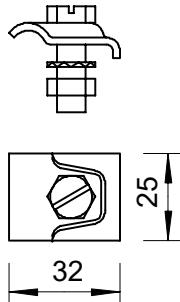
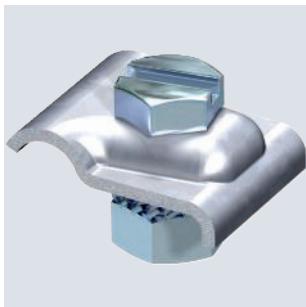
- Including hexagonal bolt M8 x 25, washer and nuts



# Universal terminal blocks

St FT

## Universal clamping block Rd 8–10 mm



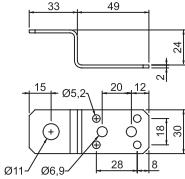
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
324 S-FT	Rd 8-10	20	3.400	5326303

- Including hexagonal bolt M8 x 25, washer and nuts

## Connection components

Alu

### Connection component

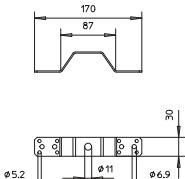


Type	Pack Piece	Weight kg/100 pc.	Item no.
287	20	1.600	5320704

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

### Connection and bridging component

Alu



Type	Pack Piece	Weight kg/100 pc.	Item no.
288 DIN	20	2.900	5320712

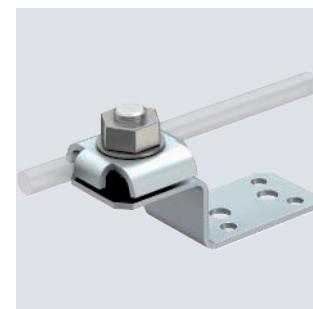
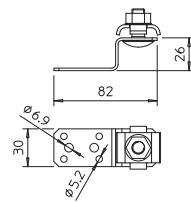
- With 1 attaching hole Ø 11 mm
- With 2 x 4 mounting holes Ø 5.2 mm
- With 2 x 2 mounting holes Ø 6.9 mm

Alu



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
287 DCT	8	N/50	10	6.450	5320707

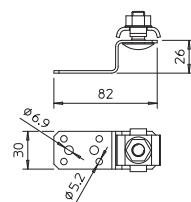
- Quick mounting thanks to an M10 x 30 bolt made of rustproof stainless steel
- With spring washer
- 4 fastening holes Ø 5.2 mm
- 2 fastening holes Ø 6.9 mm
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)



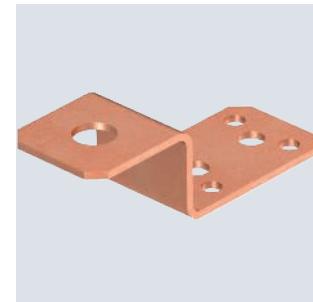
Cu

Type	Pack Piece	Weight kg/100 pc.	Item no.
287 CU	10	5.600	5320690

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



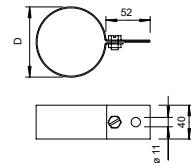
## Connection component



Cu

Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 CU-80	80	10	22.500	5350689
301 CU-100	100	10	26.230	5350700

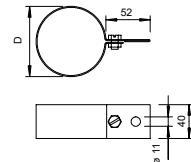
- With 1x hexagonal bolt M8 x 20
- With 1x hexagonal nut M8 and 1 serrated disc made of rustproof steel
- With connection hole Ø 11 mm



St FS

Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 DIN-80	80	10	19.580	5350085
301 DIN-90	90	10	21.880	5350093
301 DIN-100	100	10	19.880	5350107
301 DIN-110	110	10	24.920	5350115
301 DIN-120	120	10	26.240	5350123

- To connect conductors and downpipes
- Similar to DIN 48818 C
- Strip galvanised (rd. 275 g/m<sup>2</sup> = 40 µm average value)
- With 1x hexagonal bolt M8 x 20
- With 1x hexagonal nut M8 and 1 stainless steel serrated washer
- With connection hole Ø 11 mm



## Downpipe clip



## Downspout clips

### Downpipe clip for routing Rd 8–10 mm behind pipe

St FS



Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 S-100	100	10	5.200	5351057
301 S-120	120	10	5.950	5351073

- With beading
- For round conductor Rd 8-10
- Including hexagonal bolt M6 x 20 and nuts M6

### Downpipe clip for routing Rd 8–10 mm behind pipe

Alu



Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 S-AL-100	100	10	4.100	5351359
301 S-AL-120	120	10	4.600	5351375

- With beading
- For round conductor Rd 8-10
- Including hexagonal bolt M6 x 20 and nuts M6

### Downpipe clip for routing Rd 8–10 mm behind pipe

VA



Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 S-VA-100	100	10	5.200	5351251
301 S-VA-120	120	10	5.950	5351286

- With beading
- For round conductor Rd 8-10
- Including hexagonal bolt M6 x 20 and nuts M6

### Downpipe clip for routing Rd 8–10 mm behind pipe

Cu



Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 S-CU-100	100	10	5.850	5351456
301 S-CU-120	120	10	6.700	5351472

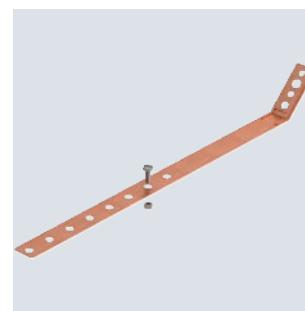
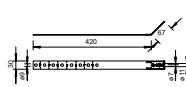
- With beading
- For round conductor Rd 8-10
- Including hexagonal bolt M6 x 20 and nuts M6

Cu

## Universal downpipe clip 60–130 mm

Type	Pack	Weight	Item no.
	Piece	kg/100 pc.	
301 V-CU	5	13.500	5350883

- Adjustable for pipes from 60–130 mm
- With 2x attaching holes Ø 7 mm
- With 1x attaching hole Ø 9 mm
- With 1x attaching hole Ø 11 mm
- Including hexagonal bolt M6 x 20 and nuts M6

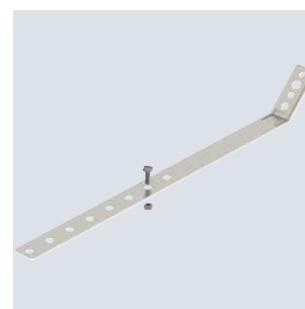
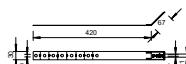


VA

## Universal downpipe clip 60–130 mm

Type	Pack	Weight	Item no.
	Piece	kg/100 pc.	
301 V-VA	5	11.800	5350905

- Adjustable for pipes from 60–130 mm
- With 2x attaching holes Ø 7 mm
- With 1x attaching hole Ø 9 mm
- With 1x attaching hole Ø 11 mm
- Including hexagonal bolt M6 x 20 and nuts M6



St FS

## Universal downpipe clip 60–130 mm

Type	Pack	Weight	Item no.
	Piece	kg/100 pc.	
301 V	5	11.900	5350867

- Adjustable for pipes from 60–130 mm
- With 2x attaching holes Ø 7 mm
- With 1x attaching hole Ø 9 mm
- With 1x attaching hole Ø 11 mm
- Including hexagonal bolt M6 x 20 and nuts M6



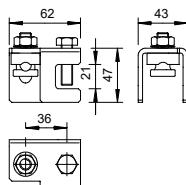
## Connection clamps and connection terminal accessories

St FT  
TESTED

## Construction clamp to 20 mm

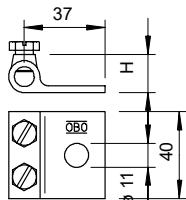
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack	Weight	Item no.
	Rd 8-10	4-20	N/50	Piece	kg/100 pc.	
5010 20 FT	Rd 8-10	4-20	N/50	10	30.600	5304520

- 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 clamps and connection terminal accessories

## Clamping shoe

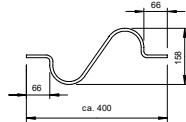


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
319 8	Rd 8	25	7.800	5325307
319 10	Rd 10	25	9.650	5325315

- With Ø 11 mm attaching hole
- 2 hexagonal bolts M8 x 16
- Bolts hot-dip galvanised steel and clamping element hot dipped galvanised cast steel

TG F

## Expansion piece



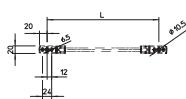
Type	Pack Piece	Weight kg/100 pc.	Item no.
172 AR	10	7.500	5218926

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

Alu



## Bridging cable



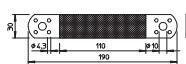
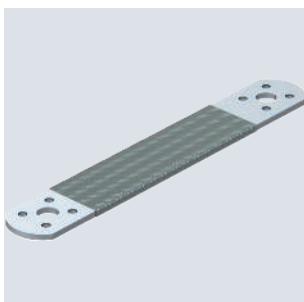
Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
853 200	200	10	4.840	5331008
853 300	300	10	7.260	5331013
853 400	400	10	9.680	5331017

- With aluminium cable lugs
- From flexible copper cable 16 mm<sup>2</sup>
- Coating: Black, chlorinated EM5 natural rubber mixture
- With 1 fastening hole Ø 10.5 mm per attachment side
- With 2 fastening holes Ø 6.5 mm per attachment side
- Suitable for applications outside or inside
- Temperature range -25 °C to +80 °C (moved) and -40 °C to +80 °C (not moved)
- UV-stable

Cu



## Connection and expansion strip



Type	Pack Piece	Weight kg/100 pc.	Item no.
856	10	8.125	5331501

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

Cu



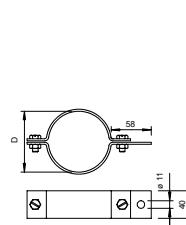
# Connection clamps and connection terminal accessories

St FT

Type	For pipe mm	For pipe inch	Pack Piece	Weight kg/100 pc.	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

- 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)

## Pipe clamp

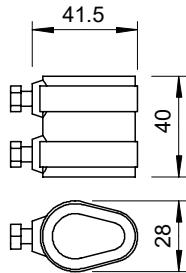


## Connection and separating terminals

Conductor material  
Copper

### Separating piece, open

Zn G  

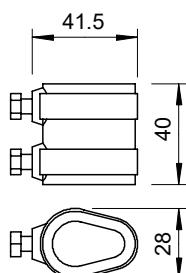



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
223 O DIN ZN   Rd 8-10/16		20	12.500	5335140

- With 2 hexagonal bolts, stainless steel (VA)
- Clamping element, die-cast zinc

### Separating piece, open

Zn Cu  

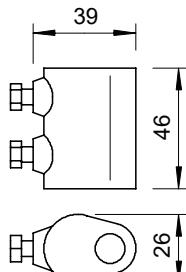
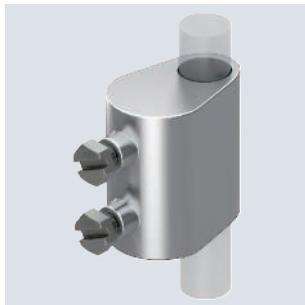



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
223 O DIN MS   Rd 8-10/16		20	14.900	5335167

- With 2 hexagonal bolts, stainless steel (VA)
- Clamping element, copper-plated die-cast zinc

### Separating piece, closed

Zn G  

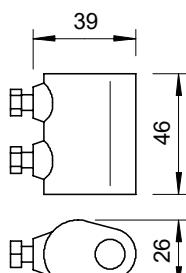
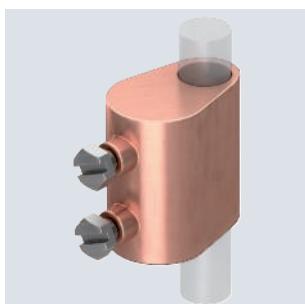



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
223 DIN ZN   Rd 8-10/16		20	12.406	5335205

- For fitting round conductors Rd 8-10 to ground insertion rods Rd 16
- Including 2 hexagonal bolts, high-grade stainless steel (V2A)
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

### Separating piece, closed

Zn Cu  

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
223 DIN MS   Rd 8-10/16		10	11.700	5335256

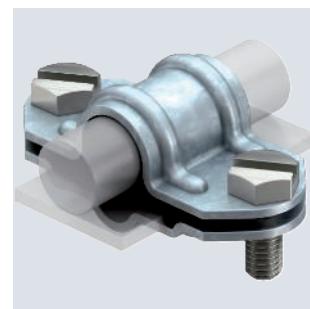
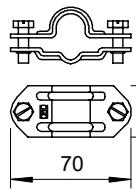
- For fitting round conductors Rd 8-10 to ground insertion rods Rd 16
- Including 2 hexagonal bolts, high-grade stainless steel (V2A)
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
226 8-10	Rd 8-10/FL30 x 16	20	8.600	5336007

- For fitting round conductors Rd 8–10 to Rd 16 or flat conductors FL30
- Including 2 hexagonal bolts M8 x 20 high-grade stainless steel (V2A)
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)

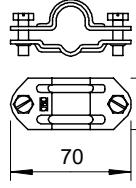
## Universal separating piece



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
226 VA	Rd 8-10/FL30 x 16	10	8.700	5336058

- For fitting round conductors Rd 8–10 to Rd 16 or flat conductors FL30
- Including 2 hexagonal bolts M8 x 20 high-grade stainless steel (V2A)
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)

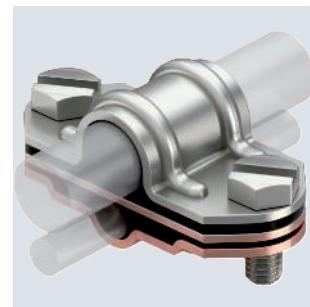
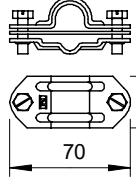
## Universal separating piece



Type	Fit mm	Material upper part	Material lower part	Pack Piece	Weight kg/100 pc.	Item no.
226 ZV VA	Rd 8-10/FL30 x 16	VA	Cu	10	11.000	5336074

- Fit: Rd 8-10 x 16, FL 30 x Rd 16
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)
- Intermediate plate, aluminium/copper

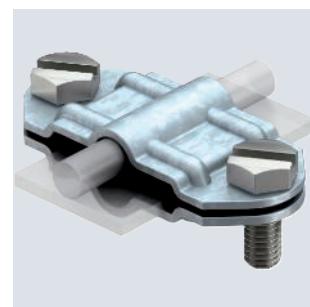
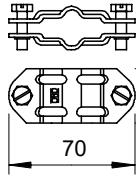
## Universal bi-metal separating piece



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
233 8	Rd 8-10/FL30 x Rd 8-10/FL30	20	8.200	5336309

- To fit round conductors Rd 8–10 or flat conductors FL 30
- With 2 hexagonal bolts M8 x 20 made of rustproof steel (VA)
- Short-circuit current I<sub>k</sub> (50 Hz), time 0.6 s, temp. max. 300 °C: 8.5 kA

## Separating piece for Rd 8–10 and FL 30 mm

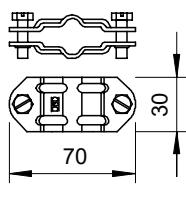
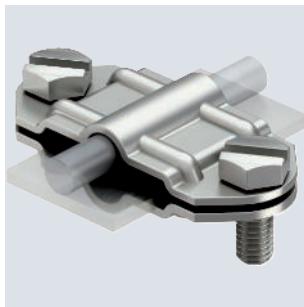




## Connection and separating terminals

### Separating piece for Rd 8–10 and FL 30 mm

VA

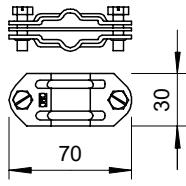
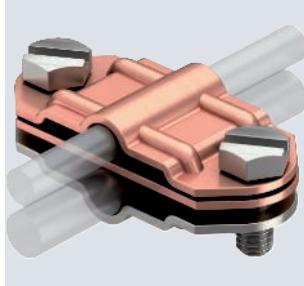


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
233 VA	Rd 8-10/FL30 x Rd 8-10/FL30	10	8.300	5336341

- For fitting round conductors Rd 8–10 or flat conductors FL 30
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)

### Bi-metal separating piece for Rd 8–10 and FL 30 mm

VA

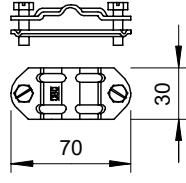


Type	Fit mm	Material upper part	Material lower part	Pack Piece	Weight kg/100 pc.	Item no.
233 ZV	Rd 8-10/FL30 x Rd 8-10/FL30	Cu	VA	10	10.100	5336376

- For fitting round conductors Rd 8–10 to flat conductors FL 30
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)
- Intermediate plate aluminium/copper, top section copper, bottom section stainless steel

### Separating piece for Rd 8–10 and FL 30–40 mm

VA

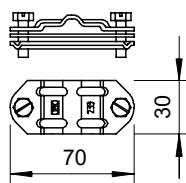
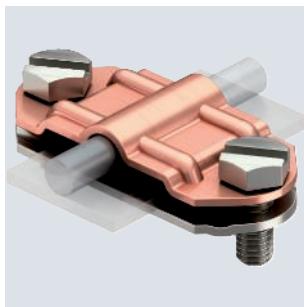


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
233 A VA	8-10xFL30-40	10	7.851	5336457

- Fit: Rd 8-10 x FL 30–40
- With 2 hexagonal bolts M8 x 20 (VA)

### Bi-metal separating piece for Rd 8–10 and FL 30–40 mm

Cu



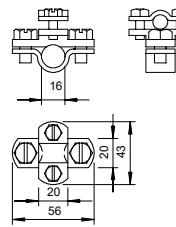
Type	Fit mm	Material upper part	Material lower part	Pack Piece	Weight kg/100 pc.	Item no.
233 A ZV	Rd 8-10 x FL30-40	Cu	VA	10	10.400	5336503

- Fit: Rd 8–10 x FL 30–40, FL 30 x FL 30–40
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)
- Intermediate plate, aluminium/copper
- Top section copper, bottom section stainless steel

St FT

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
108 B DIN	Rd 8-10/16	10	13.970	5416566

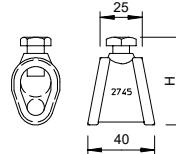
- Rod clamp for connecting round conductors Rd 8–10 to connector rods Rd 16
- Mounted with 2 hexagonal bolts M8 x 16 and M6 x 12
- Adapter from malleable iron
- Crossbar and bolts from hot dip galvanized steel



CuZn 37 Cu

Type	For earth rods Ø mm	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
2745 20 MS	20	7-12.5/S95 mm <sup>2</sup>	5	16.000	5001560

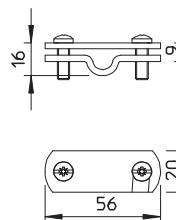
- For earth rods Ø 20 or conductors of 95 mm<sup>2</sup>
- For round conductor attachments Rd 7–12.5 with hexagonal bolts M10 x 25



Alu

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
311 N-ALU 8-10	RD 8-10 / FL30	5	2.500	3049256
311 N-ALU 16	RD 16-FL30	5	2.800	3049345

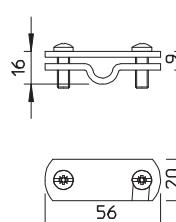
- To identify the point of separation to DIN 48821
- Suitable for universal labelling (e.g. stamped numbers)



A2

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
311 N-VA 8-10	RD 8-10 / FL30	5	5.600	3049221
311 N-VA 16	RD 16-FL30	5	6.400	3049329

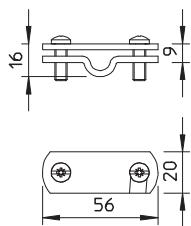
- To identify the point of separation to DIN 48821
- Suitable for universal labelling (e.g. stamped numbers)



# Connection and separating terminals

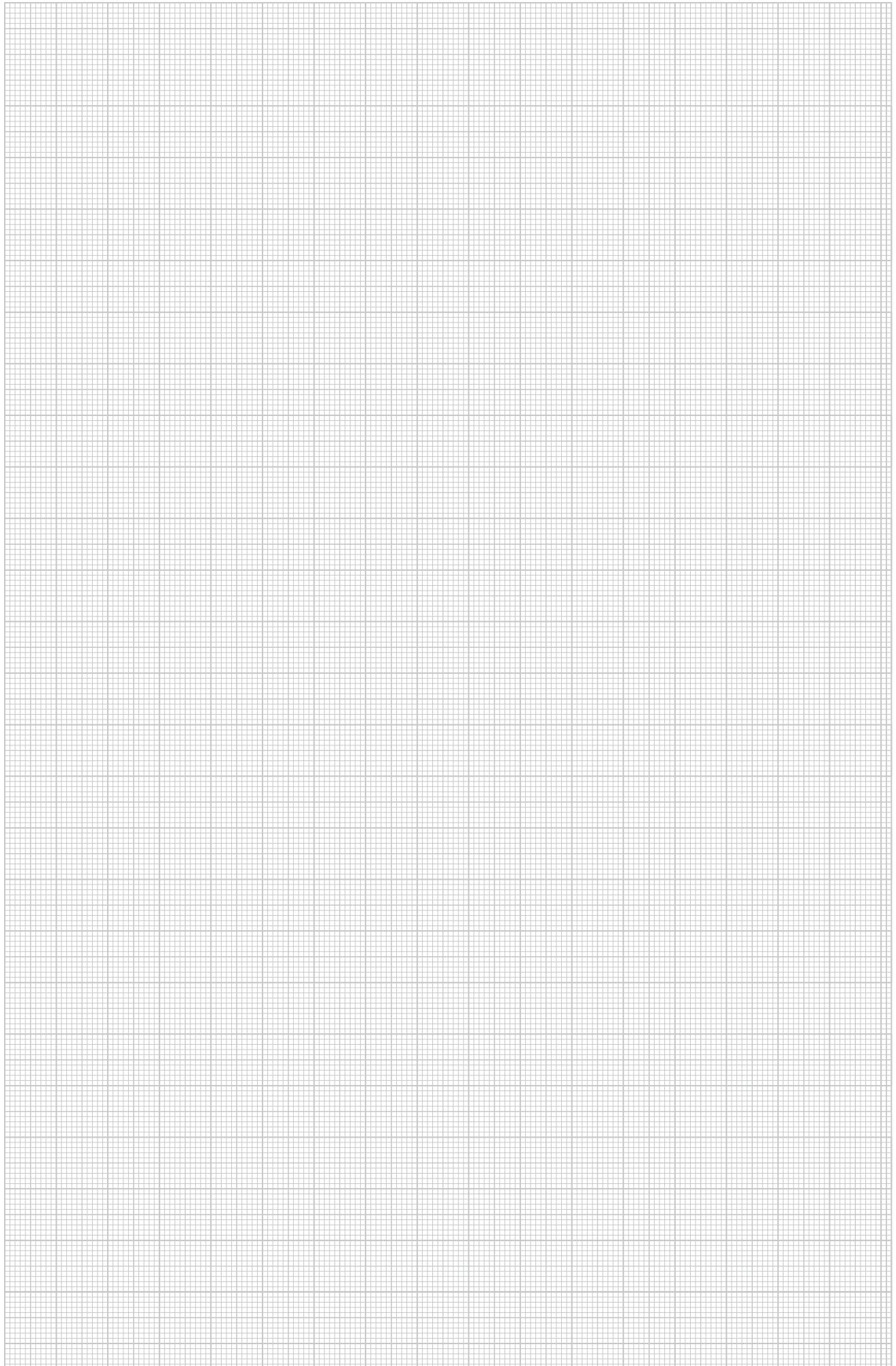
Cu

## Number plates



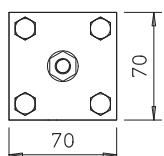
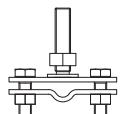
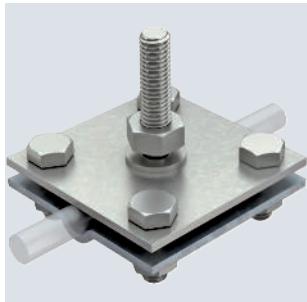
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
311 N-CU 8-10	RD 8-10 / FL30	5	6.400	3049205

- To identify the point of separation to DIN 48821
- Suitable for universal labelling (e.g. stamped numbers)



## Cross-connectors

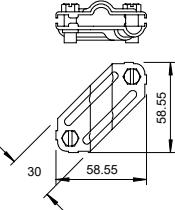
### Cross-connector for flat conductors and round conductors with threaded bolt M10x45



Type	Fit mm	Lightning current carrying capacity kA	Short-circuit current (50 Hz) kA	Pack Piece	Weight kg/100 pc.	Item no.
252 GB 10x45	8-10x FL30	H/100	4.2	10	34.800	5312657

- 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

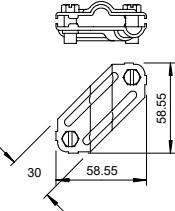
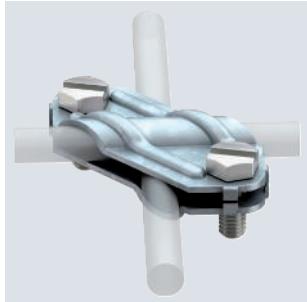
### Cross-connector for flat conductors and round conductors



Type	Fit mm	Lightning current carrying capacity kA	Short-circuit current (50 Hz) kA	Pack Piece	Weight kg/100 pc.	Item no.
250 VA	Rd 8-10/ FL30	H/100	1.4	25	10.260	5312922
250 V4A	Rd 8-10/ FL30	H/100	1.4	10	10.260	5312925

- 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



Type	Fit mm	Lightning current carrying capacity kA	Short-circuit current (50 Hz) kA	Pack Piece	Weight kg/100 pc.	Item no.
250	Rd 8-10/ FL30	N/50	5.6	25	10.260	5312906

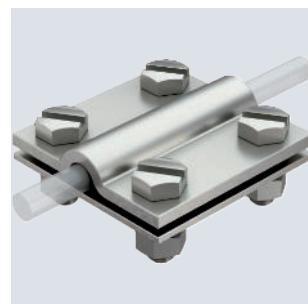
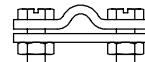
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10
- Fit: Rd 8-10 x FL 30
- Fit: FL 30 x FL 30
- Mounted with 2 hexagonal bolts M8 x 20 (F)



## Cross-connector for round conductors and flat conductors

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10xFL30V4A	8-10xFL30	H/100	10	28.500	5312656

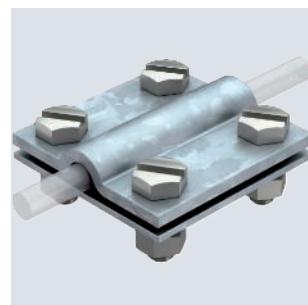
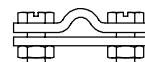
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8



## Cross-connector for round and flat conductors

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10XFL30 FT	8-10xFL30	H/100	25	28.500	5312655

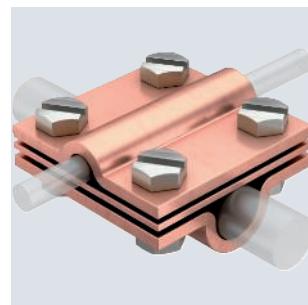
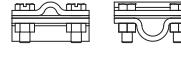
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8



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

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10X16 CU	Rd 8-10 x 16	H/100	10	43.985	5312442

- 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 made of rust-proof stainless steel (A2)



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

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10x16 V4A	Rd 8-10 x 16	H/100	10	39.000	5312346

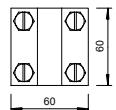
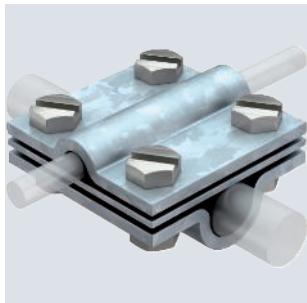
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 16 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8



## Cross-connectors

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

St FT  
TESTED

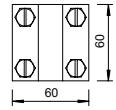
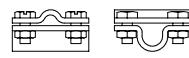


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10X16 FT	Rd 8-10 x 16	H/100	25	38.800	5312345

- 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 Rd 8–10 x Rd 16

St FT  
TESTED

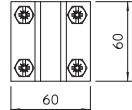
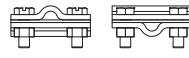
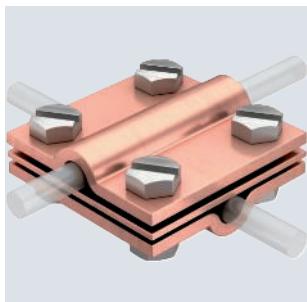


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
253 10X16	Rd 8-10 x 16	H/100	25	29.800	5312809

- 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 mm

Cu  
TESTED

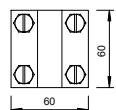
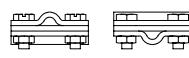
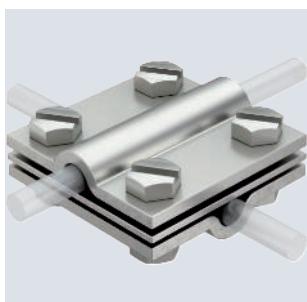


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10 CU	Rd 8-10	H/100	10	38.940	5312418

- 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 made of rust-proof stainless steel (A2)

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

VA  
TESTED



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10 V4A	Rd 8-10	H/100	10	33.530	5312318

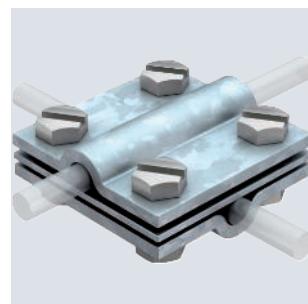
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8



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

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10 FT	Rd 8-10	H/100	25	33.530	5312310

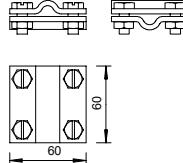
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)



## Cross-connector round/round without intermediate plate

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
253 8-10 V4A	Rd 8-10	H/100	25	23.650	5312582

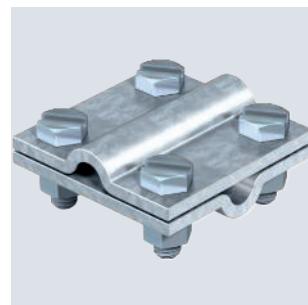
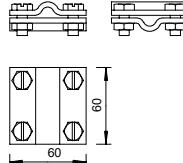
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10 / FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)



## Cross-connector Rd 8–10 mm

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
253 8X8	Rd 8-10	H/100	25	30.700	5312604

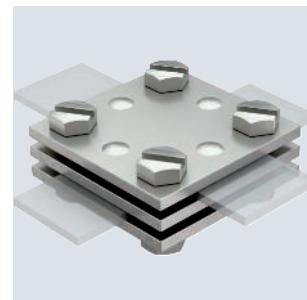
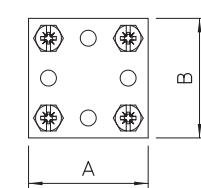
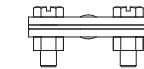
- Meets the requirements of VDE 0185-305-3 (IEC/EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10/FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)



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

Type	Fit mm	Dim. A mm	Dim. B mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
256 DIN 30 V4A	max. FL30	60	60	H/100	10	29.100	5314616

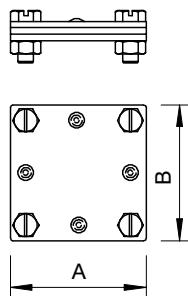
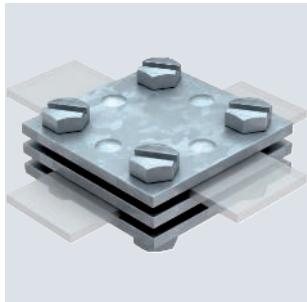
- Meets the requirements of VDE 0185-305-3 (IEC/EN 62305-3)
- Fit: Max. FL 30 x FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8



## Cross-connectors

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

St FT  

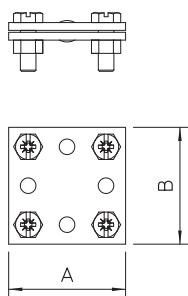
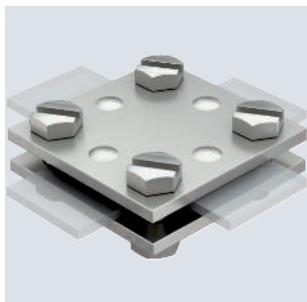



Type	Fit mm	Dim. A mm	Dim. B mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
256 DIN 30 FT	max. FL30	60	60	H/100	10	35.860	5314615
256 DIN 40 FT	max. FL40	80	80	H/100	10	54.650	5314623

- 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

VA VA  

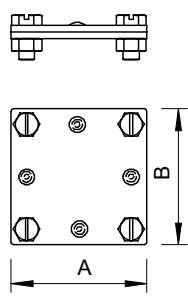
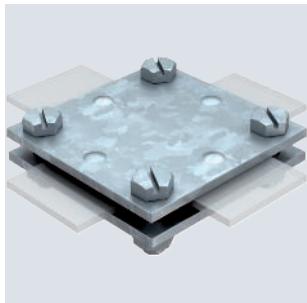



Type	Fit mm	Dim. A mm	Dim. B mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
256 A-DIN 30 VA	max. FL30	60	60	H/100	10	27.800	5314720
256 A-DIN 30 V4A	max. FL30	60	60	H/100	10	26.400	5314659

- 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

St FT  

Type	Fit mm	Dim. A mm	Dim. B mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
256 A-DIN 30 FT	max. FL30	60	60	H/100	10	27.800	5314658
256 A-DIN 40 FT	max. FL40	80	80	H/100	10	35.436	5314666

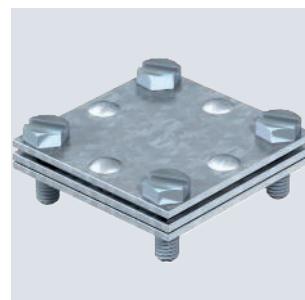
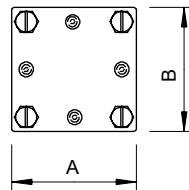
- Meets the requirements of VDE 0185-305-3 (IEC/EN 62305-3)
- Fit: Max. FL 30 x FL 30 or max. FL 40 x FL 40
- Without adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)



## Cross-connector for flat conductor, with intermediate plate

Type	Fit mm	Dim. A mm	Dim. B mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
255 30	max.FL30	52	52	H/100	20	16.650	5314518

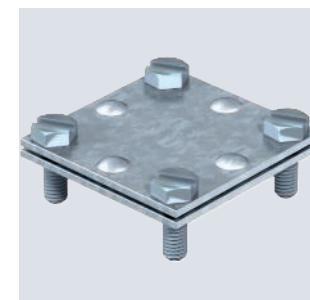
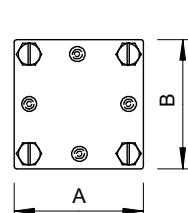
- Meets the requirements of VDE 0185-305-3 (IEC/EN 62305-3)
- Fit: Max FL 30 x FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M6 x 20 (F)



## Cross-connector for flat conductor

Type	Fit mm	Dim. A mm	Dim. B mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
255 A-FL30 FT	max.FL30	52	52	H/100	20	11.500	5314534

- 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)



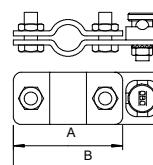
## Connection clips



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

Type	For earth rods Ø mm	Dim. A mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
2710 20 FT	20	84	114	5	39.900	5001218
2710 25 FT	25	89	119	5	42.300	5001226

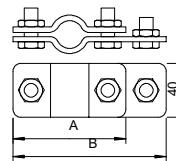
- ST, BP, OMEX and LightEarth system
- On round conductor Rd 8-10
- Incl. connector, type 5001 DIN



### Connection clamp for earth rod on flat conductor

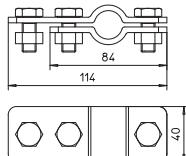
Type	For earth rods Ø mm	Short-circuit current (50 HZ) kA	Dim. A mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
2730 25 FT	25	8.5	89	119	5	38.800	5001412
2730 20 FT	20	7.9	84	114	5	35.900	5001404

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



## Connection clips

### Connection clamp for earth rod on flat conductor

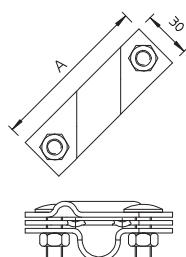


Type	For earth rods Ø mm	Dim. A mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
2730 20 VA	20	84	114	5	33.764	5001366

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



### Connection clamp for earth rod, universal

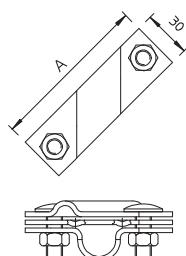


Type	For Dim. A mm	earth rods Ø mm	Fit mm	Short-circuit current (50 Hz) (1 s; ≤ 300 °C)	Pack Piece	Weight kg/100 pc.	Item no.
2760 20 FT	101	20	Rd 8-10/FL40	7.9	5	28.335	5001641
2760 B-20 FT	101	20	Rd 8-10/FL40	7.9	20	32.400	5001749
2760 25 FT	110	25	Rd 8-10/FL40	8.5	5	38.400	5001668

- 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

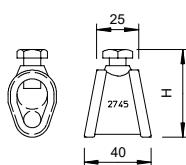


Type	For Dim. A mm	earth rods Ø mm	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
2760 20 VA	101	20	Rd 8-10/FL40	5	28.286	5001617
2760 B-20 VA	101	20	Rd 8-10/FL40	20	32.400	5001625
2760 20 V4A	101	20	Rd 8-10/FL40	5	32.400	5001633
2760 25 V4A	110	25	Rd 8-10/FL40	5	32.400	5001672

- 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 nuts M10



### Connection clamp for earth rod or cables



Type	For earth rods Ø mm	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
2745 20 MS	20	7-12.5/S95 mm <sup>2</sup>	5	16.000	5001560

- For earth rods Ø 20 or conductors of 95 mm<sup>2</sup>
- For round conductor attachments Rd 7-12.5 with hexagonal bolts M10 x 25

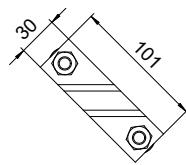




## Diagonal connector for round conductor

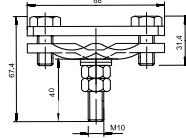
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
2760 8-10 V4A	Rd 8-10	H/100	25	21.364	5313013

- 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	Dim. L mm	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
250 A-BO	25	Rd 6-22/max. FL50	H/100	25	30.994	5313066

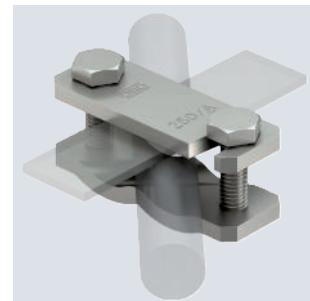
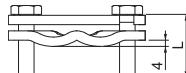
- For reinforced steels Ø 6–22 mm and flat conductor 50 x 4
- Installed with bolts M10 x 25
- Simple installation with open slot
- With flange-welded bolts M10 x 40, inc. 2 washers and 2 nuts



## Diagonal clamp for flat conductors and round conductors

Type	Dim. L mm	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
250 A-VA	40	Rd 6-22/max. FL50	H/100	10	28.800	5313023

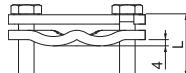
- For reinforced steels Ø 6–22 mm and flat conductor 50 x 4
- Installed with bolts M10 x 40
- AS version with bolts M10 x 20
- Simple installation with open slot



## Diagonal clamp for flat conductors and round conductors

Type	Dim. L mm	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
250 A-FT	40	Rd 6-22/max. FL50	H/100	25	28.800	5313015
250 AS-FT	20	Rd 6-22/max. FL50	H/100	25	26.000	5313031
250 A	40	Rd 6-22/max. FL50	H/100	25	28.800	5313058

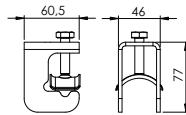
- For reinforced steels Ø 6–22 mm and flat conductor 50 x 4
- Installed with bolts M10 x 40
- AS version with bolts M10 x 20
- Simple installation with open slot



## Connection terminals

### VARIO earthing terminal for large reinforced steels

St FT  
TESTED

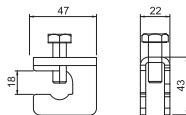
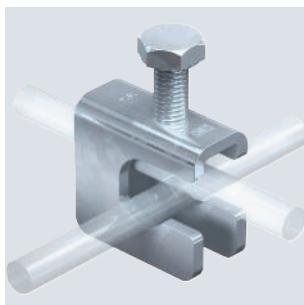


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
1814 ST D37	FL30x3-4mm / Rd 10 x Rd 16-37	H/100	25	30.000	5014477
1814 FT D37	FL30x3-4mm / Rd 10 x Rd 16-37	H/100	25	30.000	5014469

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

### VARIO earthing terminal for reinforced steels

St FT  
TESTED

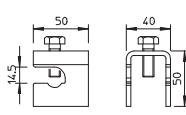
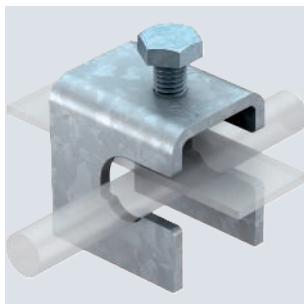


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
1814 FT D14	FL30x3-4mm / Rd 8-10 x Rd 6-14	N/50	25	15.340	5014471

- For reinforced steel with 6-14 mm diameter and round and flat conductors
- Rapid installation using elongated open slot and only one M10 bolt

### VARIO earthing terminal for reinforced steels

St FT  
TESTED

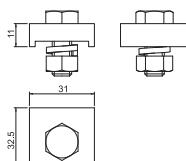


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
1814 ST	FL30x5 x Rd 8-14	N/50	25	20.000	5014476
1814 FT	FL30x5 x Rd 8-14	N/50	25	20.000	5014468

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

### Connection terminal for round conductors

St FT  
TESTED



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
1818	Rd 8-10	10	17.600	5012015

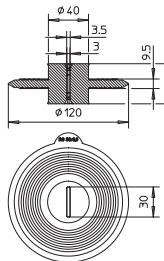
- For connecting round conductor Rd 8-10
- With 1 hexagonal bolt M12 x 40, 1 hexagonal nut M12 and 1 lock washer, stainless steel

TPE

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
DW FL30x3,5	FL30x3,5	1	18.000	2360043

- 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)

### Sealing sleeve for flat conductors

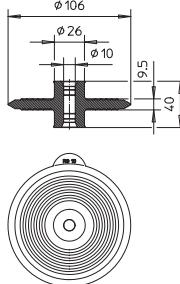


TPE

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
DW RD10	RD 10	1	13.000	2360041

- 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)

### Sealing sleeve for round conductors



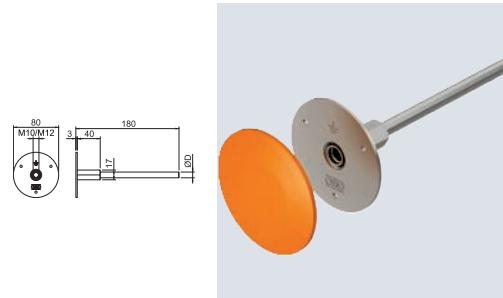
## Earthing fixed points

St VA FT  
DIN TESTED

### Fixed earthing terminal with axis and double thread

Type	Thread	Short-circuit current (50 Hz) kA	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
205 DG L180 V4A	M10/M12	3.3	H/100	10	23.900	5420022
205 DG L180 FT	M10/M12	4.9	H/100	10	23.900	5420024

- For connection to earthing systems, conductors and reinforcements
- Contact plate: Ø 80 mm made of stainless steel, rustproof (V4A)
- Clamping screw Ø 10 mm
- Incl. plastic cover for simple installation

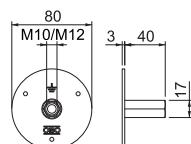


VA  
DIN TESTED

### Fixed earthing terminal with double thread

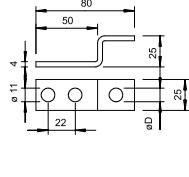
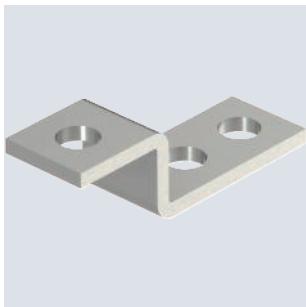
Type	Thread	Short-circuit current (50 Hz) kA	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
205 DG V4A	M10/M12	6.2	H/100	10	14.800	5420020

- For connection to earthing systems, conductors and reinforcements
- Contact plate: Ø 80 mm made of stainless steel, rustproof (V4A)
- Double thread M10/M12
- Incl. plastic cover for simple installation



## Connection material

### Connection and end piece

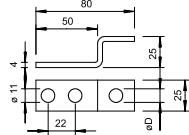
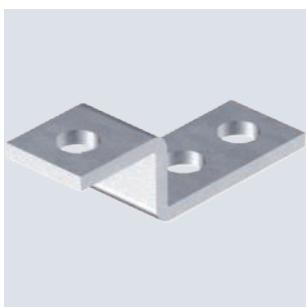


Type	Dim. D Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
5011 VA M10	11	10	7.064	5334934
5011 VA M12	13	10	7.048	5334942

- 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 hole Ø D mm

VA

### Connection and end piece

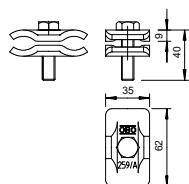


Type	Dim. D Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
5011	11	10	7.064	5304997

- 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 hole Ø D mm

St FT

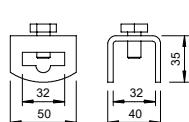
### Parallel clamp for the connecting of reinforcing steels



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
259 A ST	Ø 10-20	H/100	25	18.800	5315557
259 A FT	Ø 10-20	H/100	25	18.800	5315514
259 A VA	Ø 10-20	H/100	10	15.880	5315522

- For connecting reinforced steels Ø 10–20 mm
- Mounted with M10 x 40 bolts

### Variable earthing terminal



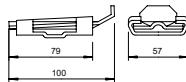
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
1813 KL	FL30xRd8-10	H/100	50	18.000	5014425

- Suitable for connection for Rd 10 x FL 30, FL 30 x FL 30
- Quick mounting using a hexagonal bolt M10 x 20 (F)



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
1813 DIN	10/FL30xFL30	H/100	5	21.144	5014212

- DIN 48834, Form A
- Suitable for connecting Rd 10 x FL 30, FL 30 x FL 30
- Quick installation with high contact force

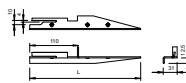


## Wedge connector



Type	Fit mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
1811	10/FL30x3,5	250	25	19.000	5014018
1811 L	10/FL30x3,5	400	25	31.500	5014026

- For professional laying of round conductors and flat conductors according to DIN VDE 0185-305 (IEC 62305)
- DIN 48833
- Suitable for mounting round conductors Rd 10 or flat conductors FL 30 x 3.5

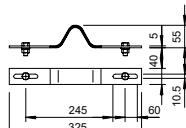


## Spacer



Type	Pack Piece		Weight kg/100 pc.	Item no.
1807			1	27.000 5016142

- For expansion joints, for a connection of the foundation earth electrode 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



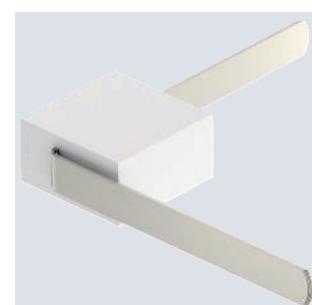
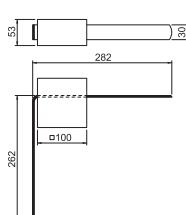
## Expansion piece



## Expansion strip for foundation earth electrode systems

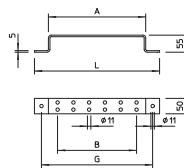
Type	Dimension W x H mm	Pack Piece	Weight kg/100 pc.	Item no.
1807 DB	30x3,5	1	40.000	5016160

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



## Connection material

### Earthing connection bar

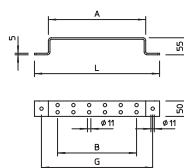


Type	Dim. L mm	Dim. A mm	Dim. B mm	Dim. G mm	Pack Piece	Weight kg/100 pc.	Item no.
1805 2 VA	200	110	51	155	1	54.800	5016096
1805 4 VA	302	212	153	257	1	77.000	5016118
1805 6 VA	404	314	255	359	1	97.100	5016126

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

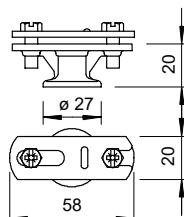


Type	Dim. L mm	Dim. A mm	Dim. B mm	Dim. G mm	Pack Piece	Weight kg/100 pc.	Item no.
1805 2 FT	200	110	51	155	1	54.800	5016029
1805 4 FT	302	212	153	257	1	77.000	5016037
1805 6 FT	404	314	255	359	1	97.100	5016045

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

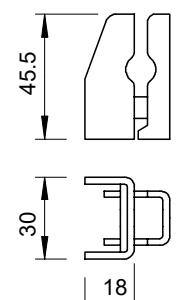
### Cable bracket for flat conductor



Type	Pack Piece	Weight kg/100 pc.	Item no.
113 BZ-FL	100	6.280	5230446
113 B-Z-HD-FL	100	7.000	5230462

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

### Cable bracket for Rd 8–10 and FL 30



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
835	Rd 8/10 / FL 30x3,5	1	8.907	5033209

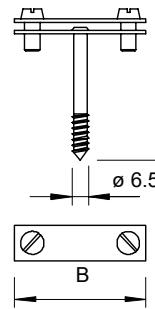
- For round conductor Rd 8–10 and flat conductor FL 30 x 3.5
- Supplied with hexagonal wood bolt 6 x 70 and straddling dowel 910/N

St G

## Spacer clip for flat conductor, with wood screw

Type	Fit mm	B mm	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
708 30 HG	max.FL30	52		50	2.536	5030234
708 40 HG	max.FL40	62		50	2.827	5030242

- Fit: FL 30 and FL 40
- With 2 cylinder bolts M5 x 12 (G) and over-piece
- With wood screw

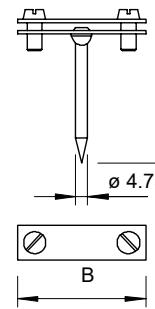


St G

## Spacer clip for flat conductor, with square pin

Type	Fit mm	B mm	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
708 30 SP	max.FL30	52		50	3.148	5030021

- Fit: FL 30 and FL 40
- With 2 cylinder bolts M5 x 12 (G) and over-piece
- With square pin

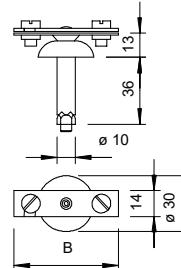


St G

## Spacer clip for flat conductor, with steel spreading anchor Ø 10

Type	Fit mm	B mm	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
710 30	max.FL30	52		25	5.044	5028035
710 40	max.FL40	62		25	5.360	5028043

- Fit: FL 30 and FL 40
- With steel straddling dowel Ø 10 mm, spacer and 2 cylinder bolts M5 x 14 (G)

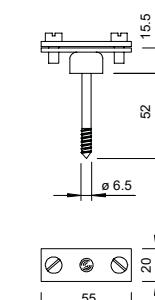


St FT

## Spacer clip for flat conductor, with wood screw and spacer

Type	Fit mm	B mm	Dim.	Pack Piece	Weight kg/100 pc.	Item no.
370 H	max.FL30	55		100	10.200	5025206

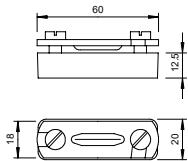
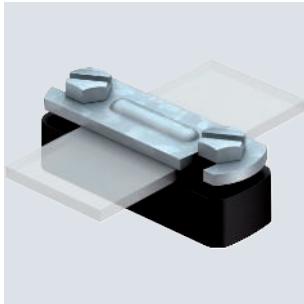
- Fit: FL 30
- With spacer and cylinder bolts M6 x 16 (G)
- With wood bolts



## Distance clamps

### Spacer clip for flat conductor, with polyamide base

St FT

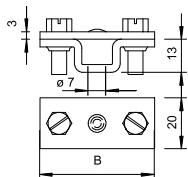


Type	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
	Fit mm	B mm			
833 35	max. FL30	60	25	4.228	5033039

- Fit: FL 30
- With mounting hole 6.2 x 22 mm
- With 2 cylinder bolts M6 x 16 and over-piece from hot-dip galvanised steel
- Bottom section from polyamide, black

### Spacer clip for flat conductor, with fastening hole Ø 7

St FT

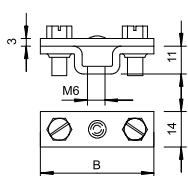


Type	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
	Fit mm	B mm			
832 30	max. FL30	55	25	7.416	5032539
832 40	max. FL40	65	25	7.612	5032547

- Fit: FL 30 and FL 40
- With mounting hole Ø 7 mm and 2 hexagonal bolts M6 x 16

### Spacer clip for flat conductor, with threaded connection M6

St FT

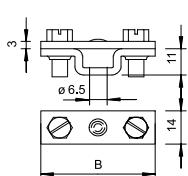


Type	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
	Fit mm	B mm			
831 30 M6	max. FL30	54	25	3.712	5032237
831 40 M6	max. FL40	65	25	3.880	5032245

- Fit: FL 30 and FL 40
- With attaching thread M6 and 2 hexagonal bolts M6 x 16 (F)

### Spacer clip for flat conductor with fastening hole Ø 6.5

St FT



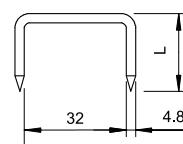
Type	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
	Fit mm	B mm			
831 30	max. FL30	54	25	3.580	5032032
831 40	max. FL40	65	25	3.894	5032040

- Fit: FL 30 and FL 40
- With mounting hole Ø 6.5 mm and 2 hexagonal bolts M6 x 16 (F)

St FT

Type	Length mm	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
366 35	35	max. FL30	100	1.737	5059356
366 50	50	max. FL30	100	2.300	5059496

- For the mounting and fixing of flat conductors
- Fit: FL 30



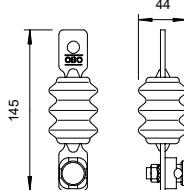
### Strip steel crimp



# Protective spark gaps



## Protective spark gap

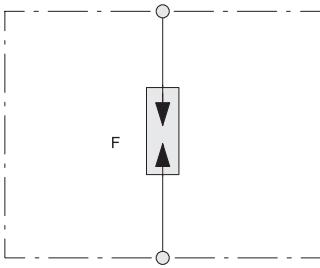


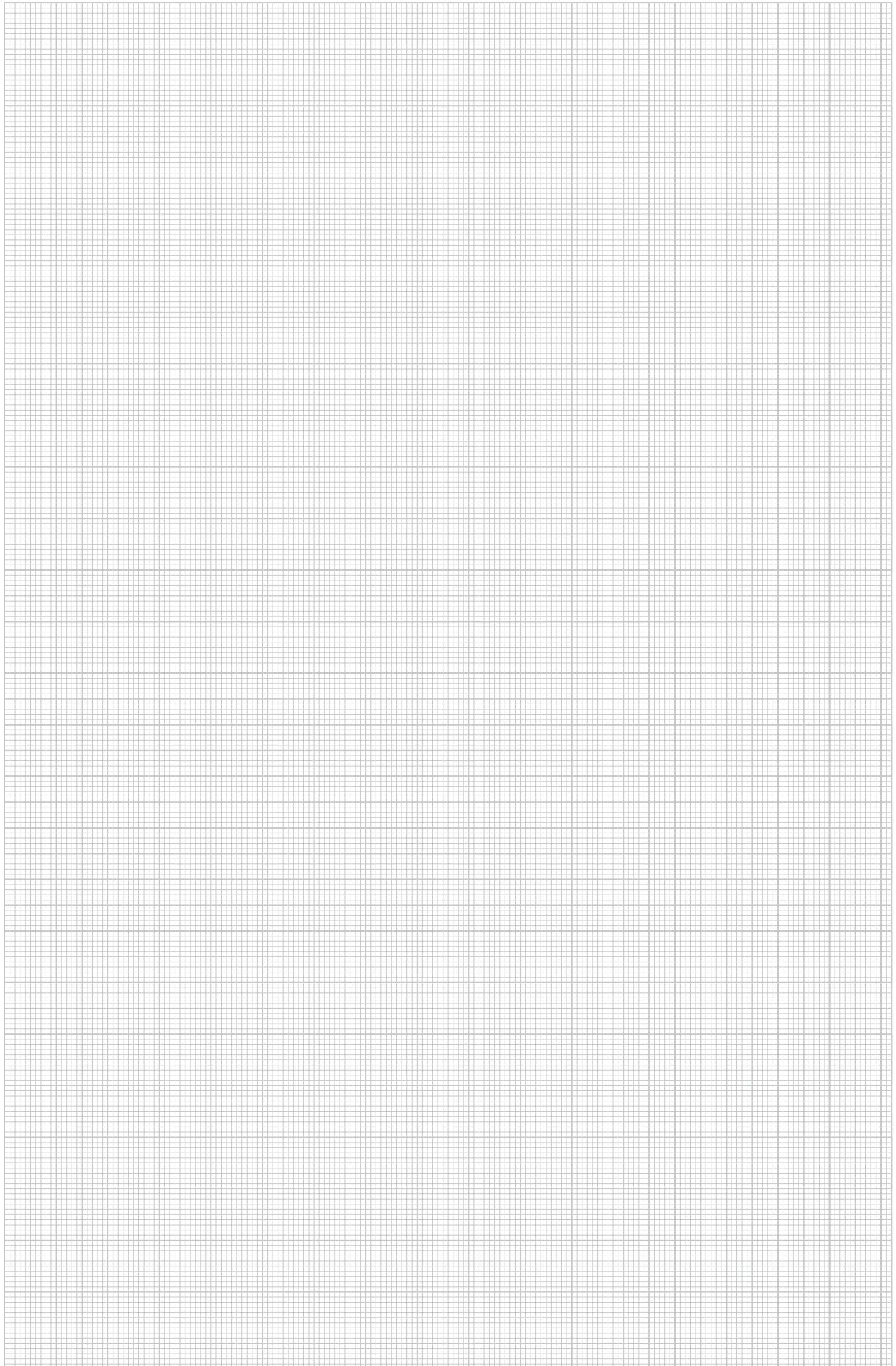
Type	Nominal protection level kV	Prot. discharge current (8/20) kA	Power frequency spark-over voltage kV	Pack Piece	Weight kg/100 pc.	Item no.
482	< 10	25	10	1	56.000	5240050

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

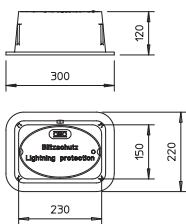
## Connection options





## Accessories

### Underfloor test box



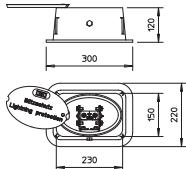
Type  
5700

Pack	Weight	Piece	kg/100 pc.	Item no.
1	720.000			5106002

- 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)



### Inspection pit with integrated separation piece



Type  
5700 SP

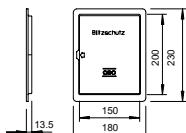
Pack	Weight	Piece	kg/100 pc.	Item no.
1	770.000			5106003

- Without base
- Cast iron, painted black
- With built-in cut-off unit for round conductors Rd 8-10 and flat conductors to FL 40
- To VDE 0185-561-5 (IEC 62561-5) suitable for heavy loads (up to 40 kN/ 4.0 t)



### Inspection door

St FS



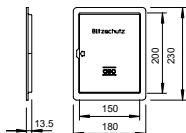
Type  
5800 VZ

Pack	Weight	Piece	kg/100 pc.	Item no.
1	46.000			5106133

- Lightweight design for flush-mounted separation points
- Claw length approx. 80 mm

### Inspection door

VA



Type  
5800 VA

Pack	Weight	Piece	kg/100 pc.	Item no.
1	46.000			5106141

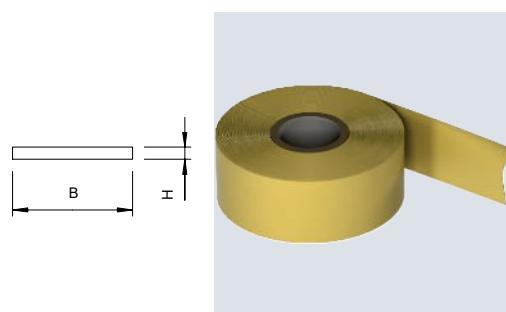
- Lightweight design for flush-mounted separation points
- Claw length approx. 80 mm

PETR

Type	Width mm	Length m	Pack Piece	Weight kg/100 pc.	Item no.
356 50	50	10	1	59.000	2360055
356 100	100	10	1	122.200	2360101

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

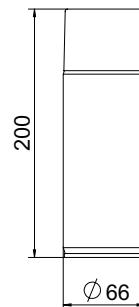
## Corrosion protection strip



CE

Type	Dimension	Pack Piece	Weight kg/100 pc.	Item no.
ZSF	400ml	1	45.000	2362970

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



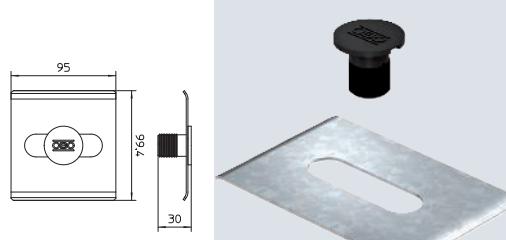
## Zinc repairs



## TrayFix mounting adapter for mesh cable trays on FangFix system

Type	Dimension	Pack Piece	Weight kg/100 pc.	Item no.
TrayFix	ø20mm	25	9.850	5403100

- Mounting system for the fastening of mesh cable trays and cable trays on FangFix stone, e.g. cable routing on a flat roof
- Adapted to OBO cable tray systems MKSM, SKSM and IKSM
- Adapted to OBO mesh cable tray systems with a minimum width of 100 mm



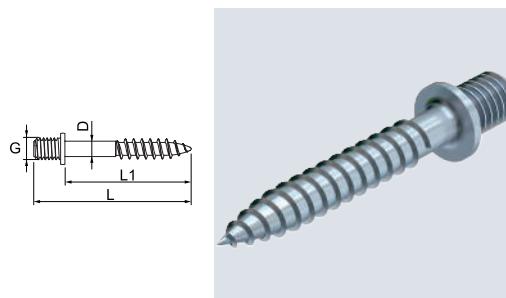
St G

CE

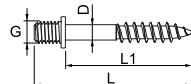
Type	Dim. L mm	Dim. L1 mm	Dim. D mm	Dim. G mm	Shipping box mm	Pack Piece	Weight kg/100 pc.	Item no.
985 M6 25	35	25	4.3	M6	3000	100	0.412	3133028
985 M6 35	45	35	4.3	M6	2000	100	0.533	3133036

With wood screw shank and M6 thread.

## Screw-in anchor with M6 thread



## Screw-in anchor with M8 thread

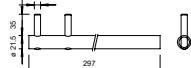
St G  
CE

Type	Dim.	Dim.	Dim.	Dim.	Shipping	Pack	Weight	Item no.
	L mm	L1 mm	D mm	G mm	box Piece			
985 M8 35	47	35	5.2	M8	1200	100	0.950	3133230

With wood screw shank and M8 thread.

## Directional irons

St FT

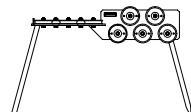


Type	Length	Pack	Weight	Item no.
	mm			
364	297	1	35.000	3051013

• Directional iron for bending and aligning conductors

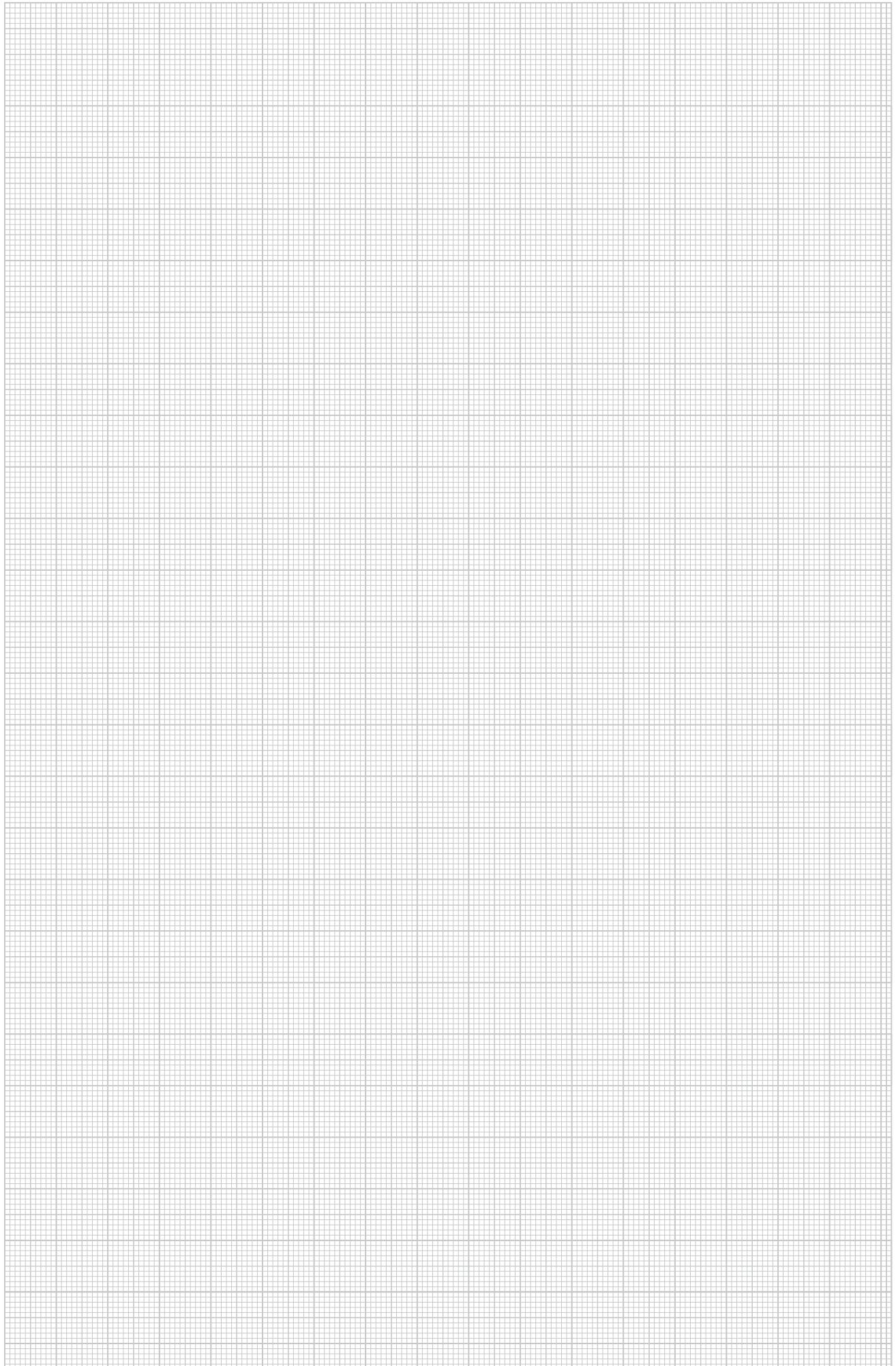
## Wire straightening machine

St

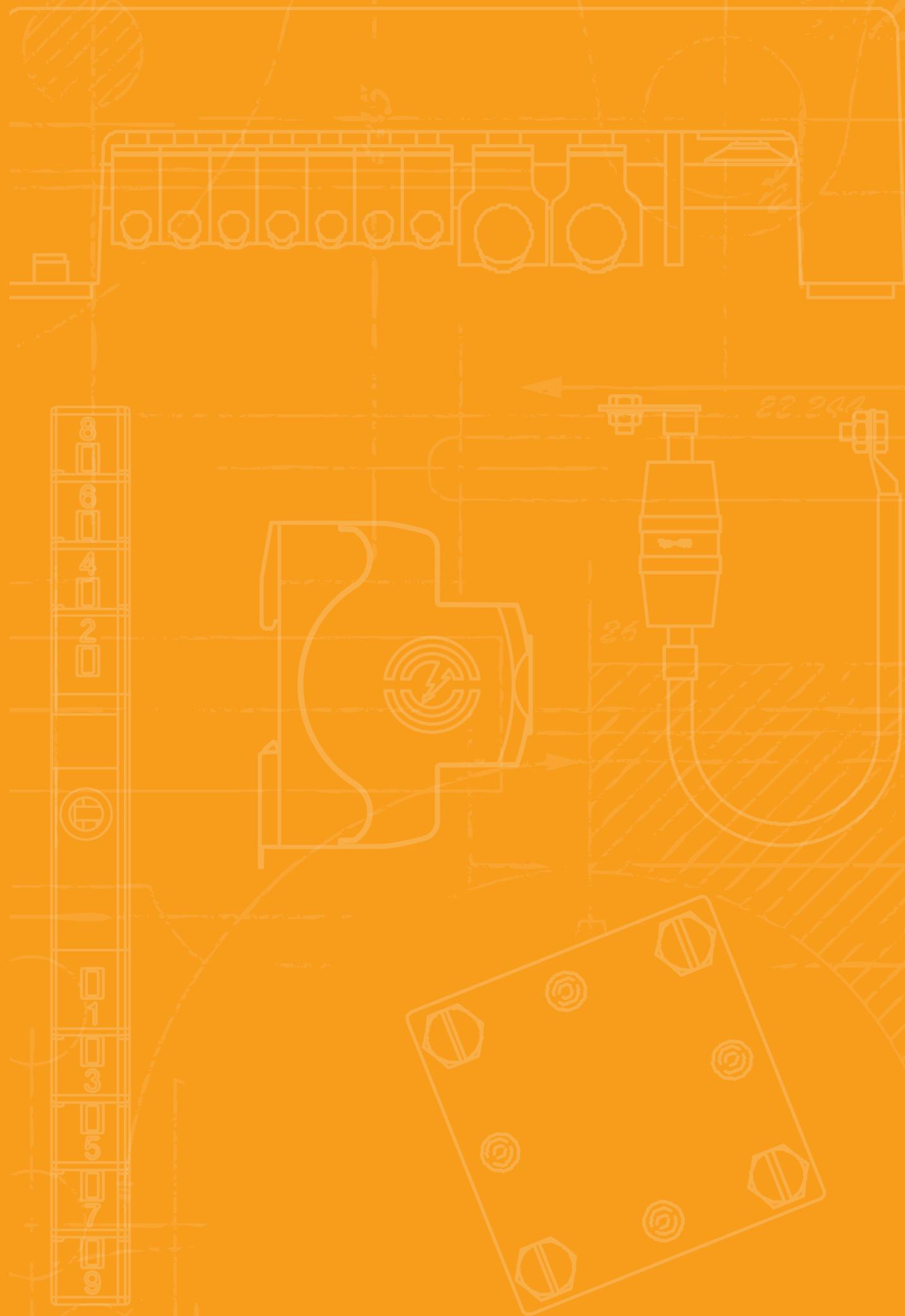


Type	Pack	Weight	Item no.
	Piece		
5900	1	3,300.000	3059006

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



Air-termination systems and air-termination rods



# Air-termination systems and air-termination rods



Air-termination rods

118



Air-termination systems

130

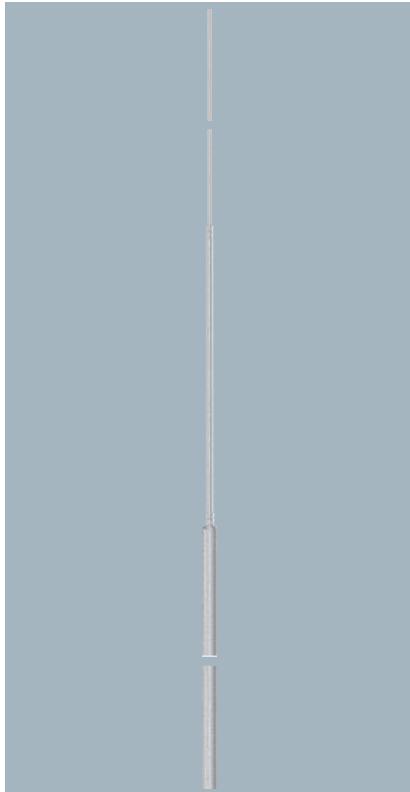


Insulated air-termination systems

142

## isFang air-termination rod

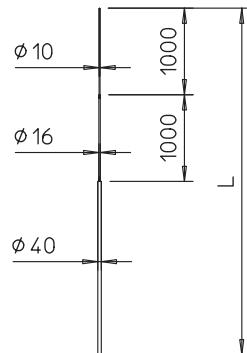
### isFang air-termination rod



Alu

Type	Dim. B mm	Dim. D mm	Length mm	Pack Piece	Weight kg/100 pc.	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

- 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



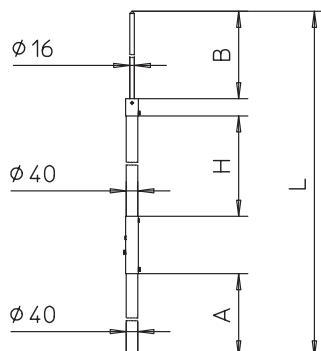
### Insulated air-termination rod

GFK



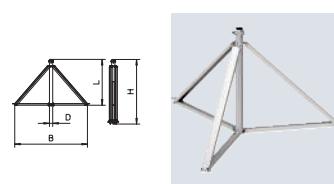
Type	Dim. A mm	Dim. H mm	Dim. B mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang 4000 AL	1240	1500	1000	4000	1	580.000	5408943
isFang 6000 AL	3340	1500	1000	6000	1	600.000	5408947
isFang 4000	1240	1500	1000	4000	1	680.000	5408942
isFang 6000	3340	1500	1000	6000	1	680.000	5408946

- 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 installation on the building structure with isFang support
- Fastening of the OBO isCon® conductor possible using accessories
- Suitable for externally routed isCon® conductors



VA Alu

Type	Dim. B mm	Dim. D mm	Dim. L Ø mm	Dim. H mm	Pack Piece	Weight kg/100 pc.	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

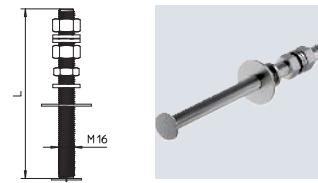
**isFang tripod**

- Installation of free-standing air-termination rods as well as insulated air-termination rods with 40 mm diameter
- Roof slope to max. 5 degrees
- Incl. Rd 8-10 crossbar for quick round conductor fastening
- Concrete base as well as threaded rods should be ordered separately

VA

**isFang-3B threaded rod**

Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang 3B-G1	270	3	48.000	5408971
isFang 3B-G2	340	3	60.400	5408972
isFang 3B-G3	430	3	69.500	5408973
isFang 3B-G4	500	3	75.000	5408905

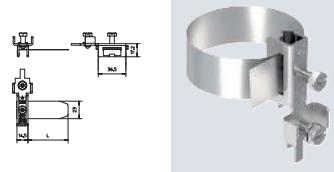


- For fastening on one, two, three or four FangFix concrete bases with tripod stand

VA

**Potential connection clamp for mounting on isFang**

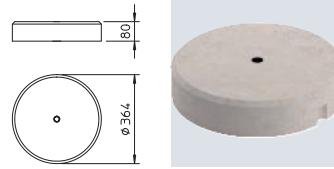
Type	For pipe Ø inch	For pipe L mm	Dim. Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
927 2 6-K	3/8	595	17.2-114	10	5.500	5057599



Potential connection for isCon® conductor for mounting on insulated air-termination rods of type isFang.

**Concrete base for FangFix system, min. 16 kg**

Type	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
F-FIX-S16	365	1	1,700.000	5403227

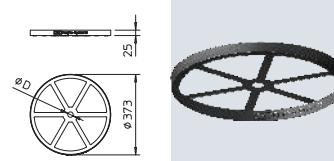


- Min. 16 kg block of Ø 365 mm, high level of stability
- Frost-resistant concrete
- Stackable

PP

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

Type	Nominal size Ø mm	Dim. D Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
F-FIX-B16 3B	373	25	10	15.800	5403238

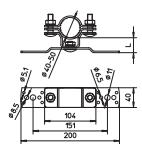


- Edge protection with through hole
- For mounting isFang-3B threaded rod and FangFix concrete block F-FIX-S16

## isFang air-termination rod

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

VA

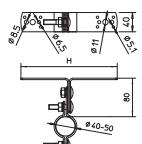


Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang TW30	30	2	62.000	5408952

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

VA

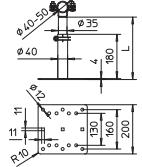


Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang TW80	80	2	63.000	5408950

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

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

VA

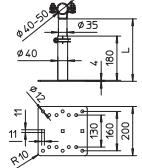


Type	Dim. D Ø mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang TW200 12	50	200	2	240.000	5408910

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

VA

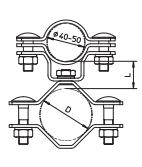


Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang TW200	300	2	230.000	5408954

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

### isFang support for pipe mounting, ø 50–60 mm

VA



Type	Dim. D Ø mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang TS50-60	60	30	2	76.000	5408960

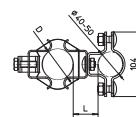
Tightening strap clip to fasten the insulated support pipes on the structure to be protected or for construction-side pipes of ø 50–60 mm.

VA

**isFang support for pipe mounting, ø 50–300 mm**

Type	Dim. D Ø mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang TR100	300	40	2	77.000	5408956

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

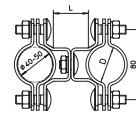


VA

**isFang support for pipe mounting, ø 40–50 mm**

Type	Dim. D Ø mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang TS40-50	50	40	2	90.000	5408958

Tightening strap clip to fasten the insulated support pipes on the structure to be protected or for construction-side pipes of ø 40–50 mm.

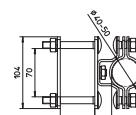


VA

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

Type	Dim. D Ø mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang TS50x50	50	30	2	82.000	5408964

Fastening clip to fasten the insulated support pipes on the structure to be protected or for construction-side corner pipes of 50x50 mm.

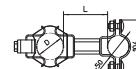


VA

**isFang support for spaced pipe mounting, ø 50–300 mm**

Type	Dim. D Ø mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	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

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



VA

**isFang support for installation on insulated air-termination rod**

Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang TS-S 1000	1010	2	140.000	5408949

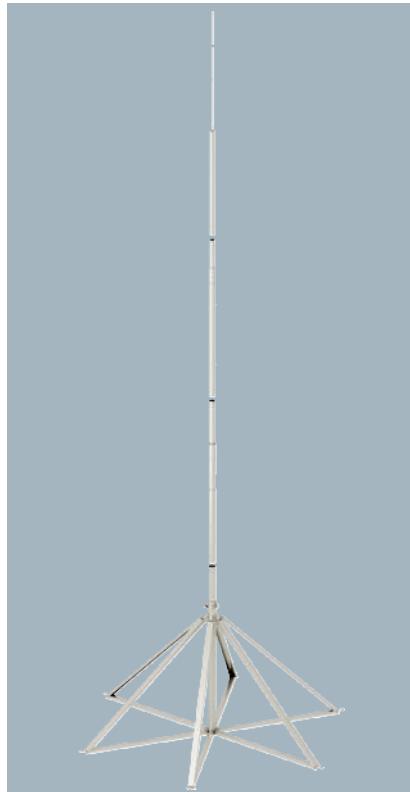
- For mounting on insulated air-termination rods
- For installation with aluminium cables



## Tele air-termination rod irod

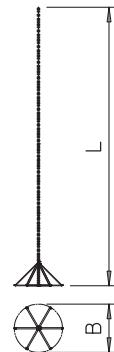
VA

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



Type	Dim.			Pack Piece	Weight kg/100 pc.	Item no.
	D Ø mm	B mm	Length mm			
irod 10	48.3	1800	10000	1	6,500.000	5400810

- 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



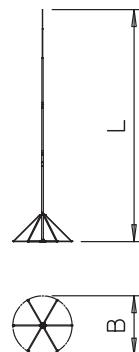
### 12 m air-termination rod with 6-legged air-termination rod stand

VA



Type	Dim.			Pack Piece	Weight kg/100 pc.	Item no.
	D Ø mm	B mm	Length mm			
irod 12	85	3000	12000	1	10,900.000	5400812

- 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

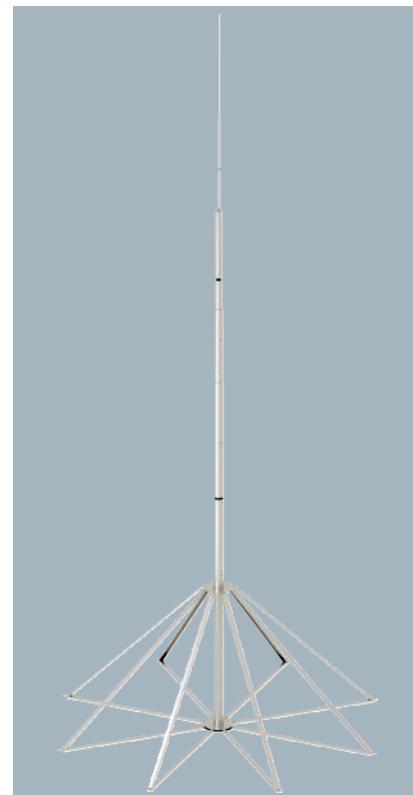
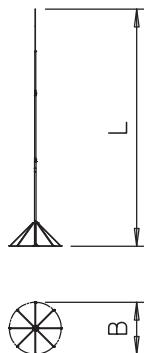


VA

## 14 m air-termination rod with 8-legged air-termination rod stand

Type	Dim. Ø mm	Dim. D mm	Dim. B mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
irod 14	85	3200	14000		1	15,400.000	5400814

- 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



VA

## 19 m air-termination rod with 12-legged air-termination rod stand

Type	Dim. Ø mm	Dim. D mm	Dim. B mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
irod 19	198	3400	19500		1	41,500.000	5400817

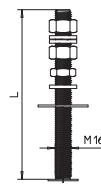
- Tele lightning protection system against direct lightning strikes into plants, such as biogas plants, gas-pressure regulation plants, control and greenfield photovoltaic systems
- Consisting of air-termination rod and air-termination rod stand
- Please order concrete foot and edge protection separately
- Including 800-mm threaded rods



## Tele air-termination rod irod

VA

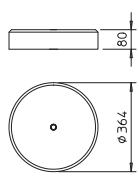
### isFang-3B threaded rod



Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang 3B-G1	270	3	48.000	5408971
isFang 3B-G2	340	3	60.400	5408972
isFang 3B-G3	430	3	69.500	5408973
isFang 3B-G4	500	3	75.000	5408905

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

### Concrete base for FangFix system, min. 16 kg

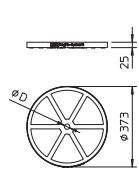
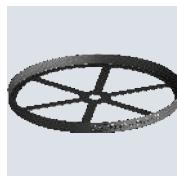


Type	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
F-FIX-S16	365	1	1,700.000	5403227

- Min. 16 kg block of Ø 365 mm, high level of stability
- Frost-resistant concrete
- Stackable

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

PP



Type	Nominal size Ø mm	Dim. D Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
F-FIX-B16 3B	373	25	10	15.800	5403238

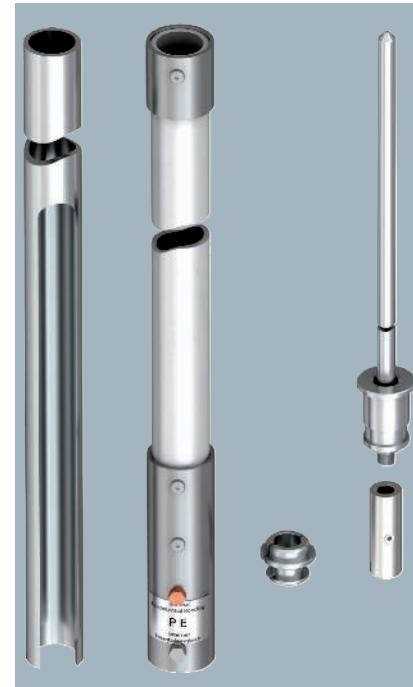
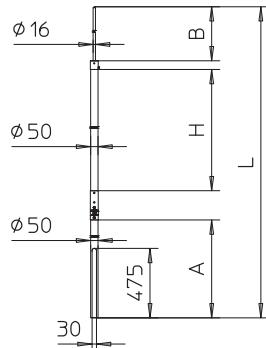
- Edge protection with through hole
- For mounting isFang-3B threaded rod and FangFix concrete block F-FIX-S16



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

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

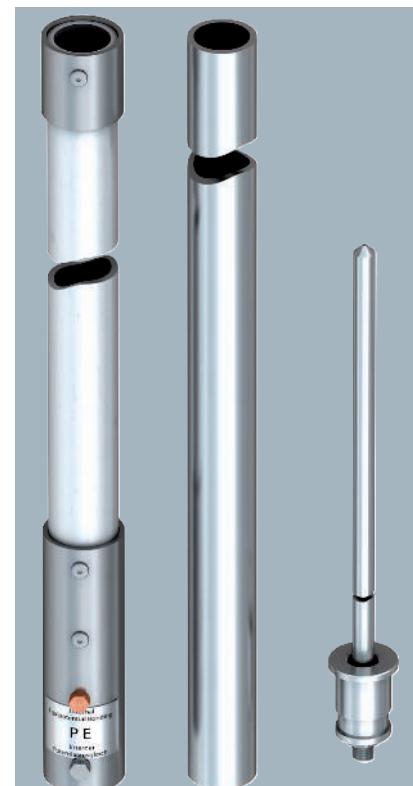
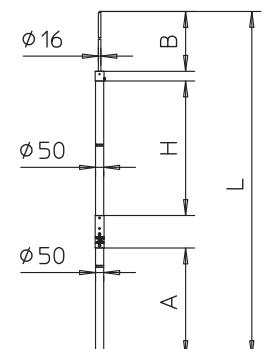
- For installation of the OBO isCon® Pro+ conductor in the pipe
- With side conductor outlet matching isFang air-termination rod stand with side outlet, type isFang 3B-A
- Suitable for wind loads according to Eurocode 1: DIN EN 1991-1-4
- Inclusive connection element (type isCon IN connect)
- Inclusive potential connection (type isCon In PAE)



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

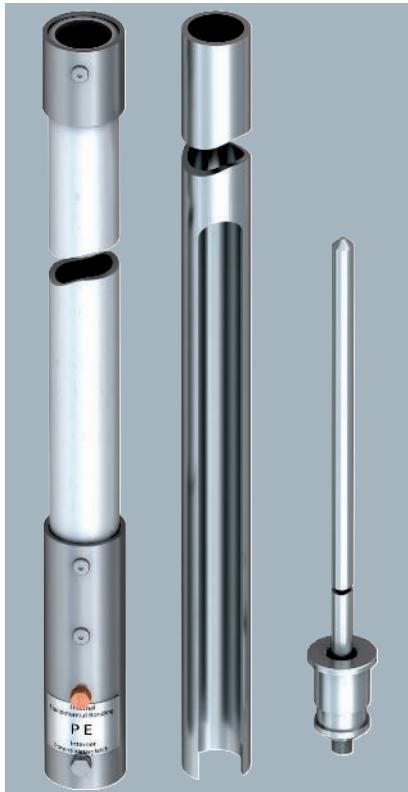
Type	Dim. D Ø mm	Dim. A mm	Dim. H mm	Dim. B mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang IN L4	50	1325	1500	1000	4000	1	535.741	5408854
isFang IN L6	50	3325	1500	1000	6000	1	835.741	5408856
isFang IN L8	50	5335	1500	1000	8000	1	1,315.741	5408858
isFang IN L10	50	6000	1733	2000	10000	1	1,540.741	5408860

- For routing OBO isCon® conductors in pipes
- For installation on the building structure with isFang support
- Suitable for wind loads according to Eurocode 1: DIN EN 1991-1-4
- Tested according to VDE V 0185-561-8 (IEC TS 62561-8)



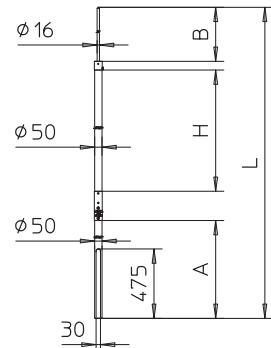
## Insulated air-termination rods

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

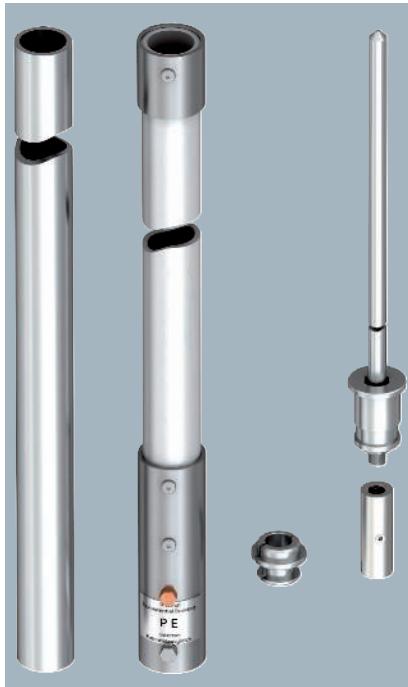


Type	D Ø mm	Dim. A mm	Dim. H mm	Dim. B mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang IN-A L4	50	1325	1500	1000	4000	1	535.000	5408874
isFang IN-A L6	50	3325	1500	1000	6000	1	835.741	5408876
isFang IN-A L8	50	5335	1500	1000	8000	1	1,385.741	5408878
isFang IN-A L10	50	6000	1733	2000	10000	1	1,540.741	5408880

- For routing OBO isCon® conductors in pipes
- 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 VDE V 0185-561-8 (IEC TS 62561-8)

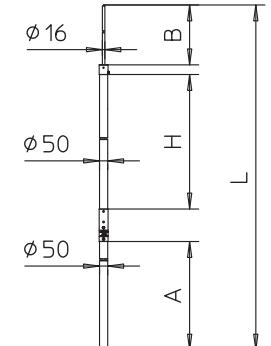


### isFang, insulated air-termination rod for inner-routed isCon® conductor Professional Plus



Type	D Ø mm	Dim. A mm	Dim. H mm	Dim. B mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
isFang IN 4000	50	1325	1500	1000	4000	1	535.000	5408934
isFang IN 6000	50	3325	1500	1000	6000	1	835.000	5408936
isFang IN 8000	50	5335	1500	1000	8000	1	1,315.000	5408868
isFang IN 10000	50	6000	1733	2000	10000	1	1,540.000	5408870

- 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)

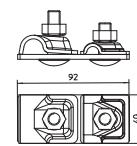


VA

**Connection plate for one isCon® conductor**

Type	Dimension	Pack Piece	Weight kg/100 pc.	Item no.
isCon AP1-16 VA   16x8-10mm		1	27.400	5408026

Connection plate to connect an isCon® conductor with air-termination rod Ø 16 mm, tested up to 150 kA (lightning protection class II)

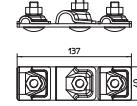


VA

**Connection plate for two isCon® conductors**

Type	Dimension	Pack Piece	Weight kg/100 pc.	Item no.
isCon AP2-16 VA   16x8-10mm		1	39.500	5408028

Connection plate to connect two isCon® conductors with air-termination rod Ø 16 mm, tested up to 150 kA (lightning protection class II)

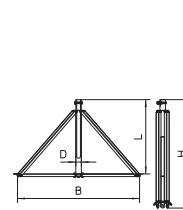
**Tripod**

VA

**isFang tripod with side outlet**

Type	Dim. B mm	Dim. D mm	Dim. L mm	Dim. H mm	Pack Piece	Weight kg/100 pc.	Item no.
	Ø mm	mm	mm	mm			
isFang 3B-100-A	1026	50	600	885	1	610.000	5408930
isFang 3B-150-A	1500	50	900	1275	1	950.000	5408932
isFang 3B-250-A	2900	50	1450	2055	1	2,500.000	5408902

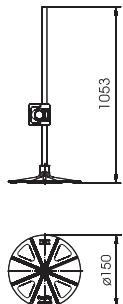
- Screwless installation of freestanding air-termination rods as well as insulated air-termination rods with 50 mm diameter
- E.g. for internal OBO isCon® conductor
- Roof slope to max. 5 degrees
- Incl. Rd 8–10 crossbar for quick round conductor fastening
- Concrete plinths as well as threaded rods should be ordered separately



## FangFix system

### Stand for FangFix Junior system

Alu

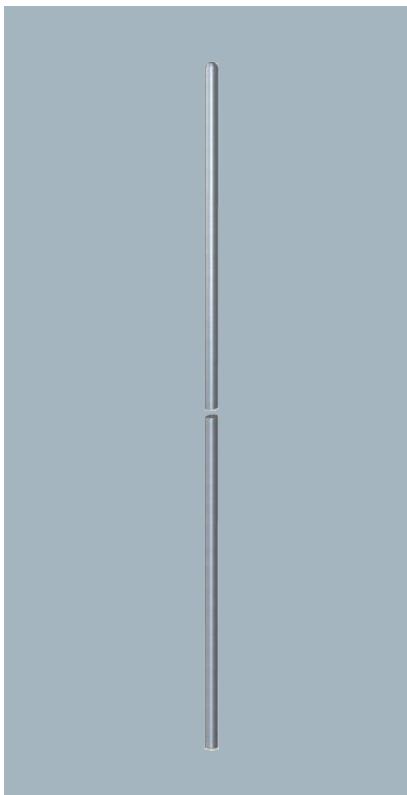


Type	Nominal		Pack Piece	Weight kg/100 pc.	Item no.
	Length mm	size Ø mm			
<b>F-FIX-JUNIOR</b>	1000	10	10	32.000	<b>5403308</b>

- 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

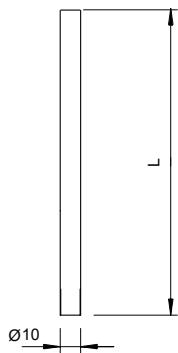
### Air-termination rod for FangFix-Junior

Alu



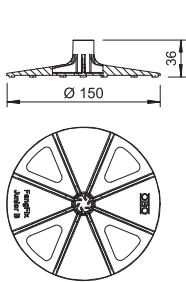
Type	Nominal		Pack Piece	Weight kg/100 pc.	Item no.
	Length mm	size Ø mm			
<b>101 J1000</b>	1000	10	10	21.800	<b>5401970</b>

- 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

PP



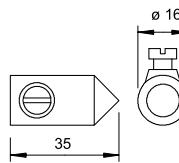
Type		Pack		Weight kg/100 pc.	Item no.
		Piece	kg/100 pc.		
<b>F-FIX-BASIS</b>		10	3.790		<b>5403324</b>

- 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

Zn G

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
120 A	Rd 8-10	10	2.500	5405068

- 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



### Air-termination tip

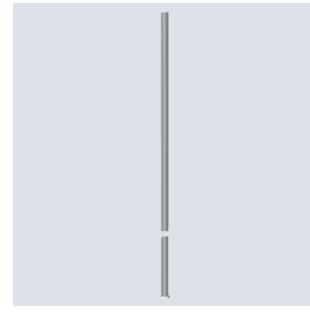
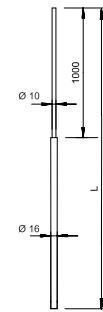


Alu

Type	Nominal Length mm	size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 VL1500	1500	10/16	1	38.000	5401980
101 VL2000	2000	10/16	1	55.000	5401983
101 VL2500	2500	10/16	1	72.000	5401986
101 VL3000	3000	10/16	1	88.000	5401989
101 VL3500	3500	10/16	1	105.000	5401993
101 VL4000	4000	10/16	1	120.000	5401995

- 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

### Tapered pipe air-termination rod

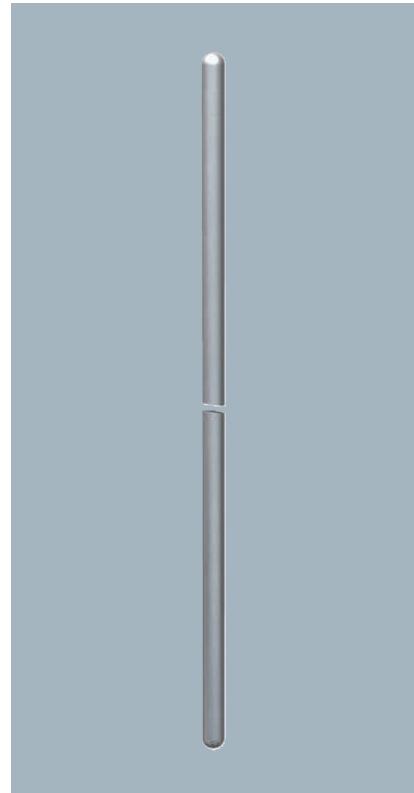
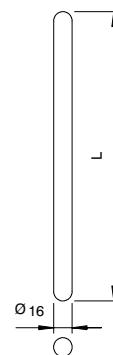


St FT

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

Type	Nominal Length mm	size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 A-1500	1500	16	1	240.000	5400155

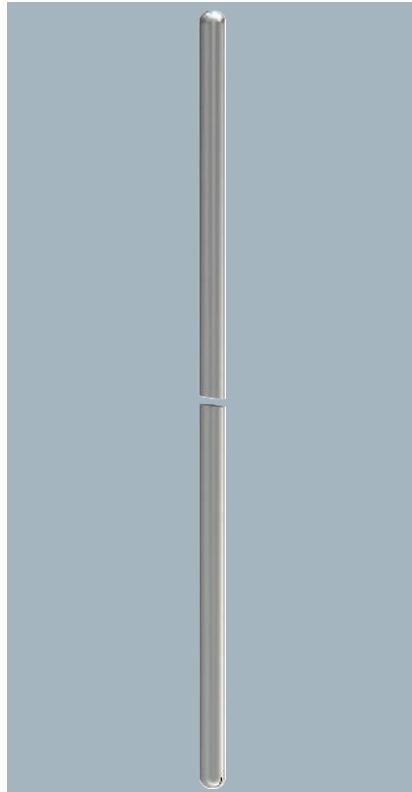
- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system



# FangFix system

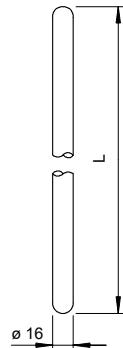
## Air-termination/earth entry rod, rounded-off on both ends

VA



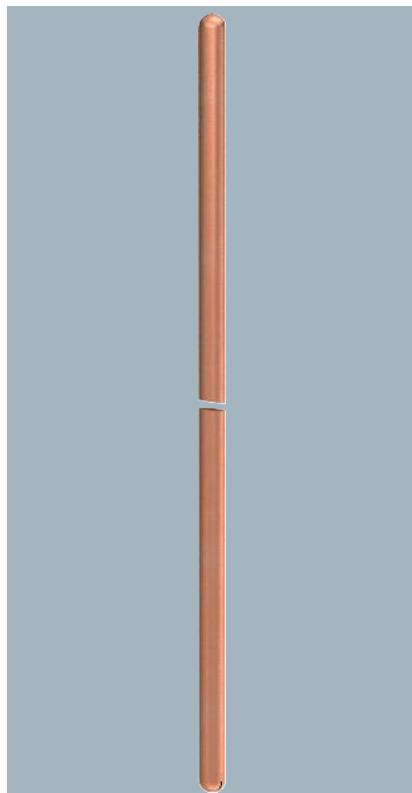
Type	Length mm	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
200 V4A-1500	1500	16	1	242.000	5420504
200 V4A-2000	2000	16	1	320.000	5420539

- Full material Ø 16 mm
- Both ends rounded



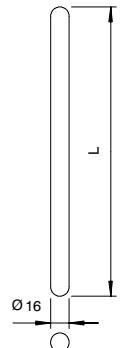
## Air-termination/earth entry rod, rounded-off on both ends

Cu



Type	Length mm	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 A-CU	1500	16	1	272.100	5400627

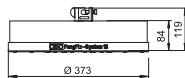
- Full material Ø 16 mm
- Both ends rounded



## Stand for FangFix system, min. 16 kg

Type	Fit	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
F-FIX-16	Rd 8	373	1	1,732.500	5403200
F-FIX-16B	Rd 8	373	54	1,732.500	5403205

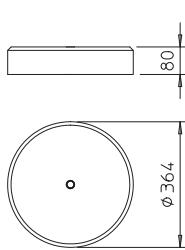
- System consisting of FangFix block with edge protection and clamp
- FangFix clamp made of VA; complies with the requirements of VDE 0185-305 (IEC 62305)
- Min. 16 kg block of Ø 365 mm, high level of stability
- Quick and easy installation of air-termination rod using anchors
- Frost-resistant concrete
- The FangFix block can be stacked
- Suitable for Ø 16 mm pipe air-termination rods



## Concrete base for FangFix system, min. 16 kg

Type	Fit	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
F-FIX-S16		365	1	1,700.000	5403227

- Min. 16 kg block of Ø 365 mm, high level of stability
- Frost-resistant concrete
- Stackable

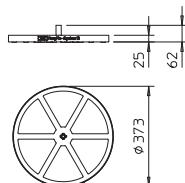


PP

## Base for FangFix system 16 kg

Type	Fit	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
F-FIX-B16		373	10	16.400	5403235

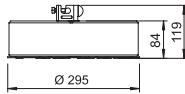
Edge protection with integrated dowel (basic) suitable for FangFix system.



## Stand for FangFix system, min. 10 kg

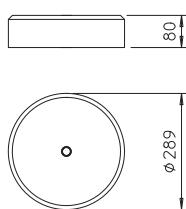
Type	Fit	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
F-FIX-10	Rd 8	295	1	1,058.000	5403103
F-FIX-10B	Rd 8	295	77	1,058.000	5403110

- System consists of FangFix block with base and clamp
- FangFix clamp made of VA; complies with the requirements of VDE 0185-305 (IEC 62305)
- Min. 10 kg block of Ø 289 mm, high level of stability
- Quick and easy installation of air-termination rod using anchors
- Frost-resistant concrete
- The FangFix stone can be stacked
- Suitable for Ø 16 mm pipe air-termination rods



## FangFix system

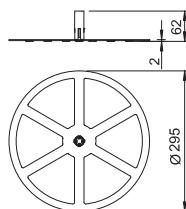
### Concrete base for FangFix system, min. 10 kg



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

- Min. 10 kg block of Ø 289 mm, high level of stability
- Frost-resistant concrete
- Stackable

### Base for FangFix system 10 kg

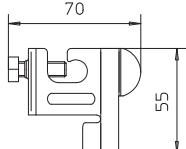


Type	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>F-FIX-B10</b>	295	10	7.600	<b>5403124</b>

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

PP

### Terminal for FangFix system

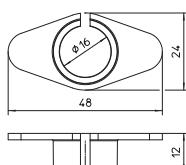


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>F-FIX-KL</b>	Rd 8	5	8.700	<b>5403219</b>

- 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

VA

### FangFix reducing sleeve



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>101 RH-16</b>	Black 16	25	0.187	<b>5408101</b>

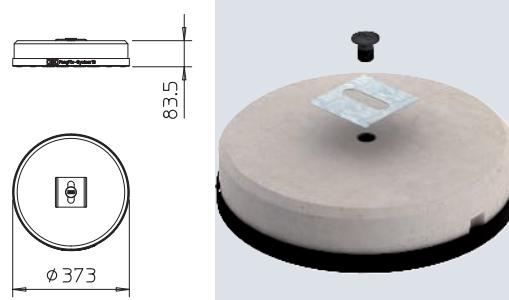
Reduces the drill hole of the FangFix block from Ø 20 mm to Ø 16 mm. Suitable for the installation of GFK insulating rods of Ø 16 mm.

PA

## Stand - TrayFix set 16 L

Type	From tray width mm	Pack Piece	Weight kg/100 pc.	Item no.
TrayFix-16-L	100	1	1,700.000	5403098

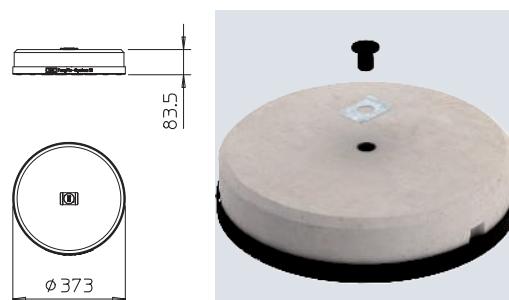
- Mounting system for the fastening of mesh cable trays with the FangFix stone, e.g. cable routing on a flat roof
- Matched to OBO cable tray systems MKSM and SKSM
- Matched to OBO mesh cable systems with a minimum width of 100 mm
- Set consisting of TrayFix mounting adapter and concrete block including base for FangFix system 16 kg.



## Stand - TrayFix set 16 S

Type	From tray width mm	Pack Piece	Weight kg/100 pc.	Item no.
TrayFix-16-S	100	1	1,700.000	5403099

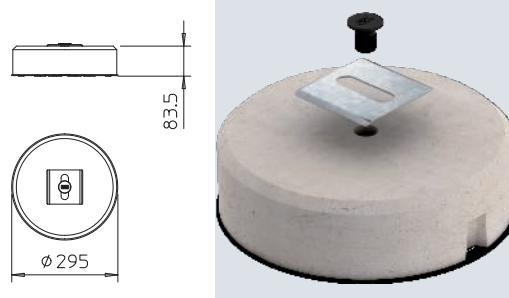
- Mounting system for the fastening of mesh cable trays with the FangFix base, e.g. for cable routing on a flat roof
- Matches OBO mesh cable tray systems with a minimum width of 100 mm
- Set consisting of TrayFix mounting adapter and concrete block incl. base for FangFix system 16 kg



## Stand - TrayFix set 10 L

Type	From tray width mm	Pack Piece	Weight kg/100 pc.	Item no.
TrayFix-10-L	100	1	1,100.000	5403101

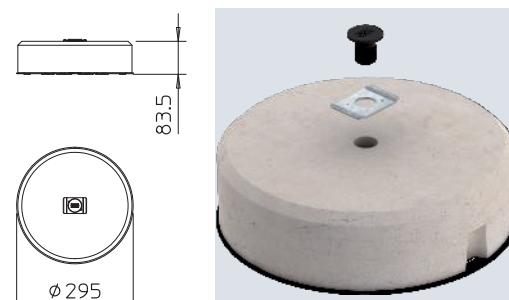
- Mounting system for the fastening of mesh cable trays with the FangFix stone, e.g. cable routing on a flat roof
- Matched to OBO cable tray systems MKSM and SKSM
- Matched to OBO mesh cable systems with a minimum width of 100 mm
- Set consisting of TrayFix mounting adapter and concrete block including base for FangFix system 10 kg



## Stand - TrayFix set 10 S

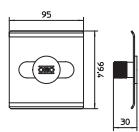
Type	From tray width mm	Pack Piece	Weight kg/100 pc.	Item no.
TrayFix-10-S	100	1	1,000.000	5403102

- Mounting system for the fastening of mesh cable trays with the FangFix stone, e.g. cable routing on a flat roof
- Matches to OBO mesh cable tray systems with a minimum width of 100 mm
- Set consisting of TrayFix mounting adapter and concrete block including base for FangFix system 10 kg



## TrayFix stands

### TrayFix mounting adapter for mesh cable trays on FangFix system



Dimension		Pack	Weight	
Type		Piece	kg/100 pc.	Item no.
TrayFix	ø20mm	25	9.850	5403100

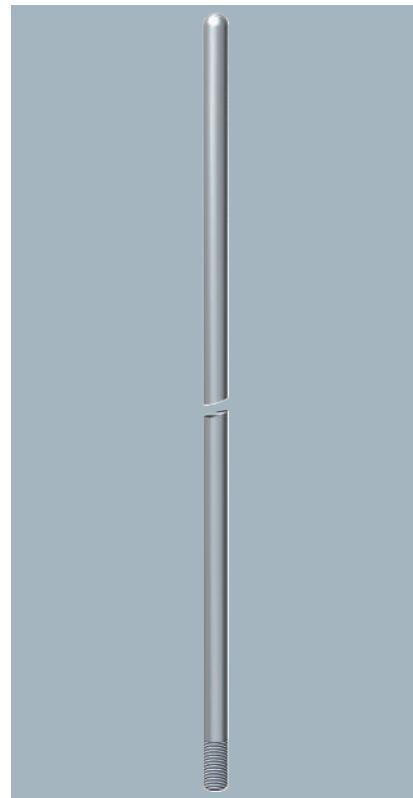
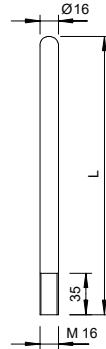
- Mounting system for the fastening of mesh cable trays and cable trays on FangFix stone, e.g. cable routing on a flat roof
- Adapted to OBO cable tray systems MKSM, SKSM and IKSM
- Adapted to OBO mesh cable tray systems with a minimum width of 100 mm

Alu

## Air-termination rod, one end rounded, M16 thread

Type	Nominal Length mm	size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 ALU-1000	1000	16	1	55.000	5401771
101 ALU-1500	1500	16	1	81.000	5401801
101 ALU-2000	2000	16	1	109.000	5401836
101 ALU-2500	2500	16	1	136.000	5401852
101 ALU-3000	3000	16	1	162.000	5401879

- 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

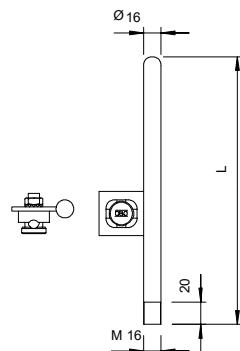


St FT

## Air-termination rod, one end rounded, M16 thread

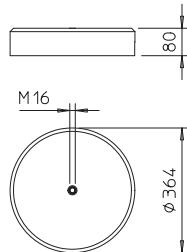
Type	Nominal Length mm	size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 A-L100	1000	16	1	160.000	5402808
101 A-L150	1500	16	1	240.000	5402859

- 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



## Air-termination rods

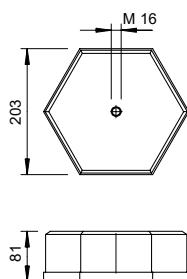
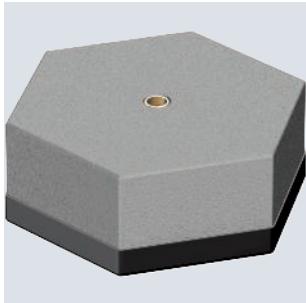
### Concrete base min. 16 kg with female thread



Type	Nominal size Ø mm	Thread	Pack	Weight Piece kg/100 pc.	Item no.
101 B2-16 M16	364	M16	1	1,600.000	5402958

- Weight min. 16 kg
- Frost-resistant concrete
- Female thread M16
- Recommended air-termination rod length max. 3.0 m, depending on wind load zone

### Stand 6.9 kg with female thread

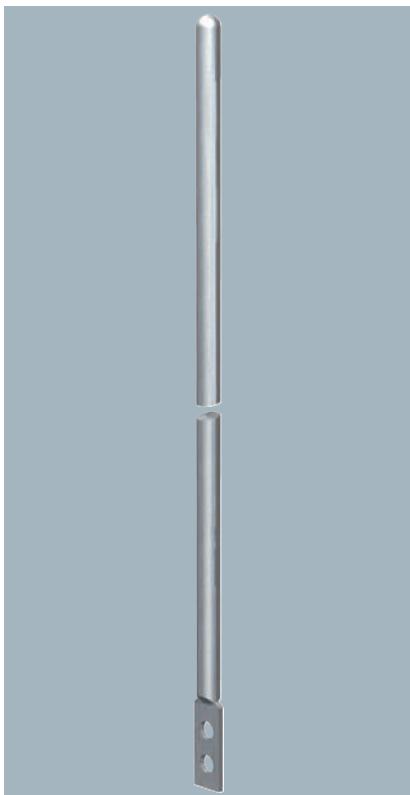


Type	Thread	Pack	Weight Piece kg/100 pc.	Item no.
101 ST	M16	4	690.000	5402891

- Weight 6.9 kg
- Frost-resistant concrete
- Female thread M16
- Recommended air-termination rod length max. 1.0 m

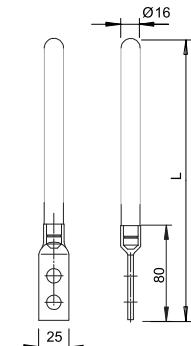
### Air-termination/earth entry rod with connection tabs

St FT



Type	Nominal Length mm	size Ø mm	Pack	Weight Piece kg/100 pc.	Item no.
101 F1000	1000	16	1	160.000	5424100
101 F1500	1500	16	1	240.000	5424151
101 F2000	2000	16	1	320.000	5424208

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



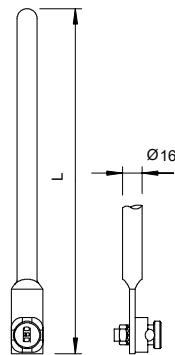
St

FT

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

Type	Length mm	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 G1000	1000	16	1	164.300	5402107
101 G1500	1500	16	1	240.000	5402158

- 1 attaching hole Ø 12 mm
- With pre-mounted conductor for Rd 8-10
- One end rounded



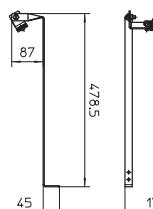
VA

## Air-termination rod holder for sloping roof

Type	Pack Piece	Weight kg/100 pc.	Item no.
SD-Fix	1	81.000	5403335

Stand system: rod holder for sloping roofs, for simple, quick and secure fastening of Ø 16 mm air-termination rods.

- System consists of a bracket made of V2A stainless steel
- Quick and easy mounting
- Adjustable angle
- In the case of high air-termination rods (> 1 m), additional fastening with insulated spaces is necessary



VA

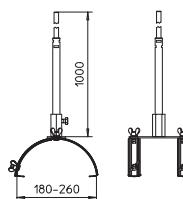
## Air-termination rod holder for ridge tiles

Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
F-FIX-132	110	1	62.000	5403330
F-Fix-132-300	300	1	78.000	5403333

Rod holder for ridge tiles, for simple, quick and safe fastening of Ø 16 mm air-termination rods

- System consisting of holder made of V2A stainless steel and aluminium air-termination rods
- Quick and easy mounting thanks to pre-mounted air-termination rod
- Air-termination rod length: 1,000 mm
- Width adjustable between 180–260 mm
- Spacing of the ridge holders: 110 mm (5403330)
- Spacing of the ridge holders: 300 mm (5403333)

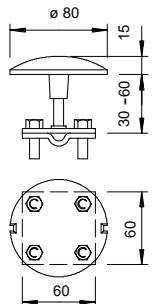
Application: To protect roof structures such as photovoltaic and TV/SAT systems.



## Air-termination rods

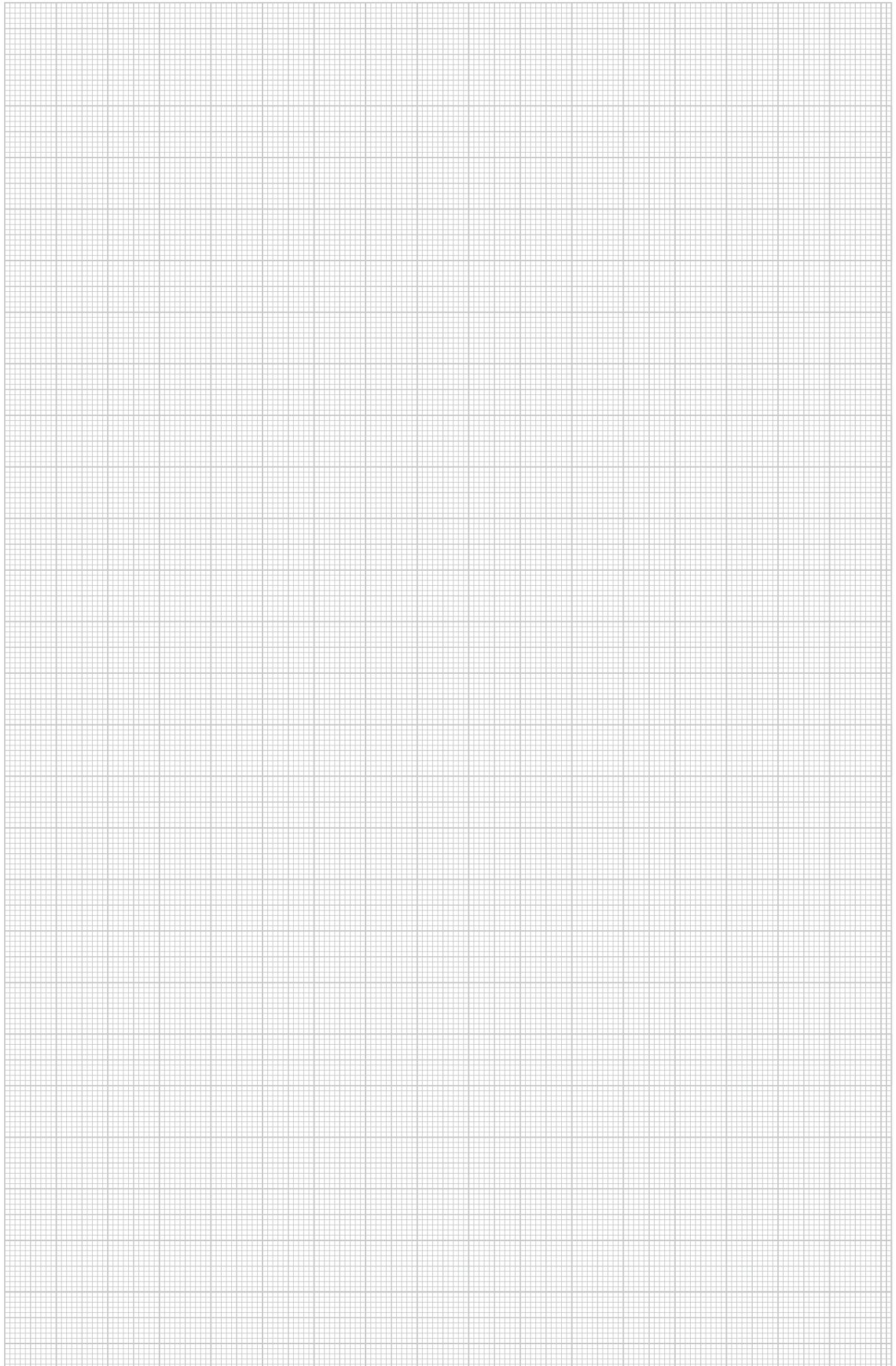
### Mushroom-shaped air-termination with connectors

St FT



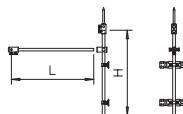
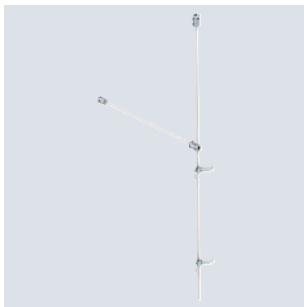
Type	Fit mm	Dim. D Ø mm	Pack	Weight	Item no.
			Piece	kg/100 pc.	
128 F	Rd 8-10/FL30	80	5	40.000	5405769

- 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



## Insulated lightning protection sets

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

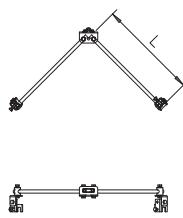
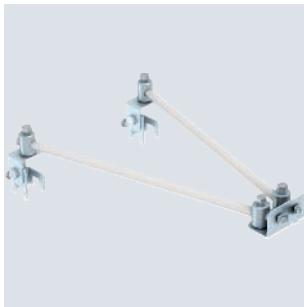


Type	Dim. D Ø mm	Dim. L mm	Dim. H mm	Pack Piece	Weight kg/100 pc.	Item no.
101 3-ES-16	16	750	1500	1	207.100	5408976

3-corner fastening for an insulated air-termination unit at the separating distance s.

- Mounting on walls and roof structures with two fastening plates
- For maintenance of the separation distance to electrically conductive parts according to VDE 0185-305-3 (IEC 62305-3)
- Acceptance of air-termination rods and round conductors with 8, 16 and 20 mm diameter
- UV-stabilised and weatherproof
- Continuous temperature range -50 °C to +100°C
- Material factor km = 0.7

### Insulated lightning protection set, IR fastening

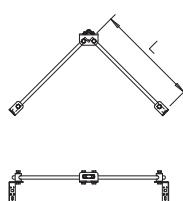
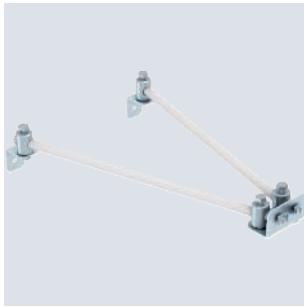


Type	Dim. D Ø mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
101 FS-16	16	750	1	235.500	5408980

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

- Mounting on folds with a thickness of up to 20 mm
- For maintenance of the separation distance to electrically conductive parts according to VDE 0185-305-3 (IEC 62305-3)
- Acceptance of air-termination rods and round conductors with 8, 16 and 20 mm diameter
- UV-stabilised and weatherproof
- Continuous temperature range -50 °C to +100°C
- Material factor km = 0.7

### Insulated lightning protection set, V fastening

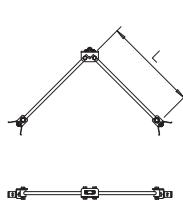
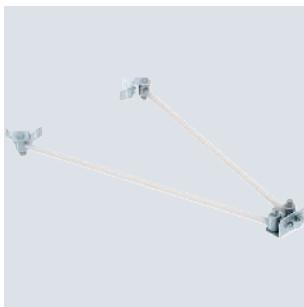


Type	Dim. D Ø mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
101 VS-16	16	750	1	201.800	5408978

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

- Mounting on walls and roof structures with two wall connection brackets
- For maintenance of the separation distance to electrically conductive parts according to VDE 0185-305-3 (IEC 62305-3)
- Acceptance of air-termination rods and round conductors with 8, 16 and 20 mm diameter
- UV-stabilised and weatherproof
- Continuous temperature range -50 °C to +100°C
- Material factor km = 0.7

### Insulated lightning protection set, VRS fastening



Type	Dim. D Ø mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
101 VRS-16	16	750	1	209.400	5408982

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

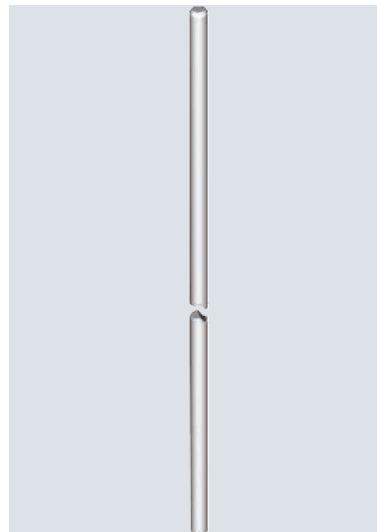
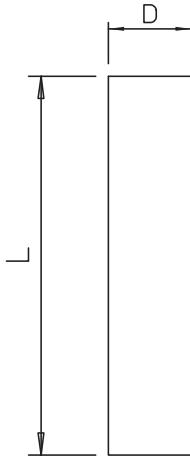
- Mounting on pipes with two pipe clips
- Including 2 m tightening strip and tension jack
- For maintenance of the separation distance to electrically conductive parts according to VDE 0185-305-3 (IEC 62305-3)
- Acceptance of air-termination rods and round conductors with 8, 16 and 20 mm diameter
- UV-stabilised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



## Insulating rod

Type	Nominal size Ø mm	Length mm	Pack Piece	Weight kg/100 pc.	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

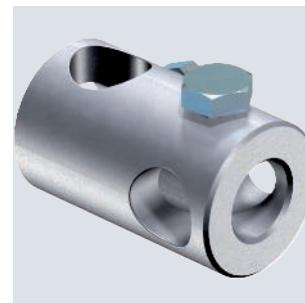
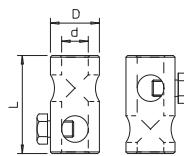
- For the erection of insulated air-termination systems to VDE 0185-305 (IEC 62305)
- UV-stabilised and weatherproof
- Continuous temperature range -50 °C to +100 °C
- Material factor km = 0.7



## T connector

Type	Dimension d Ø mm	Length mm	Dim. D Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 IT	20	65	40	10	16.120	5408156
101 IT-16	16	60	30	10	11.475	5408158

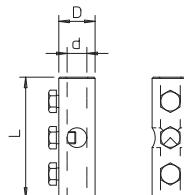
- T connector for installation of insulating rods
- With M10 bolts



## K connector

Type	Dimension d Ø mm	Length mm	Dim. D Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 IK	20	100	40	10	20.000	5408296
101 IK-16	16	100	30	10	17.500	5408298

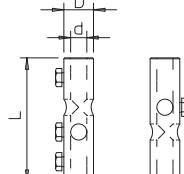
- K connector for installation of insulating rods
- With M10 bolts



## DK connector

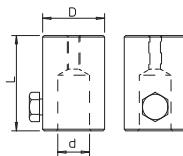
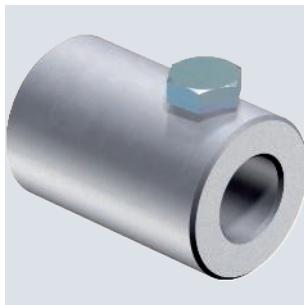
Type	Dimension d Ø mm	Length mm	Dim. D Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 IDK	20	125	40	10	35.300	5408245

- DK connector link for installing insulating rods
- With M10 bolts



## Insulated lightning protection sets

### Wall connection

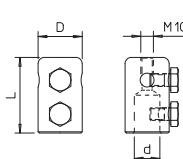


Type	Dimension			Dim. Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
	d Ø mm	Length mm	D mm				
101 IW-M10	20	60	40		10	20.000	5408687
101 W-16	16	60	30		10	14.200	5408689

- 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

Alu

### End piece

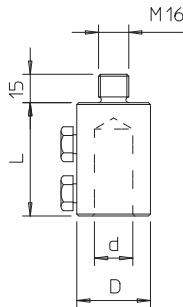


Type	Dimension			Dim. Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
	d Ø mm	Length mm	D mm				
101 IES	20	60	35		10	20.000	5408393
101 IES-16	16	60	30		10	10.000	5408395

- 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

Alu

### Connection piece

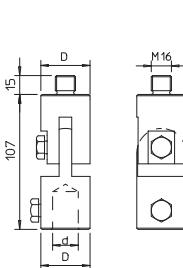


Type	Dimension			Dim. Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
	d Ø mm	Length mm	D mm				
101 A-M16	20	60	40		10	20.000	5408350
101 A-16	16	60	30		10	13.000	5408352

- Fitting with M16 thread
- For mounting on stands with M16 female thread such as type 101 (5402891, 5402958)
- With M10 bolts

Alu

### Connection joint



Type	Dimension			Dim. Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
	d Ø mm	Length mm	D mm				
101 IAG	20	107	40		10	40.000	5408504

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

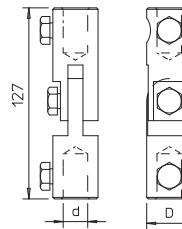
Alu

# Insulated lightning protection sets

Alu

Type	d Ø mm	Length mm	Dim. Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 IGL-16	16	127	30	10	32.000	5408630

Link for installation of insulation pipes, including M10 screws.



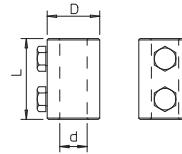
## Articulated connector



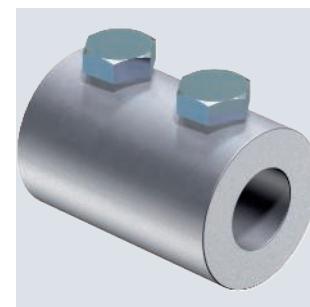
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Type	d Ø mm	Length mm	Dim. Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 IV-16	16	60	30	10	16.000	5408557

- Extension of insulating rods
- With M10 bolts



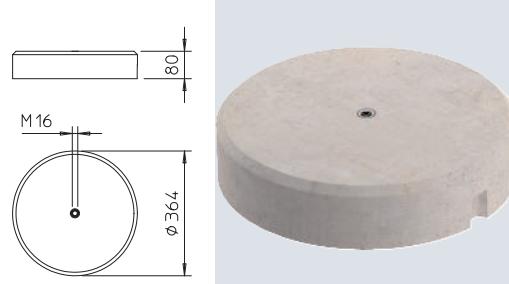
## Extension



## Concrete base min. 16 kg with female thread

Type	Nominal size Ø mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
101 B2-16 M16	364	M16	1	1,600.000	5402958

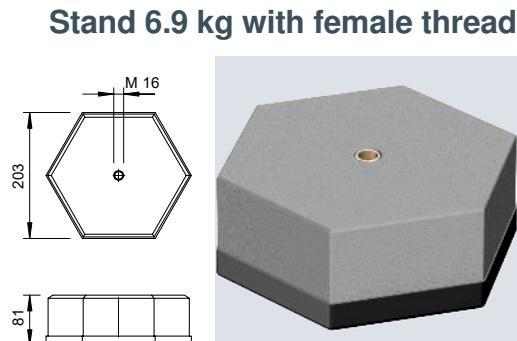
- Weight min. 16 kg
- Frost-resistant concrete
- Female thread M16
- Recommended air-termination rod length max. 3.0 m, depending on wind load zone



Thread

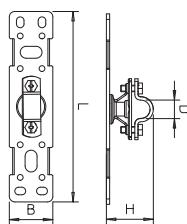
Type	Thread	Pack Piece	Weight kg/100 pc.	Item no.
101 ST	M16	4	690.000	5402891

- Weight 6.9 kg
- Frost-resistant concrete
- Female thread M16
- Recommended air-termination rod length max. 1.0 m



## Insulated lightning protection sets

### Fastening plate

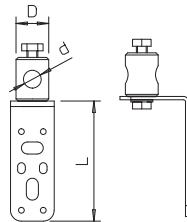


Type	Dim. L mm	Dim. B mm	Dim. D Ø mm	Dim. H mm	Pack Piece	Weight kg/100 pc.	Item no.
101 BP-16	175	40	16	42	1	21.200	5408984

- To mount insulating rods on constructions or walls
- Plate made of VA stainless steel
- Holder and crosspiece for 16 and 20 mm rods and Rd 8–10 mm

### Wall connection, angled

VA

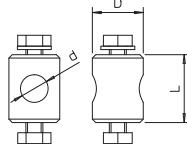


Type	Dimension d Ø mm	Dimension L mm	Dimension D Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 WG-16	16	110	30	1	27.960	5408986

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

### Fastening bolts

Alu

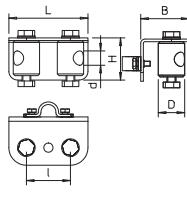
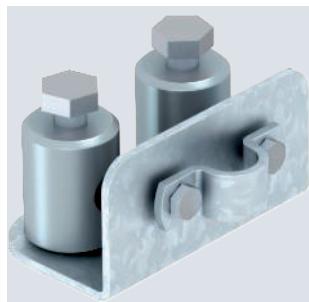


Type	Dimension d Ø mm	Dimension L mm	Dimension D Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 BB-16	16	40	30	1	13.920	5408988

- For GFK rods
- Dimension D Ø: 16 mm

### Holder, V support

VA



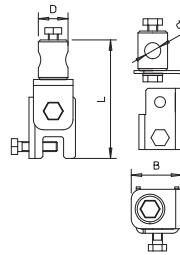
Type	Dimension d Ø mm	Dim. L mm	Dim. H mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
101 HV-16	16	90	55	48	1	50.700	5408990

- Rod holder to accept two GRP rods
- Bracket and crossbar for 16 and 20 mm rods and Rd 8–10 mm

VA

Type	Dimension d Ø mm	Dim. L mm	Dim. D Ø mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
101 F-16	16	121	30	51	1	45.120	5408992

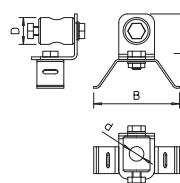
- To fasten a GFK rod on constructions of 4 to 20 mm
- Dimension D Ø: 16 mm



## Pipe fastening

Type	Dimension d Ø mm	Dim. L mm	Dim. D Ø mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
101 R-16	16	81	30	96	1	26.830	5408994

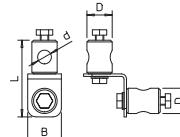
- For pipe fastening of a GRP rod using a tightening strap
- Slot width (l x w) 17 x 6 mm



VA

Type	Dimension d Ø mm	Dim. L mm	Dim. D Ø mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
101 MA-16	16	91	30	40	1	36.280	5408996

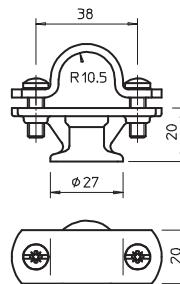
- Connector for two GFK rods
- Dimension D Ø: 16 mm



Zn

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 Z-20	Rd 20	20	8.200	5230527

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

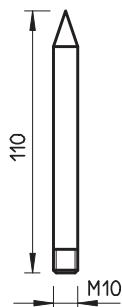


## Rod holder, 20 mm

## Insulated lightning protection sets

### Air-termination tip

Alu

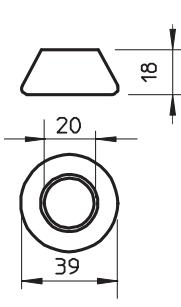


Type	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
101 ISP M10	110	10	10.000	5408458

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

### Water repellent

Alu

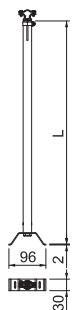


Type	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
101 IAB	18	10	2.000	5408733

Water repellent for mounting on insulation rods with d = 20 mm

### Adjustable insulating beam – pipe

GFK



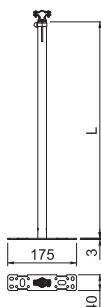
Type	Pack Piece	Weight kg/100 pc.	Item no.
ISAV1000R	1	130.000	5408849

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

GFK



Type	Pack Piece	Weight kg/100 pc.	Item no.
ISAV1000W	1	130.000	5408852

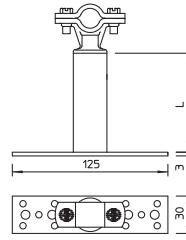
Variable spacer for conductors and air-termination rods to maintain the separation distance.

- 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)

Alu PA

Type	Length mm	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
<b>ISO-A-150 8</b>	150	Rd 8	15	13.800	<b>5408800</b>
<b>ISO-A-500</b>	500	Rd 16	1	36.000	<b>5408806</b>
<b>ISO-A-800</b>	800	Rd 16	1	55.000	<b>5408814</b>
<b>ISO-A-1030</b>	1030	Rd 16	1	68.000	<b>5408820</b>

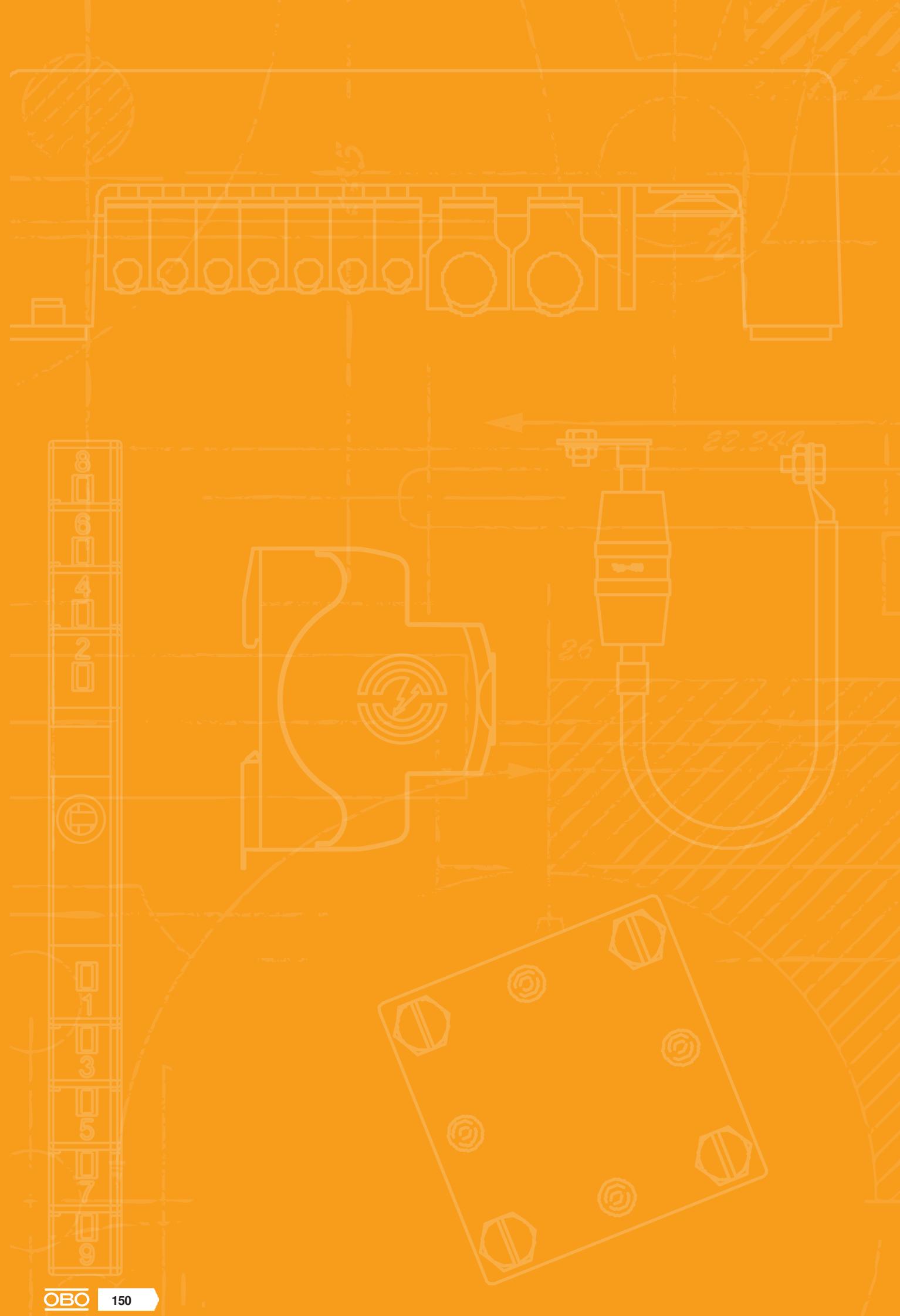
- Mounting foot with 10 connection holes Ø 6.5 mm and 4 connection holes Ø 8.5 mm
- Type ...150 8 with holder suitable for round conductor RD 8
- Application for shelters, e.g. golf, barbecue or mountain huts



### Insulated spacer



Roof cable holders and cable brackets



# Roof cable holders and cable brackets



Roof cable holders

152



Cable brackets

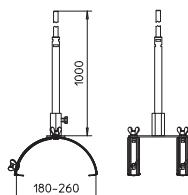
166



# Roof conductor holders, ridge

## Air-termination rod holder for ridge tiles

VA



Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
F-FIX-132	110	1	62.000	5403330
F-Fix-132-300	300	1	78.000	5403333

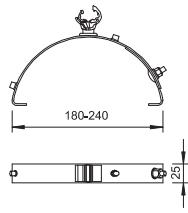
Ridge holder for ridge tiles, for simple, quick and safe fastening of Ø 16 mm air-termination rods

- System consisting of holder made of V2A stainless steel and aluminium air-termination rods
- Quick and easy mounting thanks to pre-mounted air-termination rod
- Air-termination rod length: 1,000 mm
- Width adjustable between 180–260 mm
- Spacing of the ridge holders: 110 mm (5403330)
- Spacing of the ridge holders: 300 mm (5403333)

Application: To protect roof structures such as photovoltaic and TV/SAT systems.

## Roof cable holder for ridge tiles, 180–240 mm, Rd 8–10

St FT

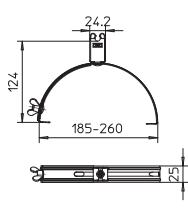


Type	Fit mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
132 N-DK	Rd 8-10	20	20	19.700	5202566

- Adjustable from 180–240 mm
- With conductor 177/20, polyamide, grey
- With 3 M8 threaded nipples for positioning the holder

## Roof conductor holder for ridge tiles, 185–260 mm, Rd 8

VA

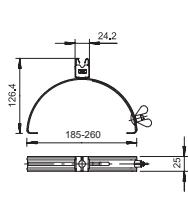


Type	Fit mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
132 VA 35	Rd 8	35	20	13.700	5202836

- Adjustable width from 185–260 mm
- Fast installation using wing screw

## Roof conductor holder for ridge tiles, 185–260 mm, Rd 8

VA



Type	Fit mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
132 VA	Rd 8	20	20	12.900	5202833

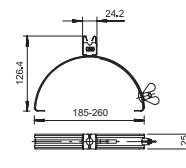
- Adjustable width from 185–260 mm
- Fast installation using wing screw

Cu

## Roof conductor holder for ridge tiles, 185–260 mm, Rd 8

Type	Fit height mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
132 CU	Rd 8   20		10	13.400	5202868

- Adjustable width from 185–260 mm
- Fast installation using wing screw

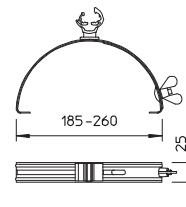


VA

## Roof conductor holder for ridge tiles, 185–260 mm, Rd 8–10

Type	Fit height mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
132 K-VA	Rd 8-10   20		20	10.900	5202515

- Adjustable width from 185–260 mm
- Bottom part made of non-rusting stainless steel (V2A)
- Infinitely adjustable conductor holder
- Conductor holder of polyamide
- Fast installation using wing screw

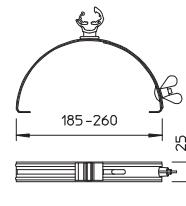


Cu

## Roof conductor holder for ridge tiles, 185–260 mm, Rd 8–10

Type	Fit height mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
132 K-CU	Rd 8-10   20		10	11.600	5202590

- Adjustable width from 185–260 mm
- Bottom part made of copper
- Infinitely adjustable conductor holder
- Conductor holder of polyamide
- Fast installation using wing screw

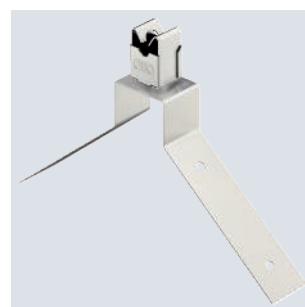
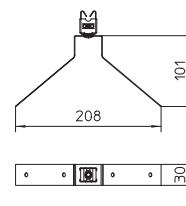


VA

## Roof conductor holder for ridge tiles, metal roofs, Rd 8

Type	Fit height mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
132 P VA	Rd 8   20		20	8.420	5202510

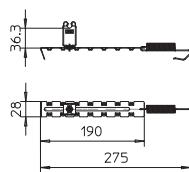
- For round conductors Rd 8
- Suitable for metal roofs



## Roof conductor holders, ridge

### Ridge conductor holder with tensioning spring

VA

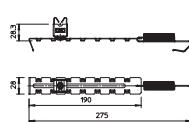


Type	Installation		Pack	Weight	Item no.
	Fit mm	height mm			
132 U 35	RD 8	35	20	6.800	5203018

- For round conductor Rd 8
- Clamping range 280-380 mm

### Ridge conductor holder with tensioning spring

VA

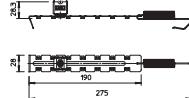
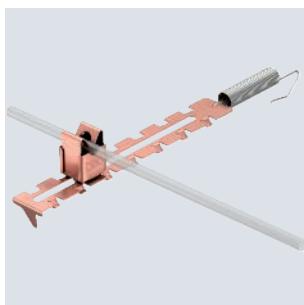


Type	Installation		Pack	Weight	Item no.
	Fit mm	height mm			
132 U	RD 8	20	20	6.000	5203015

- For round conductor Rd 8
- Clamping range 280-380 mm

### Ridge conductor holder with tensioning spring

VA Cu



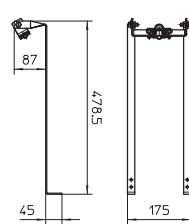
Type	Installation		Pack	Weight	Item no.
	Fit mm	height mm			
132 U-CU	RD 8	20	10	0.600	5203023

- For round conductor Rd 8
- Clamping range 280-380 mm

## Roof conductor holders, tiled roofs

### Air-termination rod holder for sloping roof

VA



Type	Pack		Weight	Item no.
	Piece	kg/100 pc.		
SD-Fix	1	81.000	5403335	

Stand system: rod holder for sloping roofs, for simple, quick and secure fastening of Ø 16 mm air-termination rods.

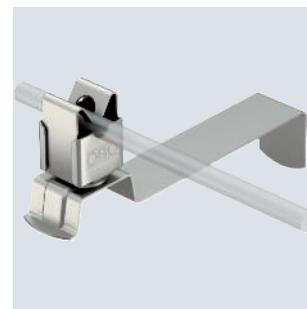
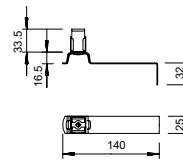
- System consists of a bracket made of V2A stainless steel
- Quick and easy mounting
- Adjustable angle
- In the case of high air-termination rods (> 1 m), additional fastening with insulated spaces is necessary

Alu

## Roof conductor holder for tiled roofs, angled, Rd 8

Type		Installation		Pack	Weight	
		Fit height mm	Length mm	Piece	kg/100 pc.	Item no.
157 FX-AL	Rd 8	26.5	140	20	3.900	5215875

- With flexible bottom section from aluminium for matching to roof tiles (easy to flex)
- Holder from stainless steel (V2A)
- Curved bottom section for quick installation

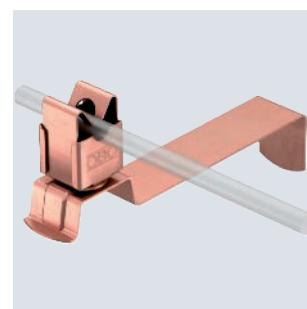
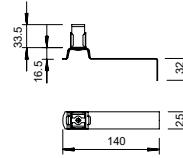


Cu

## Roof conductor holder for tiled roofs, angled, Rd 8

Type		Installation		Pack	Weight	
		Fit height mm	Length mm	Piece	kg/100 pc.	Item no.
157 FX-CU	Rd 8	26.5	140	10	7.500	5215879

- With flexible bottom section from copper for matching to roof tiles (easy to flex)
- Holder from copper plated stainless steel (V2A)
- Curved bottom section for quick installation

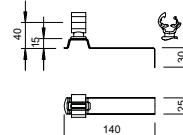


VA

## Roof conductor holder for tiled roofs, angled, Rd 8–10

Type		Installation		Pack	Weight	
		Fit height mm	Length mm	Piece	kg/100 pc.	Item no.
157 IK-VA	Rd 8-10	40	140	20	7.150	5215668

- Conductor holder of polyamide
- Curved bottom strip for quick installation

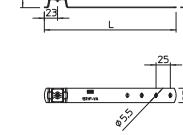


VA

## Roof conductor holder for tiled roofs, Rd 8

Type		Installation		Pack	Weight	
		Fit height mm	Length mm	Piece	kg/100 pc.	Item no.
157 F-VA 230 35	Rd 8	50	230	20	8.300	5215555
157 F-VA 280 35	Rd 8	50	280	20	9.700	5215582

- Conductor holder from stainless steel (V2A)
- Including drill hole in bottom section for quick installation

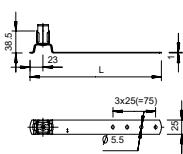




## Roof conductor holders, tiled roofs

### Roof conductor holder for tiled roofs, Rd 8

VA

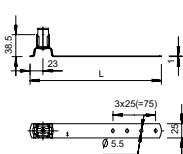


Type	Installation			Pack	Weight	Item no.
	Fit height mm	height mm	Length mm			
157 F-VA 230	Rd 8	38.5	230	20	8.350	5215552
157 F-VA 280	Rd 8	38.5	280	20	10.170	5215579
157 F-VA 410	Rd 8	38.5	410	20	14.880	5215595

- Conductor holder from stainless steel (V2A)
- Including drill hole in bottom section for quick installation

### Roof conductor holder for tiled roofs, Rd 8

Cu

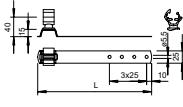


Type	Installation			Pack	Weight	Item no.
	Fit height mm	height mm	Length mm			
157 F-CU 230	Rd 8	38.5	230	10	10.300	5216192
157 F-CU 280	Rd 8	38.5	280	10	11.100	5216206
157 F-CU 410	Rd 8	38.5	410	10	14.500	5216257

- Conductor holder from copper plated stainless steel (V2A)
- Including drill hole in bottom section for quick installation

### Roof conductor holder for tiled roofs, Rd 8–10

VA

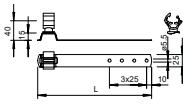


Type	Installation			Pack	Weight	Item no.
	Fit height mm	height mm	Length mm			
157 FK-VA 230	Rd 8-10	40	230	20	7.800	5215544
157 FK-VA 280	Rd 8-10	40	280	20	10.170	5215587
157 FK-VA 410	Rd 8-10	40	410	20	14.880	5215609

- Conductor holder of polyamide
- Including drill hole in bottom section for quick installation

### Roof conductor holder for tiled roofs, Rd 8–10

Cu



Type	Installation			Pack	Weight	Item no.
	Fit height mm	height mm	Length mm			
157 FK-CU 230	Rd 8-10	40	230	10	8.800	5216184

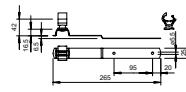
- Conductor holder of polyamide
- Including drill hole in bottom section for quick installation

VA

**Roof conductor holder for slated roofs, crimped, Rd 8–10**

Type	Fit mm	height mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
157 EK-VA	Rd 8-10	42	265	20	7.800	5215838

- Conductor holder of polyamide
- With Ø 5.5 mm drill hole

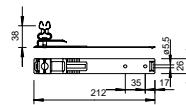


VA

**Roof conductor holder for slated roofs, Rd 8**

Type	Fit mm	height mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
157 L-VA	Rd 8	32	212	20	8.000	5215439

- With Ø 5.5 mm drill hole and beading

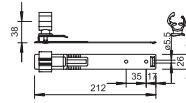


VA

**Roof conductor holder for slated roofs, Rd 8–10**

Type	Fit mm	height mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
157 LK-VA	Rd 8-10	38	212	20	8.000	5215374

- With Ø 5.5 mm drill hole and beading
- Conductor holder of polyamide



# Type 165 MBG 8-10 Roof conductor holder

Roof cable holders and cable brackets

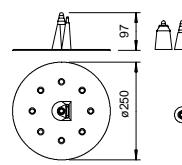
For both Ø 8 and 10 mm round wire



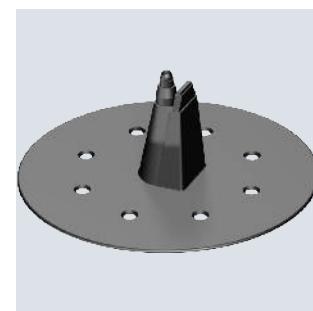
PA

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
330 K	Rd 8-16/FL20 u. FL30	5	14.400	5201101

- For round conductors 8-10, air-termination rods 16 mm
- Flat conductors 20 mm/30 mm
- Colour: Black, UV-resistant
- For penetration and sealing of roofs



## Roof penetration

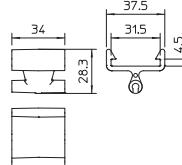


PP

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

Type	Colour mm	Fit	Pack Piece	Weight kg/100 pc.	Item no.
165 MBG HFL	Black	FL 30x3.5	12	0.658	5218885

- Flat conductor holder FL 30 x 3.5 mm
- For fastening to 165/MBG in fit Rd 8

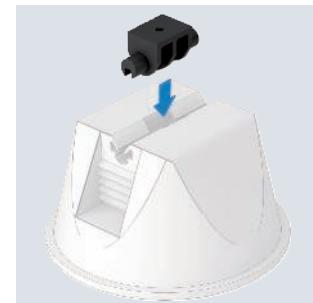
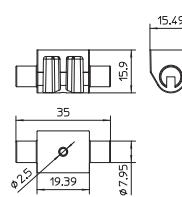


PP

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

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

- 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

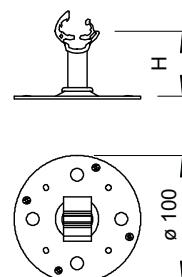


PA

## Roof conductor holder 55 mm

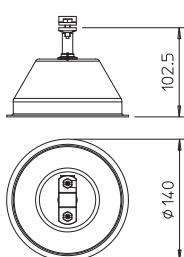
Type	Fit mm	H mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
165 NBK 55	Rd 8-10	55	100	75	13.540	5218314

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



## Roof conductor holders, flat roofs

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

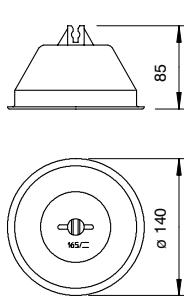


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
165 KRB SO	Rd 8-10	9	144.000	5218977

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

### Roof conductor holder for flat roofs, only plastic sleeve

PE

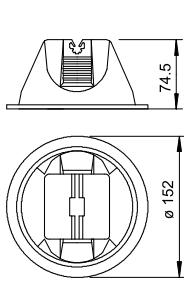
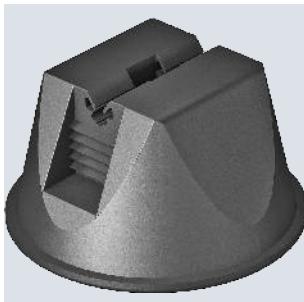


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
165 KR	Rd 8	50	5.449	5218861

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

### Roof conductor holder for flat roofs, without base

PE

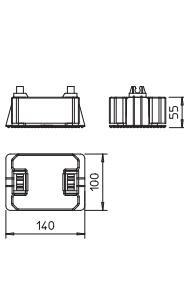


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
165 OBG-8	Rd 8	12	100.000	5218683

- Without bottom
- With double conductor holder
- Filling weight 1 kg (frost-resistant concrete)
- Sleeve from polyethylene, black

### Roof conductor holder for flat roofs

PE



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
165 R-8-10	Rd 8-10	10	106.000	5218997

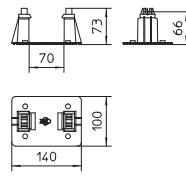
- For round conductors Rd 8–10
- With polyethylene plastic holder, black
- Block made of frost-resistant concrete
- Weight 1 kg
- Block can be split into plastic and concrete (recyclable)

PE

## Roof conductor holder, for plastic film roofs

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
165 R-8-10 OBG	Rd 8-10	100	6.760	5218999

- For flat roofs
- For round conductors Rd 8 to 10
- Polyethylene plastic holder, light grey
- For clamping in roof strips
- When installing round conductors, expansion elements are to be used for thermal compensation

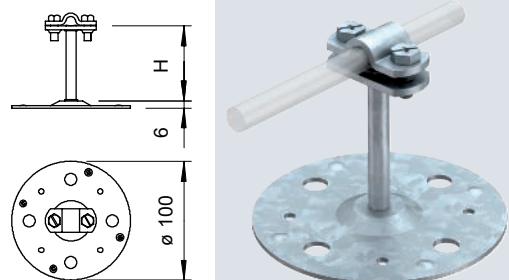


St FT

## Roof conductor holder, suitable for direct bonding

Type	Fit mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
165 B 60	Rd 8-10	60	50	26.100	5218810

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

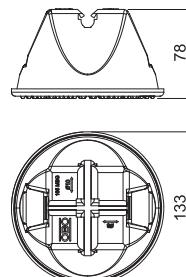


PA/PE

## Roof conductor holder for flat roofs, black

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
165 MBG-8-10	Rd 8-10	12	97.220	5218700
165 MBG-8-10 FO	Rd 8-10	12	100.000	5218704

- 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

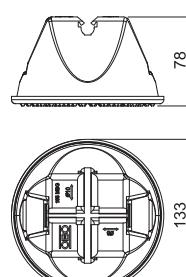


PA/PE

## Roof conductor holder for flat roofs, grey

Type	Fit mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
165 MBG-8-10 GR	Rd 8-10	Grey	12	100.000	5218708

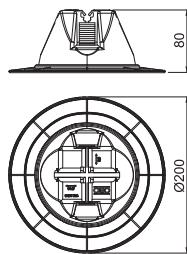
- Closed form with base
- With double conductor holder
- Filling weight 1 kg (frost resistant concrete)
- Case made from polyethylene, light grey, UV-stabilised and weatherproof
- Base made from polyamide PA 6, light grey, UV-stabilised and weatherproof
- Base suitable for nearly all roofing membrane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





## Roof conductor holders, flat roofs

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

PA/  
PE

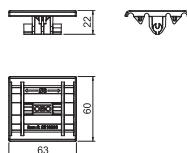
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
165 MBG-8-10 200	Rd 8-10	12	100.000	5218716

- 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 ( $\varnothing$  200 mm) for improved stability

## Mesh cable tray adapter for roof conductor holders

### Mesh cable tray adapter for roof conductor holder, type 165 MBG 8-10

PP



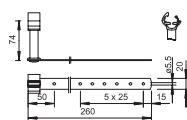
Type	Colour	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
165 MBG HGRM	Black	Rd 8	50	1.340	5218886

- Adapter for GR-Magic® mesh cable trays with a mesh width of 50 mm or 20 mm
- For fastening to type 165 MBG 8-10
- Mounting without tools

## Roof conductor holders for tiled, slated, corrugated roofs

### Roof conductor holder for tiled and slated roofs

VA



Type	Fit mm	Installation		Pack Piece	Weight kg/100 pc.	Item no.
		height mm	Length mm			
157 ND-VA	Rd 8-10	74	260	20	6.000	5215307

- High roof conductor holder: 74 mm
- With perforation  $\varnothing$  5.5 mm
- Polyamide cable bracket

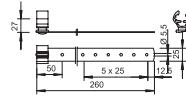
# Roof conductor holders for tiled, slated, corrugated roofs

VA

## Roof conductor holder for tiled and slated roofs

Type	Fit mm	height mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
157 NB-VA	Rd 8-10	27	260	20	6.000	5215277

- With Ø 5.5 mm drill hole
- Conductor holder of polyamide

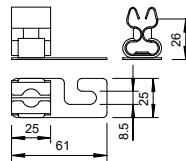


VA

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

Type	Fit mm	height mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
159 VA-V	Rd 8	21		20	3.900	5217075

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

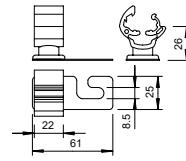


VA

## Roof conductor holder for tiled, slated and corrugated roofs, Rd 8-10

Type	Fit mm	height mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
159 K-VA	Rd 8-10	21		20	2.540	5216818

- Bottom section stainless steel (V2A)
- Bottom section with Ø 8.5 mm slot
- Conductor holder of polyamide

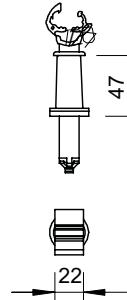


PA

## Roof conductor holder for tiled, slated and corrugated roofs, with cable bracket

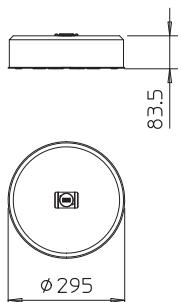
Type	Fit mm	height mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
133 NB	Rd 8-10	67		20	4.338	5202213

- With weather-proof clamping collar from soft-PVC
- Required drill hole Ø = 16 mm
- Spacer and conductor holder from polyamide, grey



## TrayFix stands

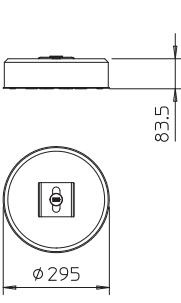
### Stand - TrayFix set 10 S



Type	From tray width mm	Pack Piece	Weight kg/100 pc.	Item no.
TrayFix-10-S	100	1	1,000.000	5403102

- Mounting system for the fastening of mesh cable trays with the FangFix stone, e.g. cable routing on a flat roof
- Matches to OBO mesh cable tray systems with a minimum width of 100 mm
- Set consisting of TrayFix mounting adapter and concrete block including base for FangFix system 10 kg

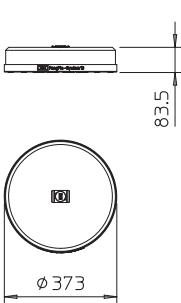
### Stand - TrayFix set 10 L



Type	From tray width mm	Pack Piece	Weight kg/100 pc.	Item no.
TrayFix-10-L	100	1	1,100.000	5403101

- Mounting system for the fastening of mesh cable trays with the FangFix stone, e.g. cable routing on a flat roof
- Matched to OBO cable tray systems MKSM and SKSM
- Matched to OBO mesh cable systems with a minimum width of 100 mm
- Set consisting of TrayFix mounting adapter and concrete block including base for FangFix system 10 kg

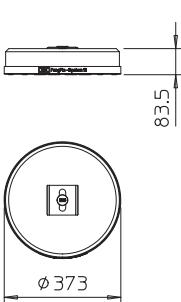
### Stand - TrayFix set 16 S



Type	From tray width mm	Pack Piece	Weight kg/100 pc.	Item no.
TrayFix-16-S	100	1	1,700.000	5403099

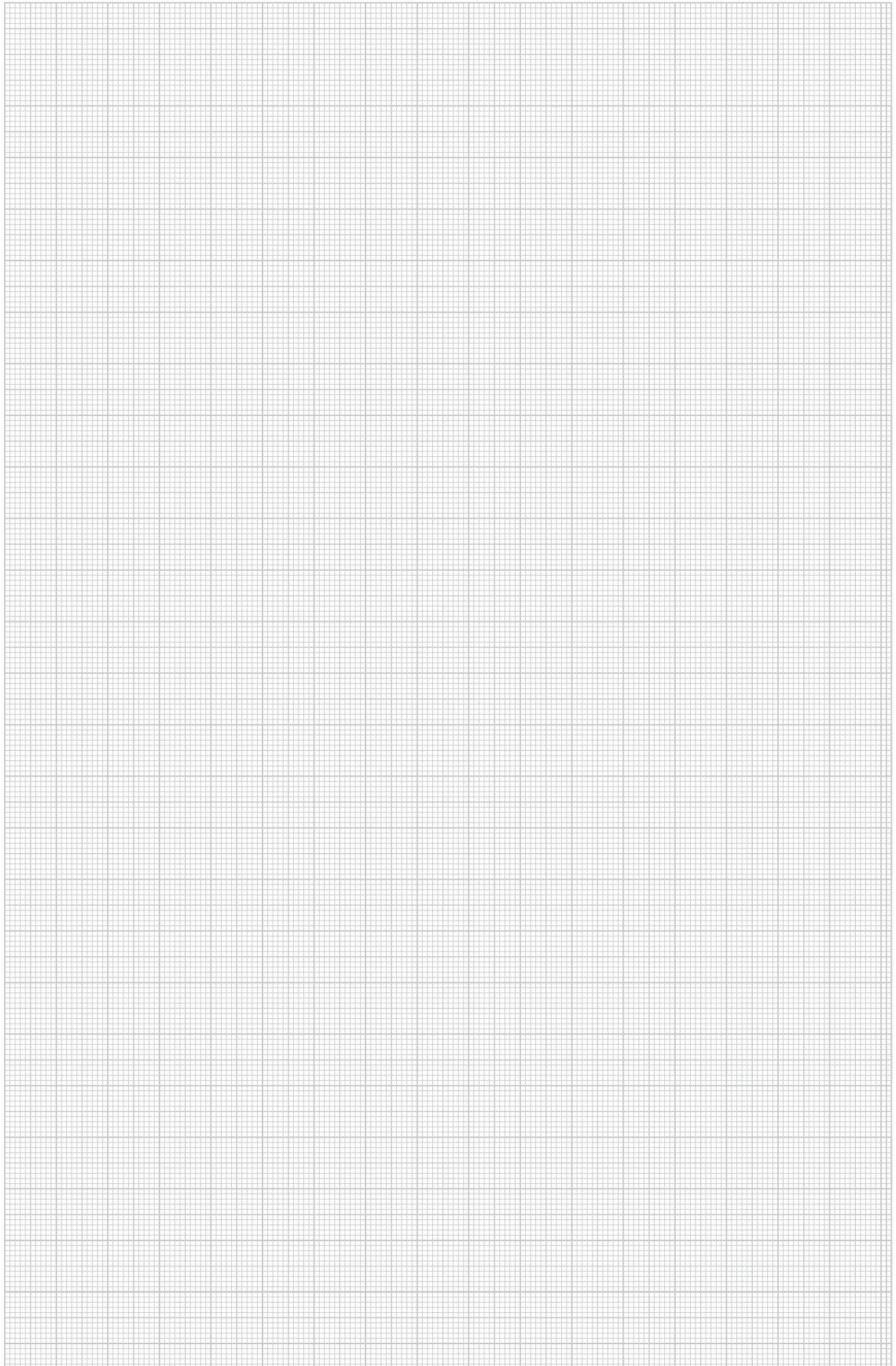
- Mounting system for the fastening of mesh cable trays with the FangFix base, e.g. for cable routing on a flat roof
- Matches OBO mesh cable tray systems with a minimum width of 100 mm
- Set consisting of TrayFix mounting adapter and concrete block incl. base for FangFix system 16 kg

### Stand - TrayFix set 16 L



Type	From tray width mm	Pack Piece	Weight kg/100 pc.	Item no.
TrayFix-16-L	100	1	1,700.000	5403098

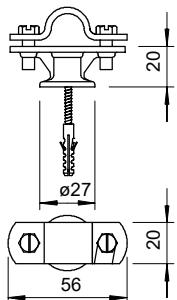
- Mounting system for the fastening of mesh cable trays with the FangFix stone, e.g. cable routing on a flat roof
- Matched to OBO cable tray systems MKSM and SKSM
- Matched to OBO mesh cable systems with a minimum width of 100 mm
- Set consisting of TrayFix mounting adapter and concrete block including base for FangFix system 16 kg.



## Holder for air-termination and earth entry rods

### Rod holder, 16 mm, with screw and anchor

Zn Cu



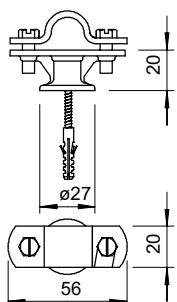
Type Fit  
113 B-HD-16 mm Rd 16

Pack Weight  
Piece kg/100 pc. Item no.  
100 10.100 5412811

- For lightning and ground insertion rods Rd 16
- Installed with over-piece and hexagonal bolts M6 x 16 (VA)
- Female thread M8 for screwing and through hole for wood screws
- Pre-mounted with wood screw 5 x 60 and plastic dowels 8 x 40

### Rod holder, 16 mm, with screw and anchor

Zn



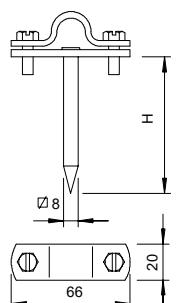
Type Fit  
113 B-Z-HD mm Rd 16

Pack Weight  
Piece kg/100 pc. Item no.  
100 6.000 5412803

- For lightning and ground insertion rods Rd 16
- Installed with over-piece and hexagonal bolts M6 x 16 (VA)
- Female thread M8 for screwing and through hole for wood screws
- Pre-mounted with wood screw 5 x 60 and plastic dowels 8 x 40

### Rod holder, 16 mm, with square pin

St F



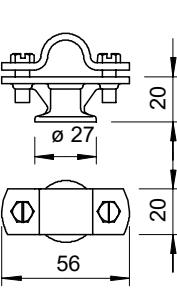
Type Dim.  
112 DIN-100 Fit H  
Rd 16 100 mm mm

Pack Weight  
Piece kg/100 pc. Item no.  
10 12.412 5410096

- For lightning and ground insertion rods
- Over-piece with 2 hexagonal bolts M6 x 16 (VA)
- With square pin

### Rod holder, 16 mm

Zn Cu



Type Fit  
113 ZN-16 mm Rd 16

Pack Weight  
Piece kg/100 pc. Item no.  
10 10.100 5412633

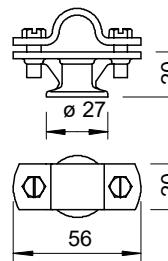
- For lightning and ground insertion rods Rd 16
- Installed with over-piece and hex-head screws M6 x 16
- With female thread M8 or through hole Ø 7 mm

# Holder for air-termination and earth entry rods

Zn

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 Z-16	Rd 16	10	6.000	5412609

- For lightning and ground insertion rods Rd 16
- Installed with over-piece and hex-head screws M6 x 16
- With female thread M8 or through hole Ø 7 mm



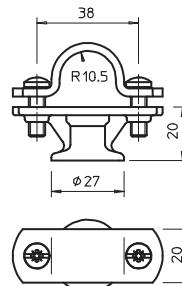
**Rod holder, 16 mm**



Zn

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 Z-20	Rd 20	20	8.200	5230527

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



**Rod holder, 20 mm**



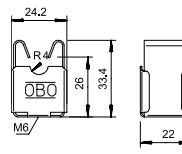
## Screwless cable brackets

VA

**Cable bracket for Rd 8 mm, through-way Ø 7 mm**

Type	Fit height mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
177 20 VA M8	Rd 8	20	20	1.838	5207347

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

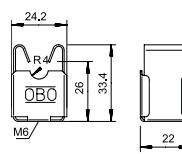


VA

**Cable bracket for Rd 8 mm, through-way Ø 5 mm**

Type	Fit height mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
177 20 VA M6	Rd 8	20	20	2.500	5207339

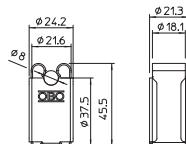
- With female thread M6 or through hole Ø 5 mm
- From stainless steel (V2A)



## Screwless cable brackets

VA

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



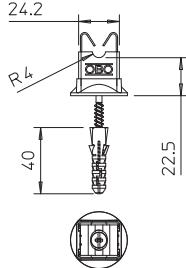
Type	Fit mm	height mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
177 35 VA M6	Rd 8	35		20	2.680	5207342

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

## Universal cable brackets

VA

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

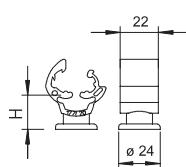


Type	Fit mm	height mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
177 20 VA B-HD	Rd 8	20		50	2.900	5207901

- 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)

## Cable bracket Rd 8–10 mm with pre-mounted wood screw

PA



Type	Fit mm	height mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
177 B-HD20	Rd 8-10	20		50	1.930	5207851
177 B-HD30	Rd 8-10	30		50	1.503	5207878

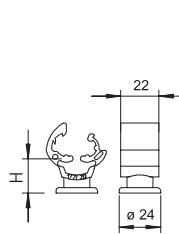
- With female thread M8 for screwing and through hole for wood screws
- For round conductor Rd 8-10
- Weather and temperature-resistant from -35 °C to +90 °C
- With pre-mounted wood screws (5 x 60) and plastic dowels (8 x 40)

PA

Type	Fit mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
177 20 M8	Rd 8-10	20	20	0.723	5207444
177 30 M8	Rd 8-10	30	20	0.790	5207460
177 55 M8	Rd 8-10	55	20	1.007	5207487

- With female thread M8 or through hole Ø 7 mm
- Weather and temperature-resistant from -35 °C to +90 °C

### Cable bracket Rd 8–10 mm

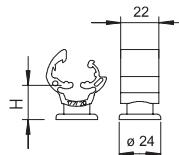


PA

### Cable bracket Rd 8–10 mm, copper-plated

Type	Fit mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
177 30 CU	Rd 8-10	30	10	0.784	5207754

- With female thread M8 for screwing and through hole for wood screws
- Colour: copper
- Weather and temperature-resistant from -35 °C to +90 °C

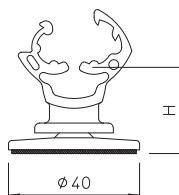


PA

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

Type	Dim. H mm	Pack Piece	Weight kg/100 pc.	Item no.
177 20 KL	25	50	1.239	5207451

- 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
- When installing flat conductors and round conductors, expansion elements are to be used for thermal compensation
- Use on film roofs after consultation with the responsible roof construction company

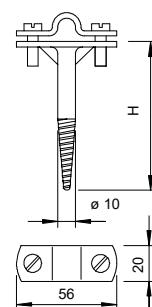


TG F

### Cable bracket Rd 8–10 mm, with wood screw thread

Type	Dim. Fit mm	H mm	Pack Piece	Weight kg/100 pc.	Item no.
176 A 65	Rd 8-10	65	50	9.536	5227070
176 A 80	Rd 8-10	80	50	10.025	5227089
176 A 100	Rd 8-10	100	50	11.500	5227100
176 A 150	Rd 8-10	150	20	13.100	5227151

- Also for flat conductor to FL 30
- With wood screw thread
- Bottom section, hot-dip galvanised cast iron
- Over-piece and screws, hot dipped galvanised steel

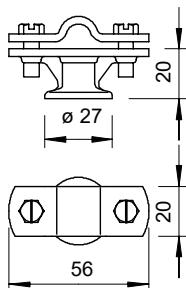




## Cable bracket with crossbar

### Cable bracket Rd 8–10 mm with wood screw, plastic anchor

Zn Cu

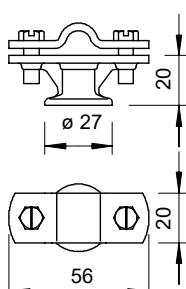


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 B-MS-HD 8-10	Rd 8-10	100	7.280	5230365

- 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 Rd 8–10 mm with wood screw, plastic anchor

Zn

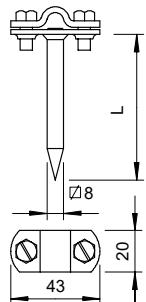


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 B-Z-HD	Rd 8-10	100	6.580	5230322

- 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 Rd 8–10 mm, with square pin, copper-plated

Cu

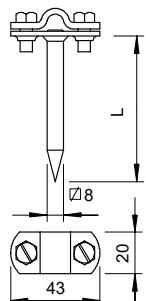


Type	Fit mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
163 100 CU	Rd 8-10	100	10	10.840	5223601

- Complete with crossbar and hexagonal bolts
- With square pin for rapid mounting
- With hexagonal bolts made of VA

### Cable bracket Rd 8–10 mm, with square pin

St FT



Type	Fit mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
163 70 FT	Rd 8-10	70	50	8.476	5223075
163 100 FT	Rd 8-10	100	50	10.056	5223105

- Complete with crossbar and hexagonal bolts
- With square pin for rapid mounting
- With hexagonal bolts made of VA

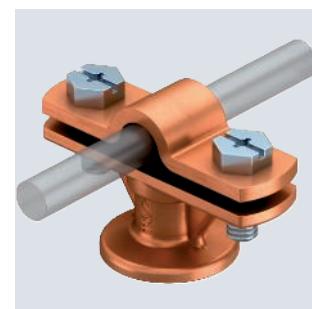
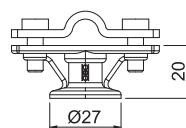
## Cable bracket with crossbar

Zn Cu

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 8-10	Rd 8-10	20	6.247	5230217

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

### Cable bracket Rd 8–10 mm

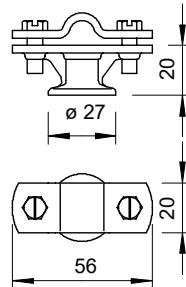


Zn G

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 Z8-10	Rd 8-10	20	5.956	5229960

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

### Cable bracket with crossbar Rd 8–10 mm

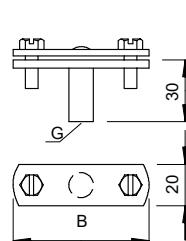


Zn G

Type	Dim. B mm	Fit mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
168 FL30-M6	56	FL 30	M6	20	7.640	5229464
168 DIN 30	56	FL 30	M8	20	6.570	5229480

- For flat strip
- With female thread (G)
- Installed height 30 mm

### Cable bracket for flat conductors

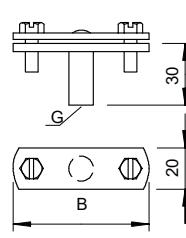


TG FT

Type	Dim. B mm	Fit mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
168 FL40-M8	66	FL 40	M8	20	8.200	5229553

- For flat strip
- With female thread (G)
- Installed height 30 mm

### Cable bracket for flat conductors

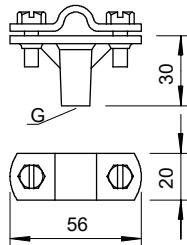
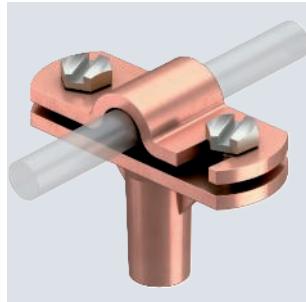




## Cable bracket with hinged crossbar

Zn Cu

### Cable bracket with hinged crossbar

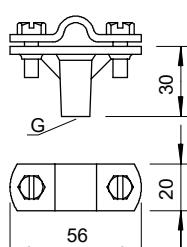


Type	Fit mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
168 DIN-K-M8	Rd 8-10	M8	20	8.440	5229383

- With female thread (G)
- With over-piece and 2 hexagonal bolts
- Installed height 30 mm

### Cable bracket Rd 8–10 mm, 30 mm mounting height

Zn G

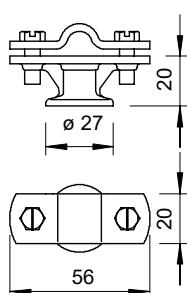


Type	Fit mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
168 8-10 M6	Rd 8-10	M6	20	7.800	5229162
168 DIN-K-M8	Rd 8-10	M8	20	7.780	5229839

- With female thread (G)
- With over-piece and 2 hexagonal bolts
- Installed height 30 mm

### Cable bracket with hinged crossbar Rd 8–10 mm

Zn G



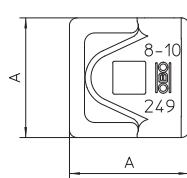
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 Z-K 8-10	Rd 8-10	20	6.202	5229961

- With female thread M8 or through hole Ø 7 mm
- Hinge crossbar for quick swivel mounting
- Crossbar mounted with 2 hexagonal bolts

## Quick connector, covers

### Quick connector, upper part Rd 8–10 mm

Cu



Type	Fit mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 CU-OT	Rd 8-10	40	100	3.580	5311530

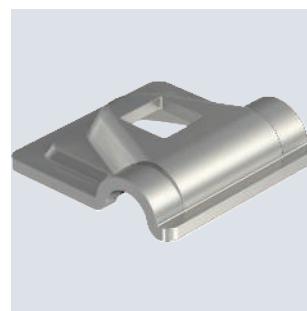
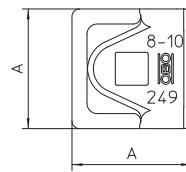
- For round conductor fastening Rd 8-10
- Suitable for M10 bolts

VA

## Quick connector, upper part Rd 8–10 mm

Type	Fit mm	A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 VA-OT	Rd 8-10	40	100	3.130	5311554

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

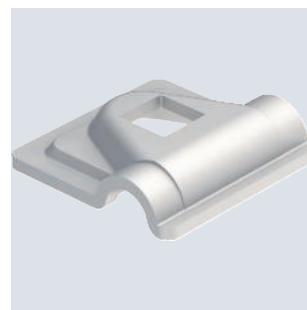
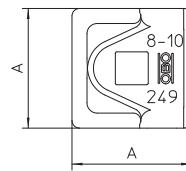


Alu

## Quick connector, upper part Rd 8–10 mm

Type	Fit mm	A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 ALU-OT	Rd 8-10	44	100	2.100	5311585

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

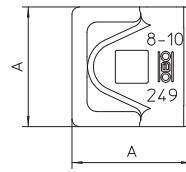


St FT

## Quick connector, upper part Rd 8–10 mm

Type	Fit mm	A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 ST-OT	Rd 8-10	40	100	3.240	5311503

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



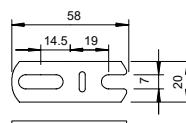
## Hinge crossbar

St FT

## Cable bracket, upper part for FL 30 mm

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 FL	FL30	50	2.460	5228328

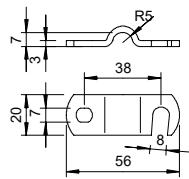
- With slot for quick installation



## Hinge crossbar

### Cable bracket, upper part for Rd 8–10 mm

St FT



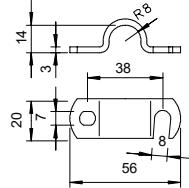
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 8-10	Rd 8-10	100	2.680	5228026

- With open slot for quick installation

## Crossbar

### Cable bracket, round conductors and air-termination rods 16 mm

St FT

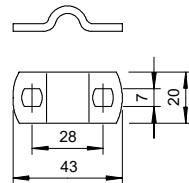
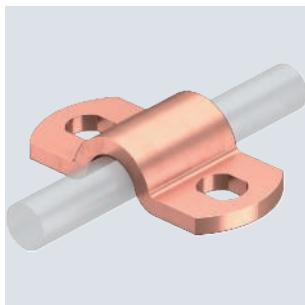


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 16	Rd 16	50	3.230	5228220

- With open slot for quick installation

### Cable bracket, upper part for Rd 8–10 mm, copper

Cu



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 K8-10 CU	Rd 8-10	100	2.260	5228131

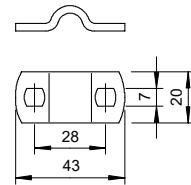
- For Rd 8–10 mm

VA

**Cable bracket, upper part for Rd 8–10 mm, stainless steel**

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 K8-10 VA	Rd 8-10	100	2.100	5228134

- For Rd 8–10 mm

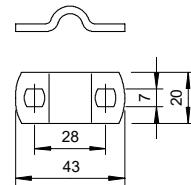


St FT

**Cable bracket, upper part for Rd 8–10 mm, steel**

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 K8-10 ST	Rd 8-10	100	2.000	5228123

- For Rd 8–10 mm

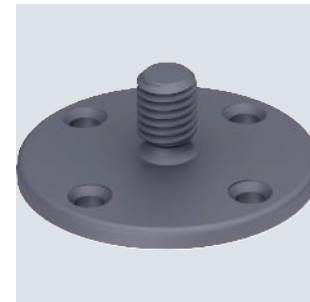
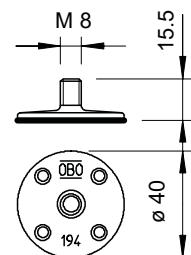
**Accessories**

PA

**Bonding base including industrial bonding pad**

Type	Colour	Thread	Pack Piece	Weight kg/100 pc.	Item no.
194 K	Grey	M8	20	0.600	5207266

- With threaded stem M8
- For mounting cable supports with M8 female 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
- When installing flat conductors and round conductors, expansion elements are to be used for thermal compensation
- Use on film roofs after consultation with the responsible roof construction company

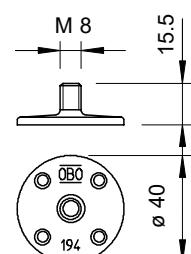


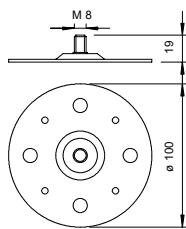
PA

**Bonding base**

Type	Colour	Thread	Pack Piece	Weight kg/100 pc.	Item no.
194	Grey	M8	100	0.389	5207258

- With threaded stem M8
- For mounting cable supports with M8 female thread
- For bonding to concrete, steel or brickwork
- When installing flat conductors and round conductors, expansion elements are to be used for thermal compensation



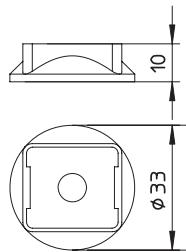
**Base plate**

## Thread

**Type**  
199 DIN | M8

Pack Weight  
Piece kg/100 pc. **Item no.**  
10 | 14.200 | 5208017

- With threaded pin M8
- Suitable for direct bonding
- Threaded pin brass and base plate hot-dip galvanised steel

**Washer for cable bracket, type 177**

Colour  
**Type**  
177 U | Light grey

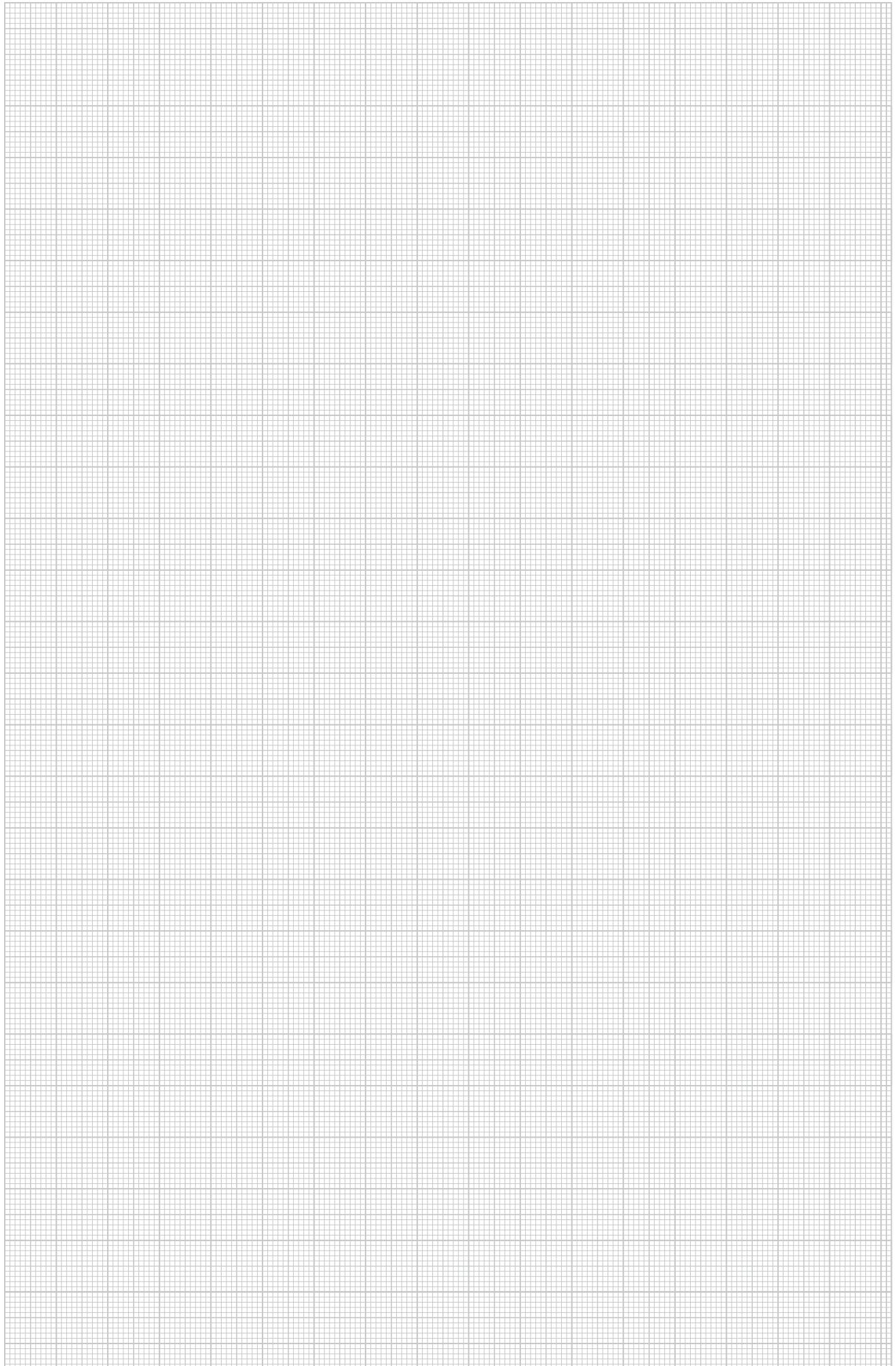
Pack Weight  
Piece kg/100 pc. **Item no.**  
20 | 0.286 | 5207371

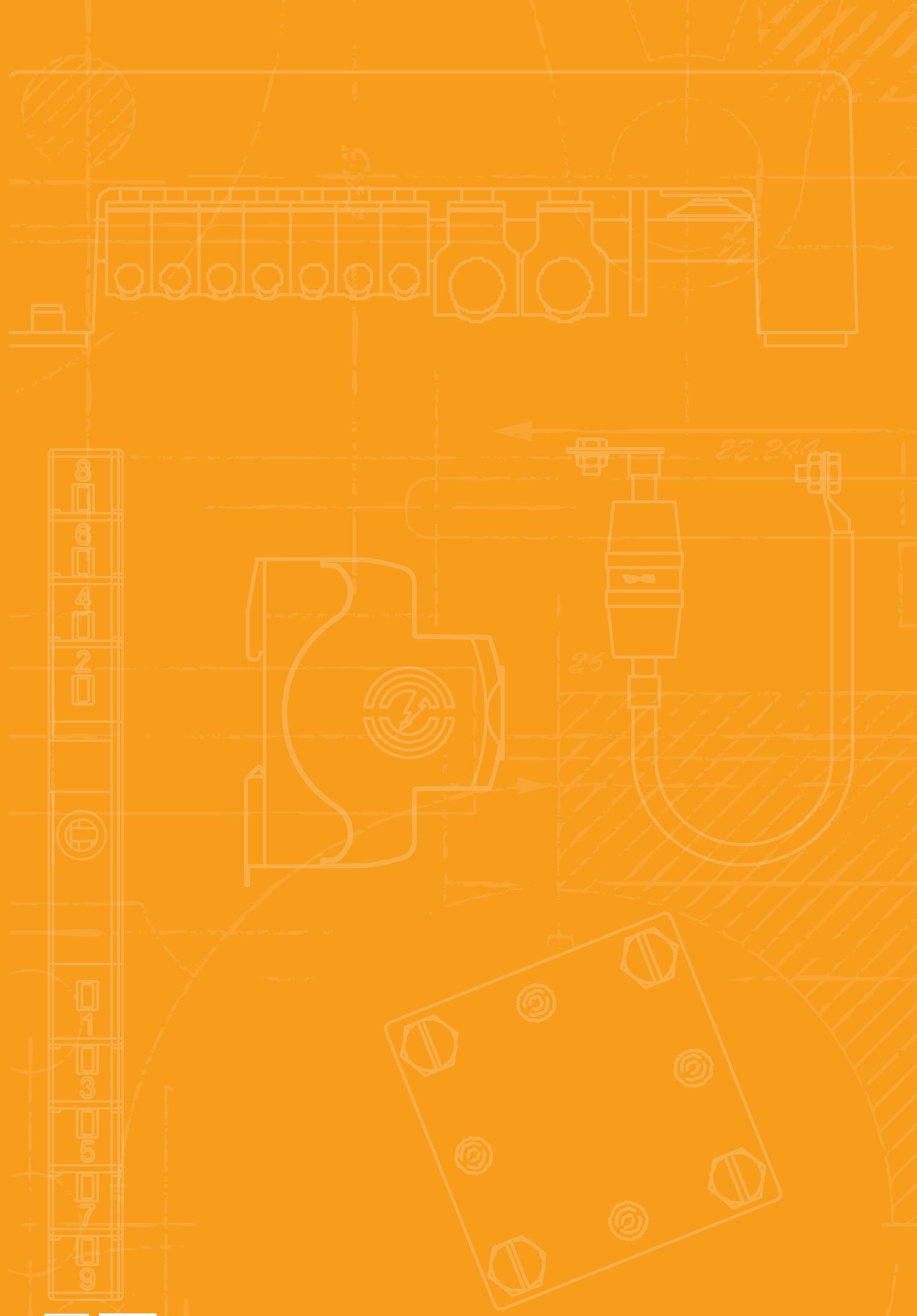
- For simple wall installation
- UV-resistant

**Hard foam plate anchor**

<b>Type</b>	Length mm	Dowel Ø mm	Wood screws Ø mm	Break load kN	Pack Weight		
					Piece	kg/100 pc.	<b>Item no.</b>
177 WDVS 64x25 B	63.5	9	4-5	0.05	50	0.658	5207375

Anchor for universal light-duty fastening in plastered composite heat insulation systems (WDVS). The self-tapping point makes pre-drilling superfluous.





# Connection and separating terminals



Connection and separating terminals

178

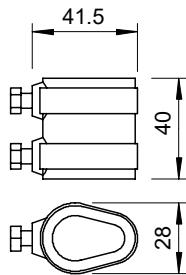




## Connection and separating terminals

### Separating piece, open

Zn G

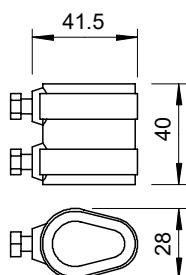


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
223 O DIN ZN   Rd 8-10/16		20	12.500	5335140

- With 2 hexagonal bolts, stainless steel (VA)
- Clamping element, die-cast zinc

### Separating piece, open

Zn Cu

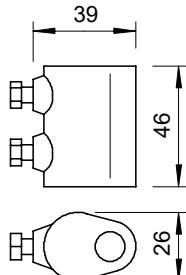


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
223 O DIN MS   Rd 8-10/16		20	14.900	5335167

- With 2 hexagonal bolts, stainless steel (VA)
- Clamping element, copper-plated die-cast zinc

### Separating piece, closed

Zn G

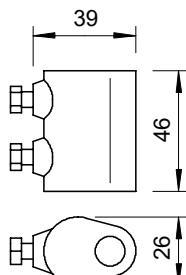
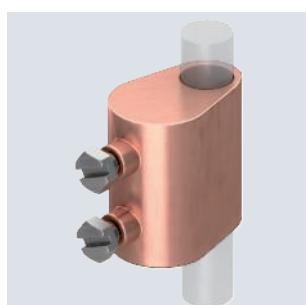


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
223 DIN ZN   Rd 8-10/16		20	12.406	5335205

- For fitting round conductors Rd 8-10 to ground insertion rods Rd 16
- Including 2 hexagonal bolts, high-grade stainless steel (V2A)
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

### Separating piece, closed

Zn Cu



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
223 DIN MS   Rd 8-10/16		10	11.700	5335256

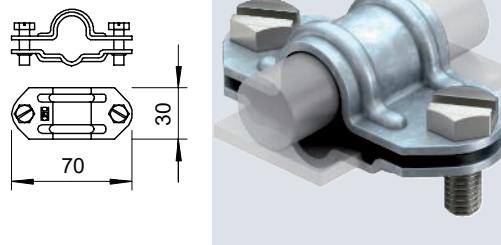
- For fitting round conductors Rd 8-10 to ground insertion rods Rd 16
- Including 2 hexagonal bolts, high-grade stainless steel (V2A)
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
226 8-10	Rd 8-10/FL30 x 16	20	8.600	5336007

- For fitting round conductors Rd 8–10 to Rd 16 or flat conductors FL30
- Including 2 hexagonal bolts M8 x 20 high-grade stainless steel (V2A)
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)

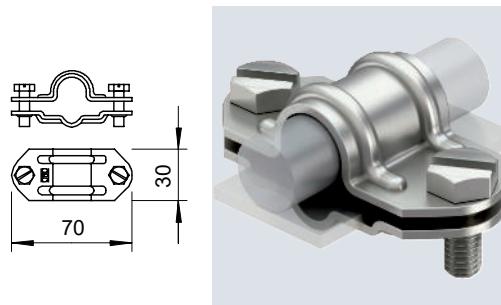
## Universal separating piece



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
226 VA	Rd 8-10/FL30 x 16	10	8.700	5336058

- For fitting round conductors Rd 8–10 to Rd 16 or flat conductors FL30
- Including 2 hexagonal bolts M8 x 20 high-grade stainless steel (V2A)
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)

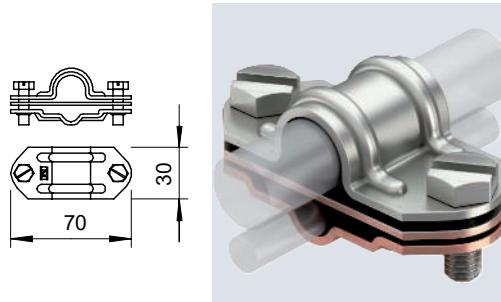
## Universal separating piece



Type	Fit mm	Material upper part	Material lower part	Pack Piece	Weight kg/100 pc.	Item no.
226 ZV VA	Rd 8-10/FL30 x 16	VA	Cu	10	11.000	5336074

- Fit: Rd 8-10 x 16, FL 30 x Rd 16
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)
- Intermediate plate, aluminium/copper

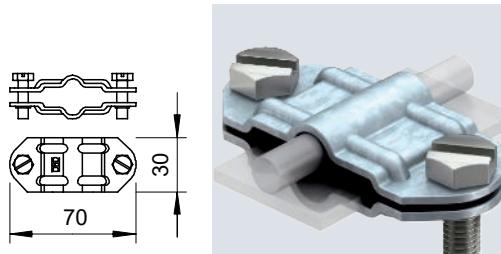
## Universal bi-metal separating piece



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
233 8	Rd 8-10/FL30 x Rd 8-10/FL30	20	8.200	5336309

- To fit round conductors Rd 8–10 or flat conductors FL 30
- With 2 hexagonal bolts M8 x 20 made of rustproof steel (VA)
- Short-circuit current I<sub>k</sub> (50 Hz), time 0.6 s, temp. max. 300 °C: 8.5 kA

## Separating piece for Rd 8–10 and FL 30 mm

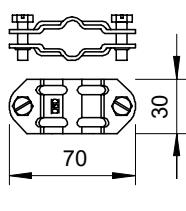
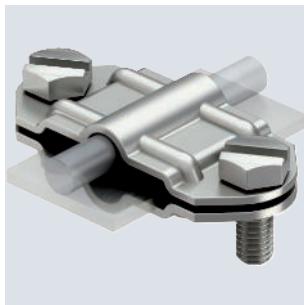




## Connection and separating terminals

### Separating piece for Rd 8–10 and FL 30 mm

VA

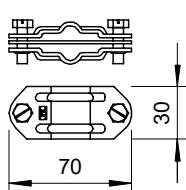
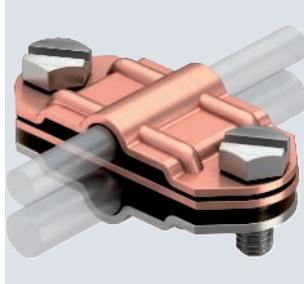


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
233 VA	Rd 8-10/FL30 x Rd 8-10/FL30	10	8.300	5336341

- For fitting round conductors Rd 8-10 or flat conductors FL 30
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)

### Bi-metal separating piece for Rd 8–10 and FL 30 mm

VA

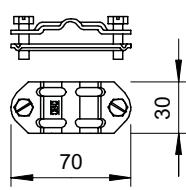


Type	Fit mm	Material upper part	Material lower part	Pack Piece	Weight kg/100 pc.	Item no.
233 ZV	Rd 8-10/FL30 x Rd 8-10/FL30	Cu	VA	10	10.100	5336376

- For fitting round conductors Rd 8-10 to flat conductors FL 30
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)
- Intermediate plate aluminium/copper, top section copper, bottom section stainless steel

### Separating piece for Rd 8–10 and FL 30–40 mm

VA

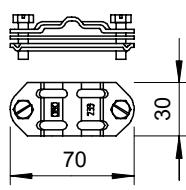
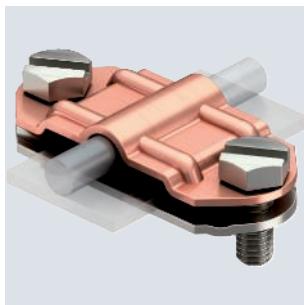


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
233 A VA	8-10xFL30-40	10	7.851	5336457

- Fit: Rd 8-10 x FL 30-40
- With 2 hexagonal bolts M8 x 20 (VA)

### Bi-metal separating piece for Rd 8–10 and FL 30–40 mm

Cu



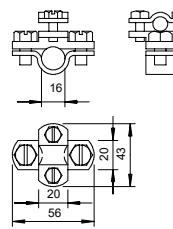
Type	Fit mm	Material upper part	Material lower part	Pack Piece	Weight kg/100 pc.	Item no.
233 A ZV	Rd 8-10 x FL30-40	Cu	VA	10	10.400	5336503

- Fit: Rd 8-10 x FL 30-40, FL 30 x FL 30-40
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)
- Intermediate plate, aluminium/copper
- Top section copper, bottom section stainless steel

St FT

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
108 B DIN	Rd 8-10/16	10	13.970	5416566

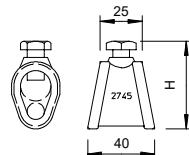
- Rod clamp for connecting round conductors Rd 8–10 to connector rods Rd 16
- Mounted with 2 hexagonal bolts M8 x 16 and M6 x 12
- Adapter from malleable iron
- Crossbar and bolts from hot dip galvanized steel



CuZn 37 Cu

Type	For earth rods Ø mm	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
2745 20 MS	20	7-12.5/S95 mm <sup>2</sup>	5	16.000	5001560

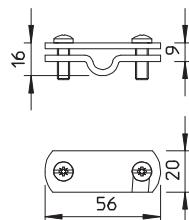
- For earth rods Ø 20 or conductors of 95 mm<sup>2</sup>
- For round conductor attachments Rd 7–12.5 with hexagonal bolts M10 x 25



Alu

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
311 N-ALU 8-10	RD 8-10 / FL30	5	2.500	3049256
311 N-ALU 16	RD 16-FL30	5	2.800	3049345

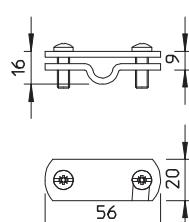
- To identify the point of separation to DIN 48821
- Suitable for universal labelling (e.g. stamped numbers)



A2

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
311 N-VA 8-10	RD 8-10 / FL30	5	5.600	3049221
311 N-VA 16	RD 16-FL30	5	6.400	3049329

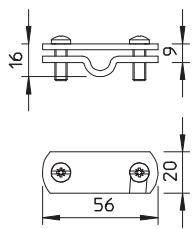
- To identify the point of separation to DIN 48821
- Suitable for universal labelling (e.g. stamped numbers)



# Connection and separating terminals

Cu

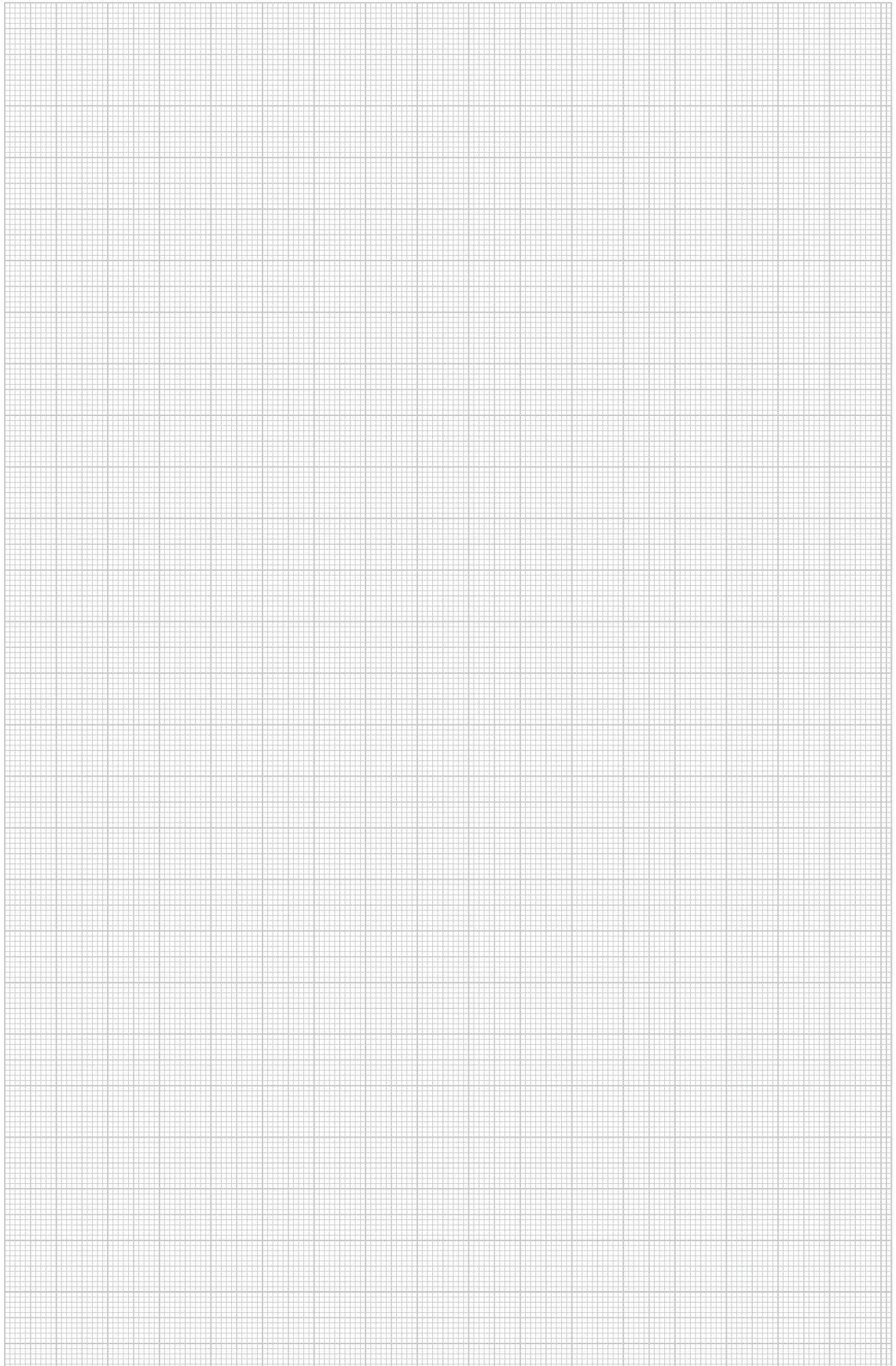
## Number plates



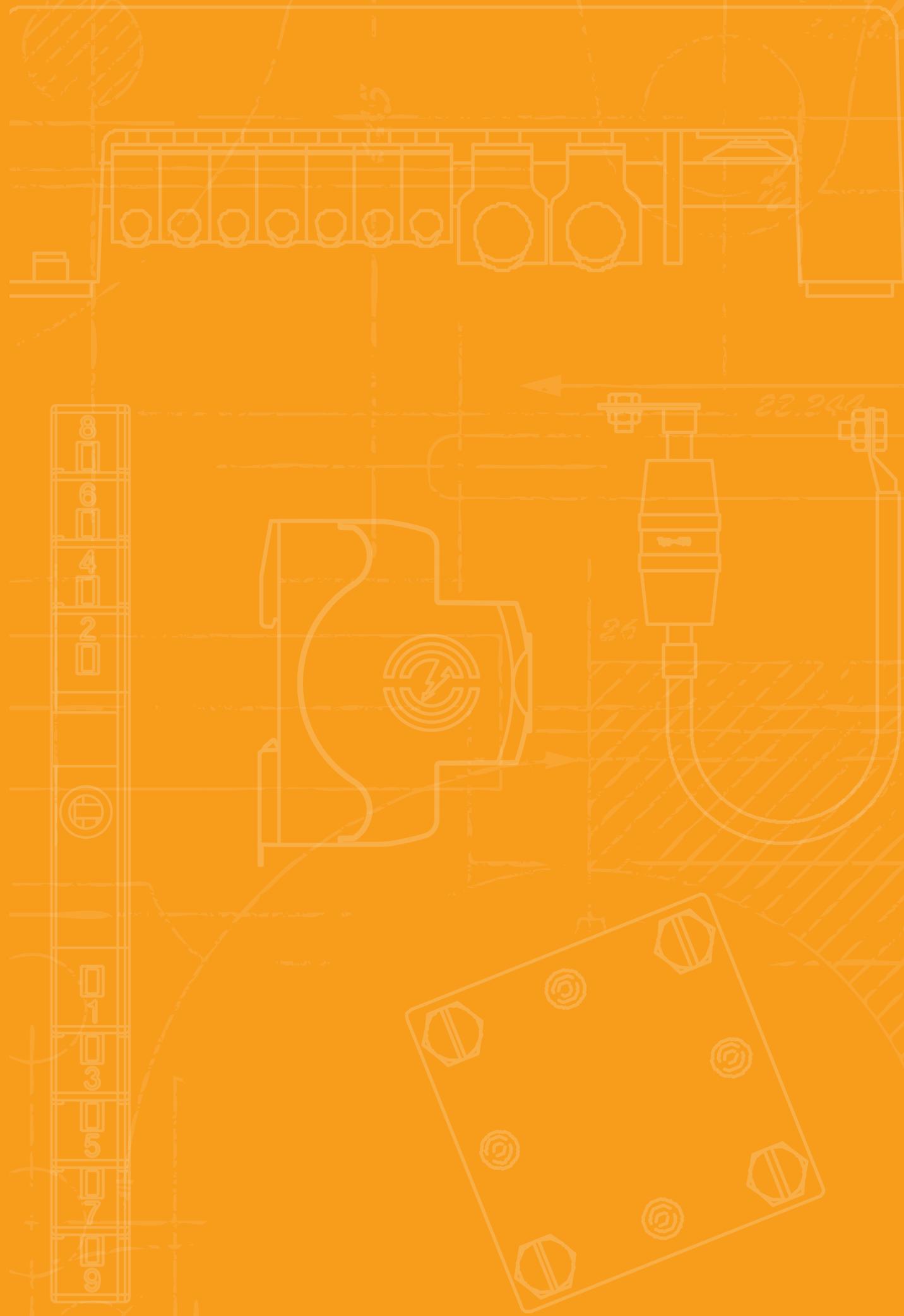
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
311 N-CU 8-10	RD 8-10 / FL30	5	6.400	3049205

- To identify the point of separation to DIN 48821
- Suitable for universal labelling (e.g. stamped numbers)





Connection clamps and connection terminals



# Connection clamps and connection terminals



Connection clamps and connection terminals

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## Straight connector

### Straight connector Rd 6–10 mm



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
237 N CU	Rd 6-10	H/100	10	8.760	5328284

- With 4 hexagonal bolts M6 x 12
- Complies with the requirements of VDE 0185-305-3 (IEC/EN 62305-3)

Cu  
TESTED

### Straight connector Rd 8–10 mm

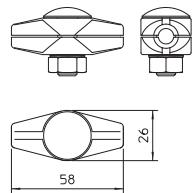


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
237 N FT	Rd 8-10	H/100	20	8.560	5328209

- With 4 hexagonal bolts M6 x 10
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

St F  
TESTED

### Straight connector Rd 8 mm



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
239	Rd 8	N/50	20	12.510	5329078

- With truss-head bolt M10 x 30 and hexagonal nut M10
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

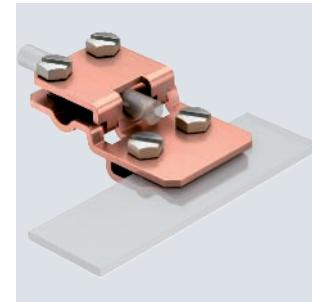
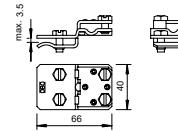
Zn G  
TESTED



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

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
274 CU	Rd 8-10	max. 10	N/50	10	11.340	5317479

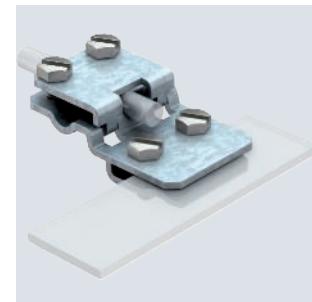
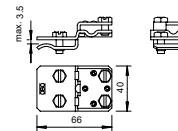
- Plate thickness to 10 mm
- For conductor routing transverse and longitudinal to plate
- 4 hexagonal bolts M6 x 16
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



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

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
274 8-10	Rd 8-10	max. 10	N/50	20	10.400	5317428

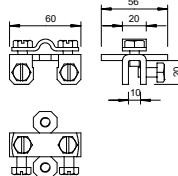
- Plate thickness to 10 mm
- For conductor routing transverse and longitudinal to plate
- 4 hexagonal bolts M6 x 16
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



## Folding clamp up to 10 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
273 8-10	Rd 8-10	max. 10	N/50	50	17.200	5317223

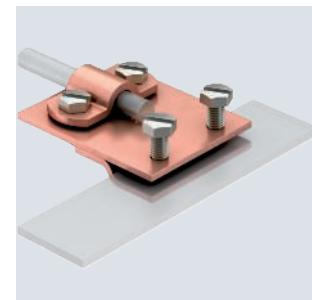
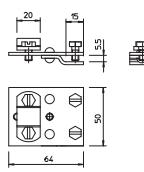
- Plate thickness to 10 mm
- Conductor routing transverse and longitudinal to plate with 2 hexagonal bolts M8 x 10 and 2 hexagonal bolts M8 x 16 (F)



## Folding clamp up to 5 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
271 CU	Rd 8-10	max. 5	N/50	10	15.230	5317452

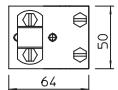
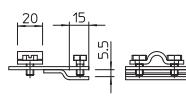
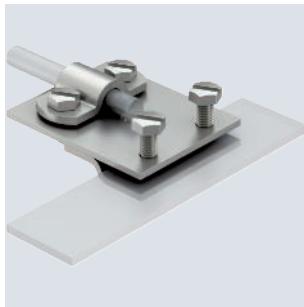
- Plate thickness to 5 mm
- For conductor routing transverse and longitudinal to plate
- With 4 hexagonal bolts M6 x 12
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)
- 271 Cu: with hexagonal bolts stainless steel (VA)





## Folding clamps

### Folding clamp up to 5 mm plate thickness

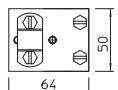
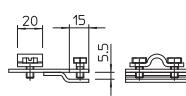
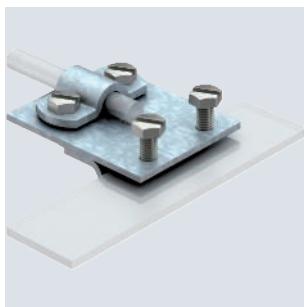


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
271 8-10 VA	Rd 8-10	max. 5	N/50	10	15.000	5317481

- 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

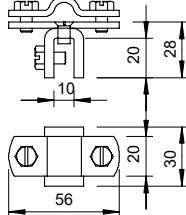


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
271 8-10	Rd 8-10	max. 5	N/50	20	14.060	5317401

- 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 Rd 8-10 up to 10 mm plate thickness

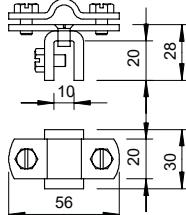


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
270 8-10 CU	Rd 8-10	max. 10	H/100	10	14.740	5317258

- 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 Piece	Weight kg/100 pc.	Item no.
270 8-10 VA	Rd 8-10	max. 10	N/50	10	13.800	5317208

- 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

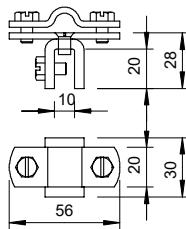




### Folding clamp Rd 8-10 up to 10 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
270 8-10 FT	Rd 8-10	max. 10	N/50	20	13.810	5317207

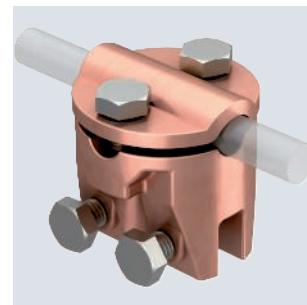
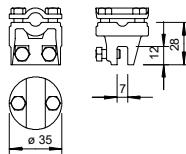
- Metal thickness to 10 mm
- For conductor routing transverse and in parallel to the plate
- Corresponds to the requirements to DIN V VDE V 0185-3 section 4.5



### Folding clamp up to 7 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
269 MS	Rd 8-10	max. 7	H/100	10	14.480	5317053

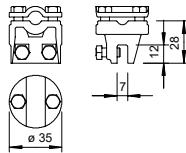
- Plate thickness to 7 mm
- For conductor arrangement transverse and parallel to plate with 4 hexagonal bolts M6 x 16
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



### Folding clamp up to 7 mm plate thickness

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
269 8-10	Rd 8-10	max. 7	N/50	20	14.460	5317010

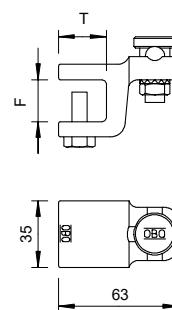
- Plate thickness to 7 mm
- For conductor arrangement transverse and parallel to plate with 4 hexagonal bolts M6 x 16
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



### Folding and construction clamp, 10–20 mm

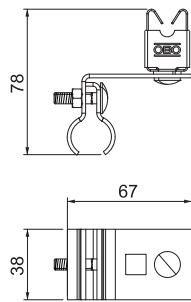
Type	Fit mm	Clamping range mm	Dim. T mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5004 DIN-FT 12	Rd 8-10	max. 12	20	N/50	10	18.730	5304407
5004 DIN-FT 20	Rd 8-10	10-20	25	N/50	10	30.600	5304504

- Flange thickness to 12 or 10–20 mm
- With pre-mounted Fix kontakt clamping screw 5000
- 2 hexagonal bolts M8 x 20, bolts 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



## Folding clamps

### Folding and construction clamp

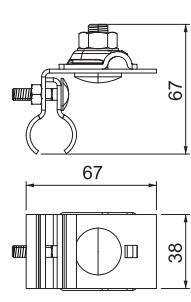


Type	Clamping Fit range mm mm		Pack Piece	Weight kg/100 pc.	Item no.
RSF 177 20 VA M8	8	8	50	13.400	5317512

- For round standing seam systems, loose cable routing
- Manufacturer release by Kalzip
- Tested according to VDE 0185-561-4 (IEC/EN 62561-4)



### Folding and construction clamp



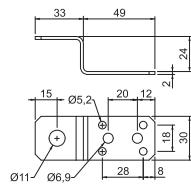
Type	Clamping Fit range mm mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
RSF 249 8-10 VA	Rd 8-10 max 10	N/50	50	14.200	5317502

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



## Connection components

### Connection component



Type	Pack Piece	Weight kg/100 pc.	Item no.
287	20	1.600	5320704

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



Alu



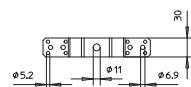
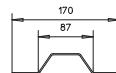
Type  
288 DIN

Pack  
20

Weight  
Piece kg/100 pc.

**Item no.**  
**5320712**

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



Alu



Type  
287 DCT

Fit  
mm

carrying capacity  
kA

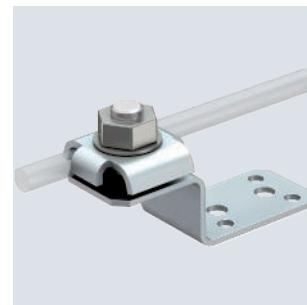
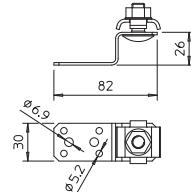
8 N/50

Pack  
10

Weight  
Piece kg/100 pc.

**Item no.**  
**5320707**

- Quick mounting thanks to an M10 x 30 bolt made of rustproof stainless steel
- With spring washer
- 4 fastening holes Ø 5.2 mm
- 2 fastening holes Ø 6.9 mm
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)



Cu

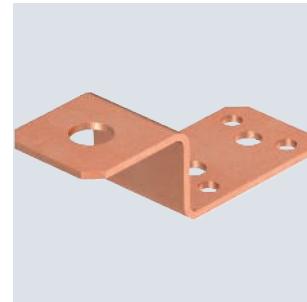
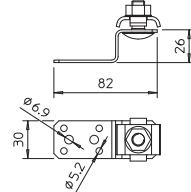
Type  
287 CU

Pack  
10

Weight  
Piece kg/100 pc.

**Item no.**  
**5320690**

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



## Connection component

## End pieces

Zn G

Type  
280 8-10

Fit  
mm

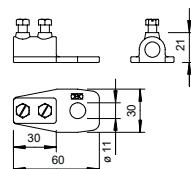
Rd 8-10

Pack  
20

Weight  
Piece kg/100 pc.

**Item no.**  
**5320011**

- With Ø 11 mm attaching hole
- 2 hexagonal bolts M6 x 12, bolts hot-dip galvanised steel or VA
- Clamping element from die-cast zinc or copper-plated die-cast zinc

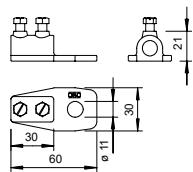


## End piece



## End pieces

### End piece



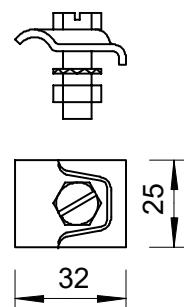
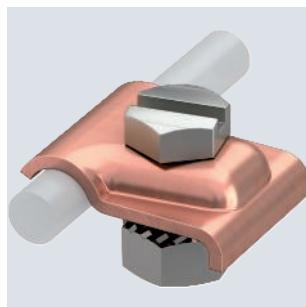
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
280 VK	Rd 8-10	20	9.000	5320054

- With Ø 11 mm attaching hole
- 2 hexagonal bolts M6 x 12, bolts hot-dip galvanised steel or VA
- Clamping element from die-cast zinc or copper-plated die-cast zinc

Zn

## Universal terminal blocks

### Universal clamping block Rd 8–10 mm

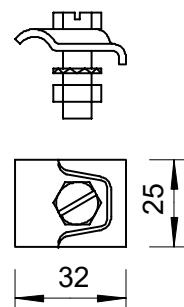


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
324 S-CU	Rd 8-10	10	3.660	5326338

- Including hexagonal bolt M8 x 25, washer and nuts

Cu

### Universal clamping block Rd 8–10 mm

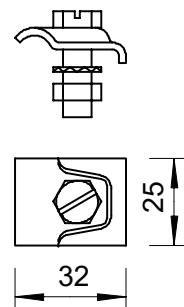
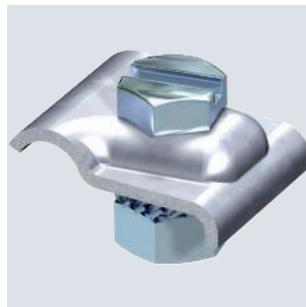


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
324 S-VA	Rd 8-10	10	3.400	5326311

- Including hexagonal bolt M8 x 25, washer and nuts

VA

### Universal clamping block Rd 8–10 mm



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
324 S-FT	Rd 8-10	20	3.400	5326303

- Including hexagonal bolt M8 x 25, washer and nuts

St

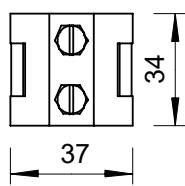
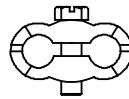
FT



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
260 8-10 MS	Rd 6-10	N/50	50	15.820	5315654

- With 2 hexagonal bolts M6 x 20 made of stainless steel (V2A)

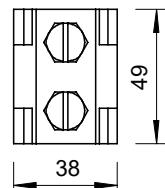
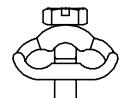
### Parallel connector Rd 6–10 mm, M6 x 20



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
259 8-10	Rd 8-10	N/50	25	13.230	5315506

- With 2 hex-head bolts M8 x 25, hot-dip galvanised steel

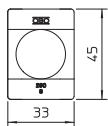
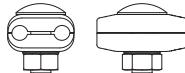
### Parallel connector Rd 8–10 mm, M8 x 25



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
260 8	Rd 8	H/100	50	13.930	5315700

- With flat, round bolt M10 x 30 and hexagonal nut, hot-dip galvanised steel

### Parallel connector Rd 8 mm, M10 x 30

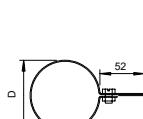


Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 CU-80	80	10	22.500	5350689
301 CU-100	100	10	26.230	5350700

- With 1x hexagonal bolt M8 x 20
- With 1x hexagonal nut M8 and 1 serrated disc made of rustproof steel
- With connection hole Ø 11 mm

### Downpipe clips

#### Downpipe clip

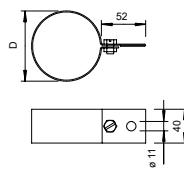




## Downpipe clips

St FS

### Downpipe clip



Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 DIN-80	80	10	19.580	5350085
301 DIN-90	90	10	21.880	5350093
301 DIN-100	100	10	19.880	5350107
301 DIN-110	110	10	24.920	5350115
301 DIN-120	120	10	26.240	5350123

- To connect conductors and downpipes
- Similar to DIN 48818 C
- Strip galvanised (rd. 275 g/m<sup>2</sup> = 40 µm average value)
- With 1x hexagonal bolt M8 x 20
- With 1x hexagonal nut M8 and 1 stainless steel serrated washer
- With connection hole Ø 11 mm

### Downpipe clip for routing Rd 8–10 mm behind pipe

St FS



Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 S-100	100	10	5.200	5351057
301 S-120	120	10	5.950	5351073

- With beading
- For round conductor Rd 8-10
- Including hexagonal bolt M6 x 20 and nuts M6

### Downpipe clip for routing Rd 8–10 mm behind pipe

Alu



Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 S-AL-100	100	10	4.100	5351359
301 S-AL-120	120	10	4.600	5351375

- With beading
- For round conductor Rd 8-10
- Including hexagonal bolt M6 x 20 and nuts M6

### Downpipe clip for routing Rd 8–10 mm behind pipe

VA



Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 S-VA-100	100	10	5.200	5351251
301 S-VA-120	120	10	5.950	5351286

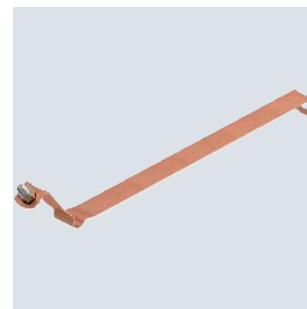
- With beading
- For round conductor Rd 8-10
- Including hexagonal bolt M6 x 20 and nuts M6

Cu

## Downpipe clip for routing Rd 8–10 mm behind pipe

Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 S-CU-100	100	10	5.850	5351456
301 S-CU-120	120	10	6.700	5351472

- With beading
- For round conductor Rd 8-10
- Including hexagonal bolt M6 x 20 and nuts M6

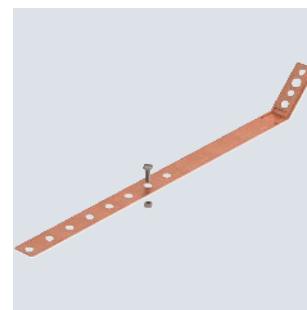
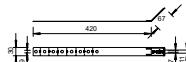


Cu

## Universal downpipe clip 60–130 mm

Type	Pack Piece	Weight kg/100 pc.	Item no.
301 V-CU	5	13.500	5350883

- Adjustable for pipes from 60-130 mm
- With 2x attaching holes Ø 7 mm
- With 1x attaching hole Ø 9 mm
- With 1x attaching hole Ø 11 mm
- Including hexagonal bolt M6 x 20 and nuts M6

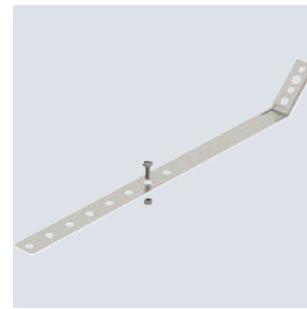


VA

## Universal downpipe clip 60–130 mm

Type	Pack Piece	Weight kg/100 pc.	Item no.
301 V-VA	5	11.800	5350905

- Adjustable for pipes from 60-130 mm
- With 2x attaching holes Ø 7 mm
- With 1x attaching hole Ø 9 mm
- With 1x attaching hole Ø 11 mm
- Including hexagonal bolt M6 x 20 and nuts M6

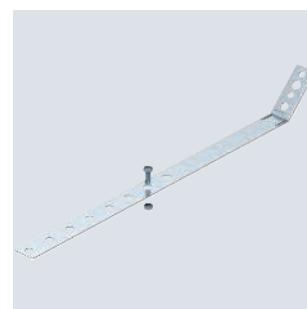


St FS

## Universal downpipe clip 60–130 mm

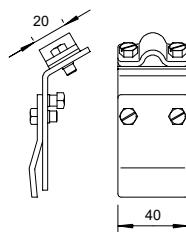
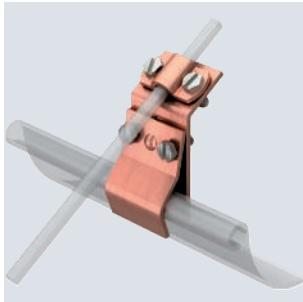
Type	Pack Piece	Weight kg/100 pc.	Item no.
301 V	5	11.900	5350867

- Adjustable for pipes from 60-130 mm
- With 2x attaching holes Ø 7 mm
- With 1x attaching hole Ø 9 mm
- With 1x attaching hole Ø 11 mm
- Including hexagonal bolt M6 x 20 and nuts M6



## Roof gutter clamps

### Roof gutter clamp for all bead thicknesses



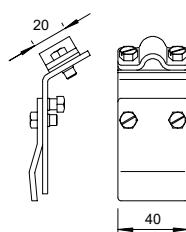
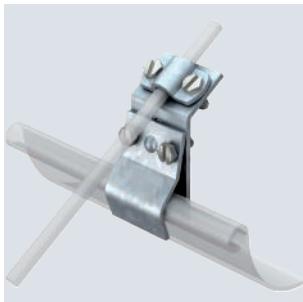
Fit  
Type mm  
**262 CU** Rd 8-10

Pack Weight  
Piece kg/100 pc. **Item no.**  
10 20.940 5316154

Cu

- With 4 hexagonal bolts M6 x 16
- Fits all bead thicknesses

### Roof gutter clamp for all bead thicknesses



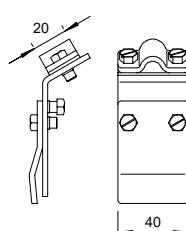
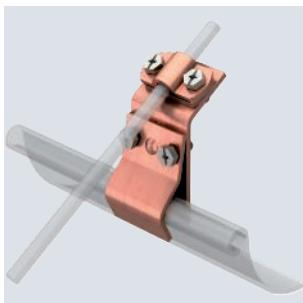
Fit  
Type mm  
**262** Rd 8-10

Pack Weight  
Piece kg/100 pc. **Item no.**  
25 20.300 5316014

St FT

- With 4 hexagonal bolts M6 x 16
- Fits all bead thicknesses

### Bi-metal roof gutter clamp for all bead thicknesses



Fit  
Type mm  
**262 ZM** Rd 8-10

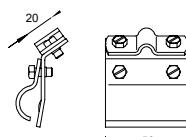
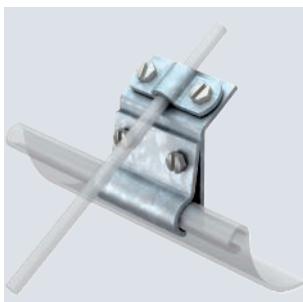
Pack Weight  
Piece kg/100 pc. **Item no.**  
10 23.100 5316170

St FT

- Fits all bead thicknesses
- Bi-metal for attaching round conductors aluminium or steel to roof gutters without corrosion to different metals

## Roof gutter clamps

### Gutter clamp for bead thickness 15–22 mm



Fit  
Type mm  
**262 A-DIN FT** Rd 8-10

Pack Weight  
Piece kg/100 pc. **Item no.**  
25 19.610 5316219

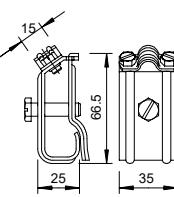
St FT

- Suitable for bulge thickness 15–22 mm
- With 4 hexagonal bolts M6 x 16 (VA)

VA

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
267 VA	Rd 8-10	10	11.360	5316324

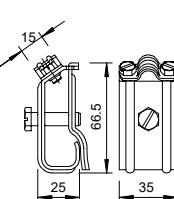
- Fits all bead thicknesses
- With 1 hexagonal bolt M8 x 30
- 2 hexagonal bolts M6 x 12
- VA version also for use as bimetal conductor (holder)



St FT

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
267	Rd 8-10	25	13.950	5316308

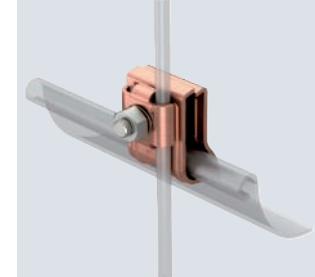
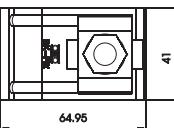
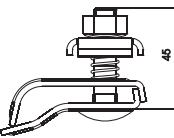
- Fits all bead thicknesses
- With 1 hexagonal bolt M8 x 30
- 2 hexagonal bolts M6 x 12



VA Cu

Type	Fit mm	Lightning current carrying capacity kA	Material	Pack Piece	Weight kg/100 pc.	Item no.
RK-FIX CU	2xRd 8/2xRd 6	H/100	A2	10	21.000	5316468

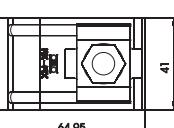
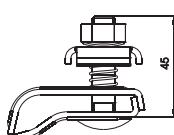
- For up to 2 conductors Rd 6 or Rd 8
- Suitable for all bead thicknesses (15–25 mm)
- With 1 truss-head bolt M10 x 45
- Nut and bolt made of VA stainless steel
- With spring for prefixing on rain gutter
- Tested to VDE 0185-561-1 (IEC/EN 62561-1)



St FT

Type	Fit mm	Lightning current carrying capacity kA	Material	Pack Piece	Weight kg/100 pc.	Item no.
RK-FIX	2xRd 8	H/100	St	25	19.100	5316450

- For up to 2 round conductors Rd 8
- Suitable for all bead thicknesses (15–25 mm)
- With 1 truss-head bolt M10 x 45
- Nut and bolt made of VA stainless steel
- With spring for prefixing on rain gutter
- Tested to VDE 0185-561-1 (IEC/EN 62561-1)

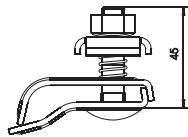




## Roof gutter clamps

### Gutter clamp RK-FIX

VA  
TESTED



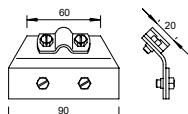
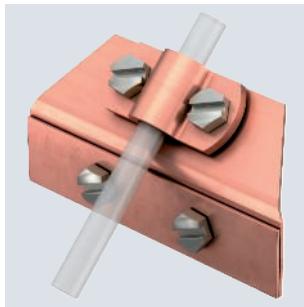
Type	Fit mm	Lightning current carrying capacity kA	Material	Pack Piece	Weight kg/100 pc.	Item no.
RK-FIX VA	2xRd 8/2xRd 6	H/100	A2	10	19.100	5316459

- For up to 2 round conductors Rd 6 or Rd 8
- Suitable for all bead thicknesses (15–25 mm)
- With 1 truss-head bolt M10 x 45
- Nut and bolt made of VA stainless steel
- With spring for prefixing on rain gutter
- Tested to VDE 0185-561-1 (IEC/EN 62561-1)

### Snow catching grate clamps

#### Snow catching grate clamp

Cu

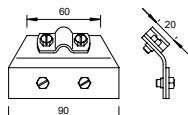


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
264 CU	Rd 8-10	10	21.140	5316553

- Plate thickness to 8 mm
- With 4 hexagonal bolts M6 x 16

#### Snow catching grate clamp

St F



Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
264	Rd 8-10	25	18.640	5316510

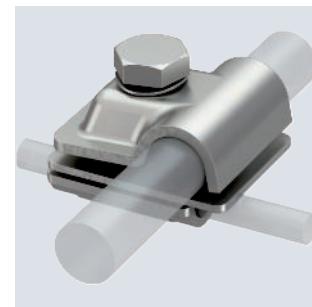
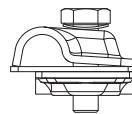
- Plate thickness to 8 mm
- With 4 hexagonal bolts M6 x 16



Type	Fit mm	Dim. mm	Lightning current A	carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10X16 VA	8-10x16	40	H/100		10	14.958	5311590

- For T, intersection and parallel connections with adapter plates
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel
- With sprung washer to DIN 137
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

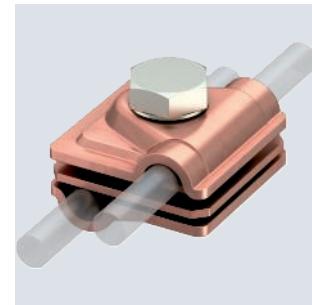
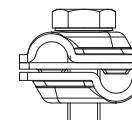
## Vario quick connector Rd 8-10x16



Type	Fit mm	Dim. mm	Lightning current A	carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
249 6-10 CU	RD 68/8-10	40	H/100		10	14.540	5311417

- For T, cross-over and parallel connections with adapter plates
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel A2
- With sprung washer to DIN 137
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

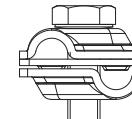
## Variable earthing connector Rd 6-8 / 8-10 mm



Type	Fit mm	Dim. mm	Lightning current A	carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
249 6-10 ST	RD 68/8-10	40	H/100		20	13.100	5311410

- For T, intersection and parallel connections with adapter plates
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel
- With sprung washer to DIN 137
- Corresponds to the requirements of VDE 0185-305 (IEC 62305)

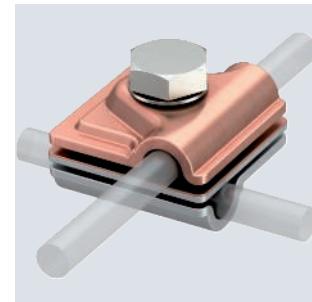
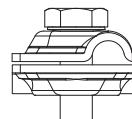
## Variable earthing connector Rd 6-8 / 8-10 mm



Type	Fit mm	Dim. mm	Lightning current A	carrying capacity kA	Material	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 ZV	Rd 8-10	44	H/100		Cu	10	14.220	5311535

- Intermediate plate, copper/aluminium, top section copper and aluminium
- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- With spring washer according to DIN 137
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

## Variable bi-metal quick connector

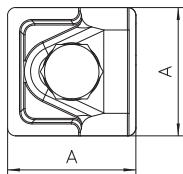
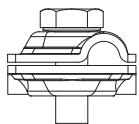
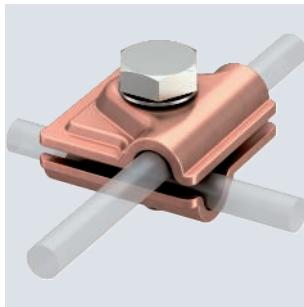


# Connectors



## Vario quick connector

**Cu**  
BENT  
TESTED

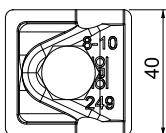
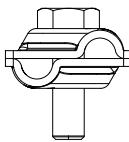


Type	Fit mm	A mm	Dim. kA	Lightning current carrying capacity		Pack Piece	Weight kg/100 pc.	<b>Item no.</b>
				H/100	10			
<b>249 8-10 CU</b>	Rd 8-10	40				10	11.900	<b>5311527</b>

- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

## Vario quick connector

**VA**  
BENT  
TESTED

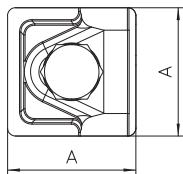
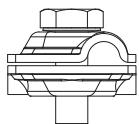


Type	Fit mm	kA	Short-circuit lightning current carrying capacity (50 Hz)		Pack Piece	Weight kg/100 pc.	<b>Item no.</b>
			A	kA			
<b>249 8-10 V4A</b>	Rd 8-10	H/100		1.4	10	9.500	<b>5311404</b>

- For T, cross-over and parallel connections
- Complete component made of A4
- Quick mounting using an M10 x 30 bolt, made from rustproof stainless steel
- Meets the requirements of VDE 0185-305 (IEC 62305)

## Vario quick connector

**VA**  
BENT  
TESTED

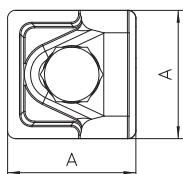
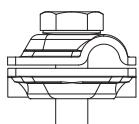
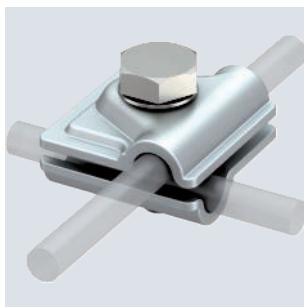


Type	Fit mm	A mm	Dim. kA	Lightning current carrying capacity		Pack Piece	Weight kg/100 pc.	<b>Item no.</b>
				H/100	10			
<b>249 8-10 VA</b>	Rd 8-10	40	H/100			10	9.276	<b>5311551</b>

- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

## Vario quick connector

**Alu**  
BENT  
TESTED



Type	Fit mm	A mm	Dim. kA	Lightning current carrying capacity		Pack Piece	Weight kg/100 pc.	<b>Item no.</b>
				H/100	10			
<b>249 8-10 ALU</b>	Rd 8-10	44	H/100			30	6.600	<b>5311519</b>
<b>249 B ALU</b>	Rd 8-10	44	H/100			100	7.250	<b>5311713</b>

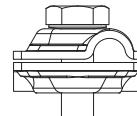
- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



## Vario quick connector

Type	Fit mm	A mm	Dim. current (50 Hz) kA	Short-circuit carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 ST	Rd 8-10	40	5.6	H/100	20	9.306	5311500
249 B ST	Rd 8-10	40	5.6	H/100	100	10.800	5311705

- 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)



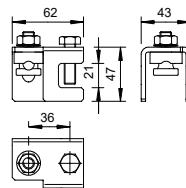
## Accessories, connection clamps and connection terminals



## Construction clamp to 20 mm

Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5010 20 FT	Rd 8-10	4-20	N/50	10	30.600	5304520

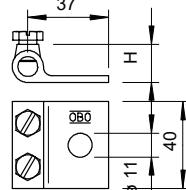
- Mounting of the round conductor possible vertically or transverse to construction
- For fastening to constructions up to a flange thickness of 20 mm
- Fastening to constructions using a hexagonal bolt M10
- Meets the requirements of VDE 0185-305 (IEC 62305)



## Clamping shoe

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
319 8	Rd 8	25	7.800	5325307
319 10	Rd 10	25	9.650	5325315

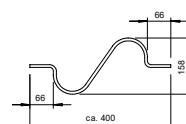
- With Ø 11 mm attaching hole
- 2 hexagonal bolts M8 x 16
- Bolts hot-dip galvanised steel and clamping element hot dipped galvanised cast steel



## Expansion piece

Type	Pack Piece	Weight kg/100 pc.	Item no.
172 AR	10	7.500	5218926

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



## Accessories, connection clamps and connection terminals

### Bridging cable



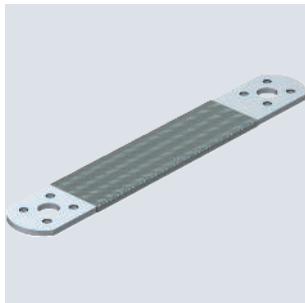
Type	853 200	853 300	853 400
Dimension L mm	200	300	400
Pack Piece	10	10	10
Weight kg/100 pc.	4.840	7.260	9.680

Item no. 5331008 | 5331013 | 5331017

Cu Copper

- With aluminium cable lugs
- From flexible copper cable 16 mm<sup>2</sup>
- Coating: Black, chlorinated EM5 natural rubber mixture
- With 1 fastening hole Ø 10.5 mm per attachment side
- With 2 fastening holes Ø 6.5 mm per attachment side
- Suitable for applications outside or inside
- Temperature range -25 °C to +80 °C (moved) and -40 °C to +80 °C (not moved)
- UV-stable

### Connection and expansion strip

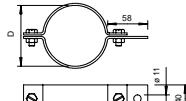


Type	Pack	Weight	Piece	kg/100 pc.	Item no.
856	10	8.125			5331501

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

### Pipe clamp

St FT



Type	For	For	Pack	Weight	Item no.
	pipe mm	pipe inch			
303 DIN-3/8	17.2	3/8	5	22.600	5102057
303 DIN-1/2	21.3	1/2	5	23.280	5102073
303 DIN-3/4	26.9	3/4	5	25.640	5102081
303 DIN-1	33.7	1	5	28.300	5102111
303 DIN-1 1/4	42.4	11/4	5	31.300	5102138
303 DIN-1 1/2	48.3	11/2	5	33.220	5102154
303 DIN-2	60.3	2	5	36.840	5102197
303 DIN-2 1/2	76.1	21/2	10	39.400	5102219
303 DIN-3	88.9	3	10	43.300	5102235
303 DIN-3 1/2	100	31/2	10	64.900	5102251
303 DIN-4	114.3	4	10	66.800	5102278

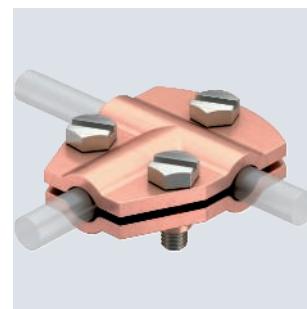
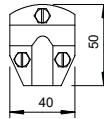
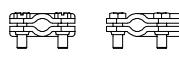
- DIN 48818, Form D
- With Ø 11 mm mounting hole
- 2 hexagonal bolts M8 x 20 (4 inch = M10)
- 2 hex-head nuts M8 (4 inch = M10)

Cu



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
247 8-10 CU	Rd 8-10	N/50	10	10.750	5311268

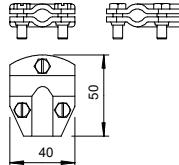
- With 3 hexagonal bolts M6 x 16 (VA)
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)



St FT

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
247 8-10 FT	Rd 8-10	N/50	10	10.934	5311209

- With 3 hexagonal bolts M6 x 16 (VA)

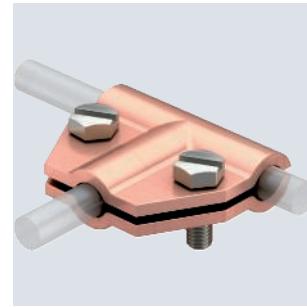
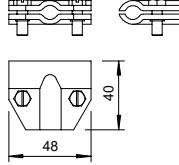


Cu



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
245 8-10 CU	Rd 8-10	N/50	10	11.560	5311152

- With 2 hexagonal bolts M6 x 16 (VA)
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)

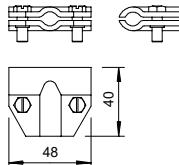


St FT



Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
245 8-10 FT	Rd 8-10	N/50	10	9.401	5311101

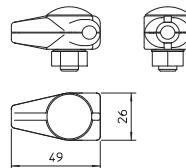
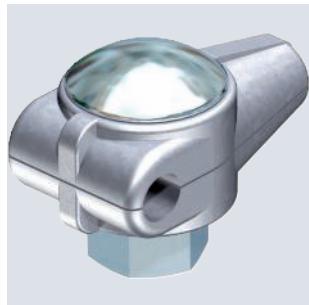
- With 2 hexagonal bolts M6 x 16 (VA)
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)



# T connector

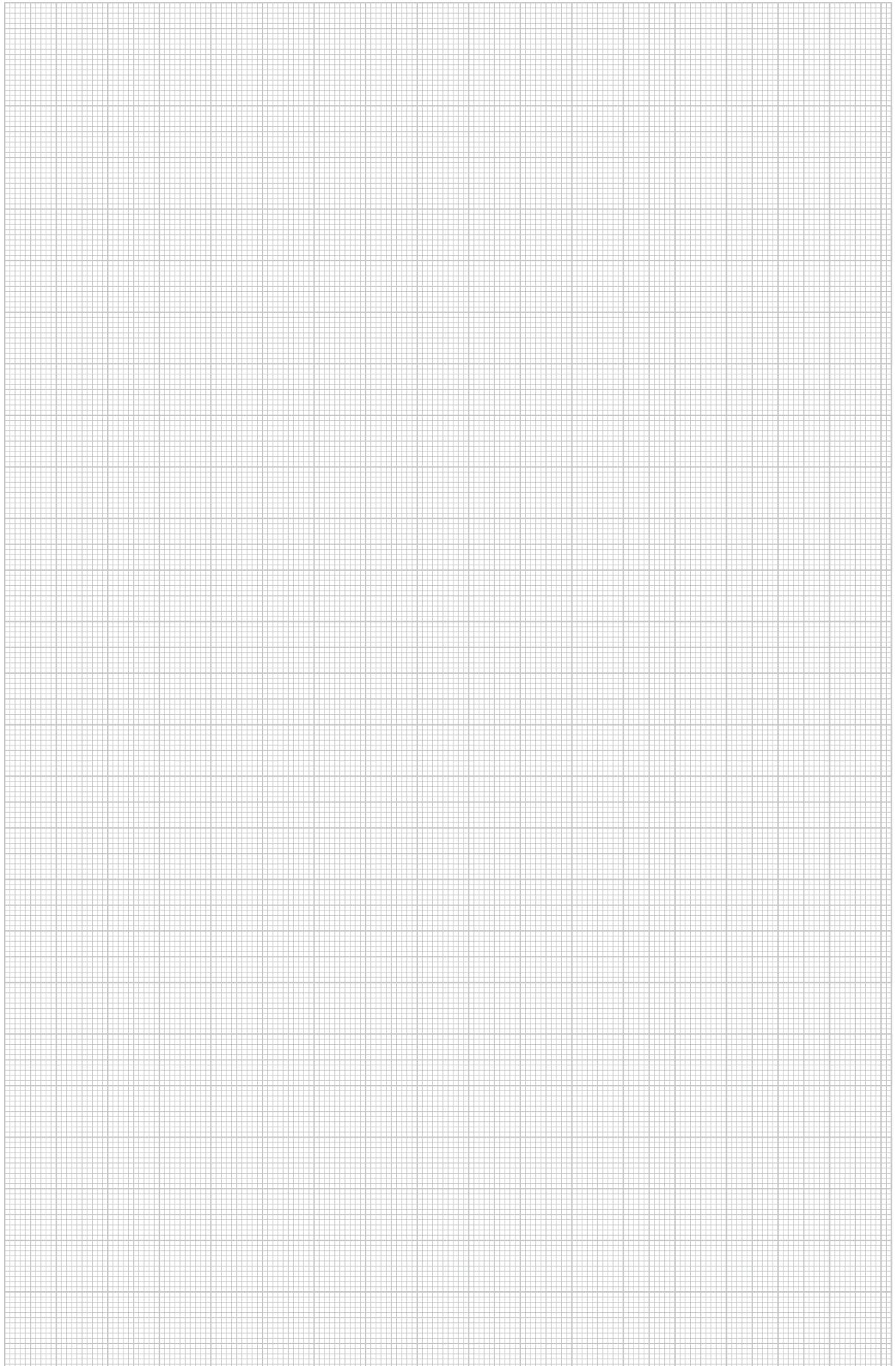
## T connector Rd 8 mm

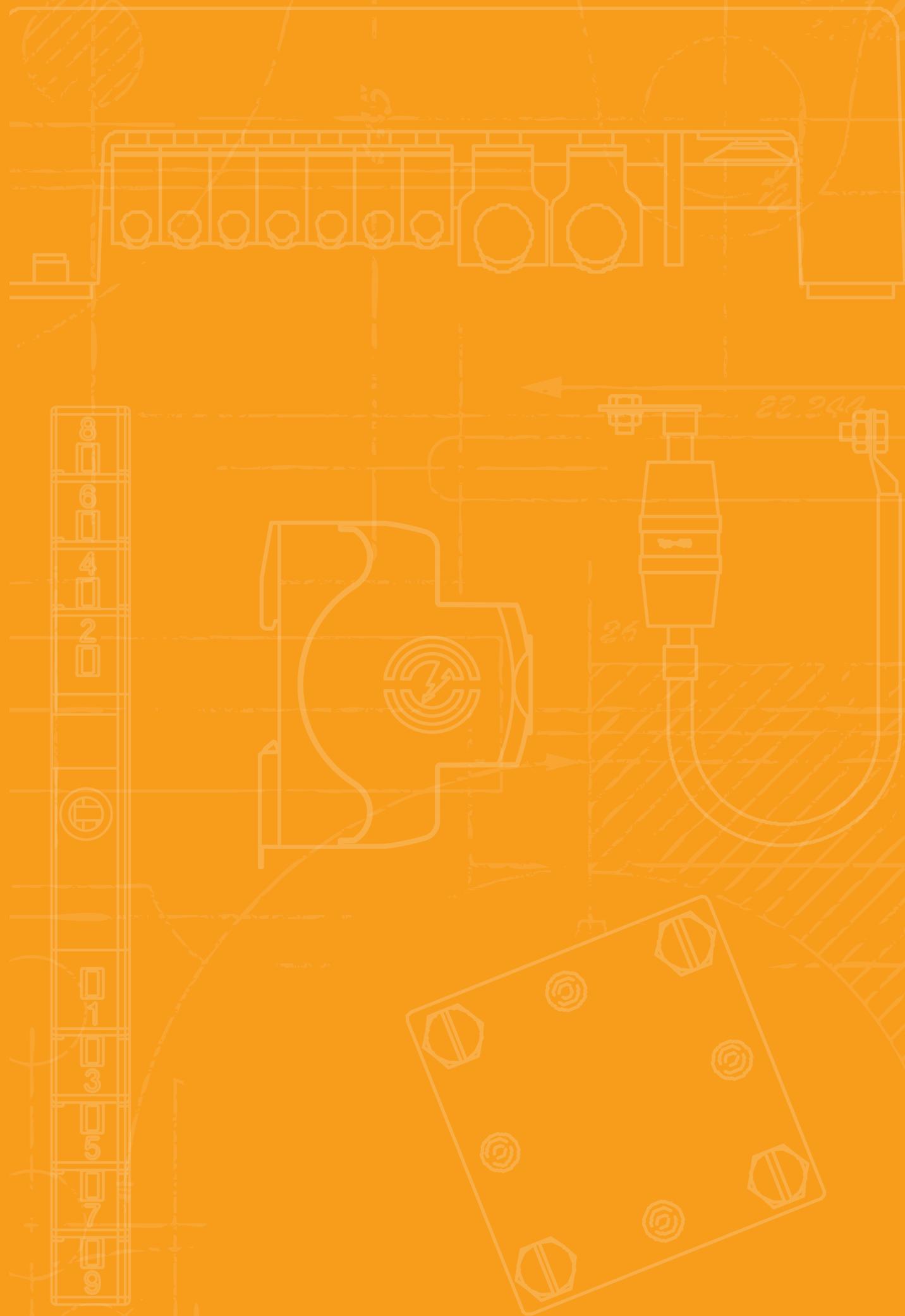
Zn G  
TESTED



Type	Fit	Lightning current carrying capacity	Pack	Weight	Item no.
	mm	kA	Piece	kg/100 pc.	
244	Rd 8	N/50	10	11.580	5311039

- With truss-head bolt M10 x 30 and hexagonal nut M10
- Complies with the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)





# Protection and spark gaps

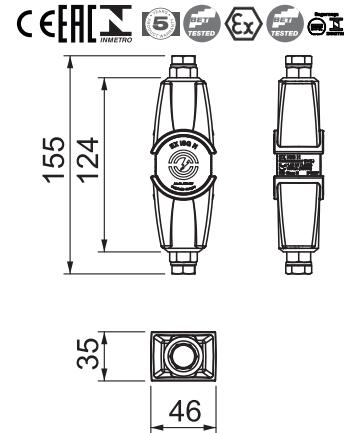


Protection and spark gaps

210

# Spark gaps

## EX ISG H spark gap



Type	Pack	Weight	
EX ISG H	Piece	kg/100 pc.	Item no.
	1	41.360	5240030

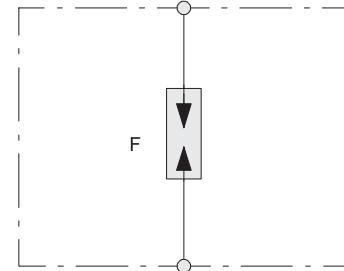
- Spark gap to VDE 0185-561-3 (IEC 62561-3)
- Ex certificate to ATEX
- Labelling to EN 60079-0-1: II 2 G Ex db IIC T6 Gb
- Labelling to EN 60079-0-31: II 2 D Ex td IIIC T80 °C Db IP67
- Ex certificate to INMETRO
- Labelling to IEC 60079-0-1: Ex db IIC T6 Gb
- Labelling to IEC 60079-0-31: Ex td IIIC T80 °C Db IP67
- Ex certificate to IECEx
- Labelling to ABNT NBR IEC 60079-0-1: Ex db IIC T6 Gb
- Labelling to ABNT NBR IEC 60079-31: Ex tb IIIC T80 °C Db IP67

Application: In potentially explosive areas zones 1/21 and 2/22, indirect bridging of insulating flanges and insulating glands, e.g. in cathodic, corrosion-protected (KKS) systems.

### EX ISG H

Connecting cable length	0 m
Rated impulse sparkover voltage	$U_{r\text{imp}}$ 1.25 kV
Rated DC withstand voltage	$U_{w\text{DC}}$ 354 V
Rated power frequency withstand voltage	$U_{w\text{AC}}$ 250 V
Power frequency spark-over voltage	$U_{AS}$ 0.56 kV
Impulse discharge current (10/350)	$I_{\text{imp}}$ 100 kA
Nominal discharge current (8/20)	$I_n$ 100 kA
Lightning current carrying capacity	H/100 kA
Temperature range	9 -20 - +60 °C

### Connection options





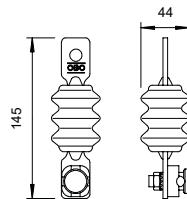
## EX ISG H spark gap, with one cable

## Protective spark gaps

Type	Protection level	Nominal discharge current (8/20)	Power frequency spark-over voltage	Pack Piece	Weight kg/100 pc.	Item no.
482	kV	kA	kV	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.

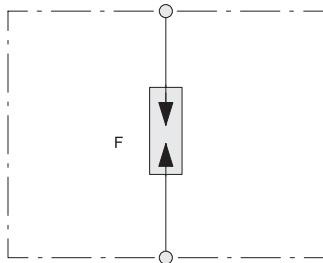
- Protection rating IP 54
- With pre-mounted type 5001 connector for attaching round conductors Rd 8 - 10



## Protective spark gap



## Connection options



## Accessories

Cu

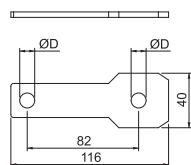
Type	Dimension mm	Pack Piece	Weight kg/100 pc.	Item no.
AL EX ISG 100	100	1	9.600	5240102
AL EX ISG 200	200	1	12.300	5240104
AL EX ISG 300	300	1	15.200	5240106

UV-resistant connection cable (copper 25 mm<sup>2</sup>) for mounting the OBO Ex spark gap, type EX ISG, on insulating flanges and insulating pieces. With cable shoe for M10 bolts on both sides, on one side with M10 bolt, nuts and spring ring.

## Connection cable – AL EX ISG

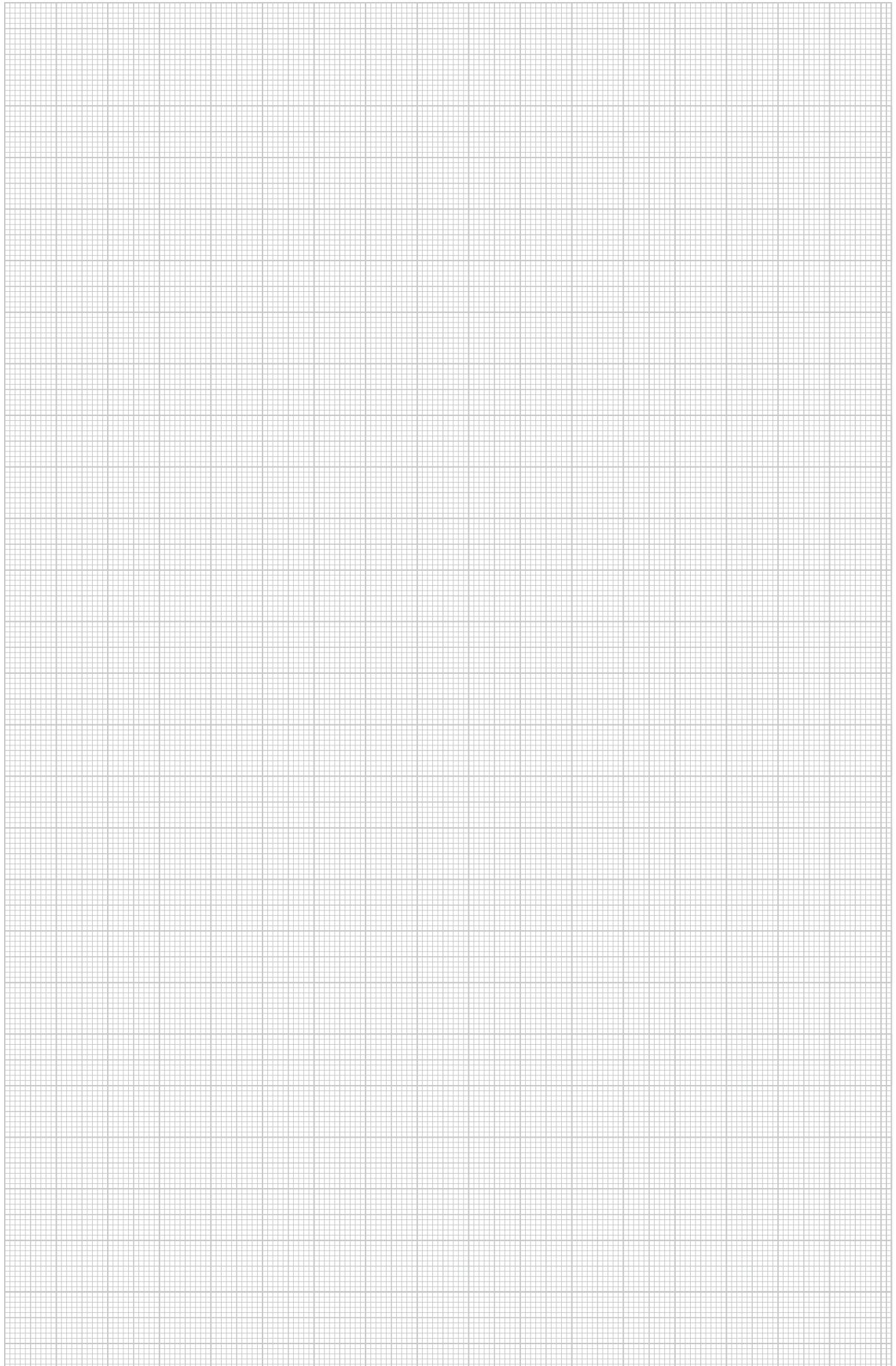


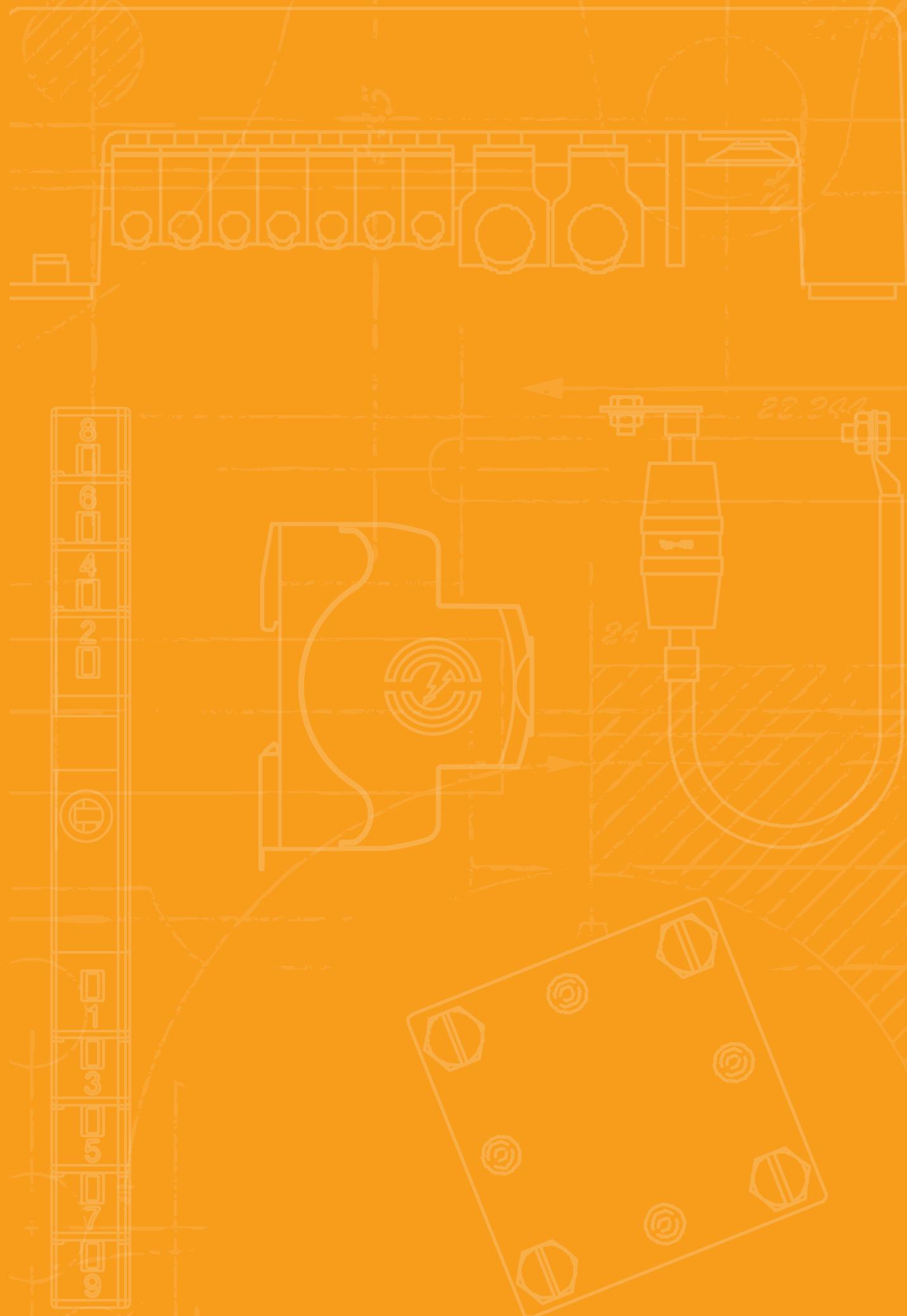
## Connection clamp AB EX ISG, straight



Type	Drill hole Ø mm	Version	Pack Piece	Weight kg/100 pc.	Item no.
AB EX ISG S M10	11	For M10 bolt	2	9.000	5240360
AB EX ISG S M12	14	For M12 bolt	2	8.900	5240362
AB EX ISG S M16	18	For M16 bolt	2	8.600	5240366
AB EX ISG S M20	22	For M20 bolt	2	8.200	5240370
AB EX ISG S M24	26	For M24 bolt	2	7.800	5240374

Connection clamp for mounting the OBO Ex spark gap, type EX ISG, on insulating flanges and insulating pieces.





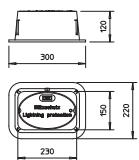
# Accessories, external lightning protection



Accessories

214

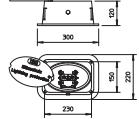


**Underfloor test box**

**Type**  
5700

Pack	Weight	Piece	kg/100 pc.	Item no.
1	720.000	1	720.000	5106002

- 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)

**Inspection pit with integrated separation piece**

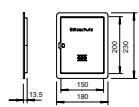
**Type**  
5700 SP

Pack	Weight	Piece	kg/100 pc.	Item no.
1	770.000	1	770.000	5106003

- Without base
- Cast iron, painted black
- With built-in cut-off unit for round conductors Rd 8-10 and flat conductors to FL 40
- To VDE 0185-561-5 (IEC 62561-5) suitable for heavy loads (up to 40 kN/ 4.0 t)

**Inspection door**

St FS



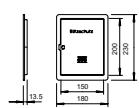
**Type**  
5800 VZ

Pack	Weight	Piece	kg/100 pc.	Item no.
1	46.000	1	46.000	5106133

- Lightweight design for flush-mounted separation points
- Claw length approx. 80 mm

**Inspection door**

VA



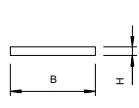
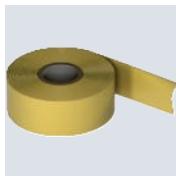
**Type**  
5800 VA

Pack	Weight	Piece	kg/100 pc.	Item no.
1	46.000	1	46.000	5106141

- Lightweight design for flush-mounted separation points
- Claw length approx. 80 mm

**Corrosion protection strip**

PETR



**Type**  
356 50    356 100

	Width mm	Length m
356 50	50	10
356 100	100	10

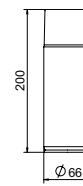
Pack	Weight	Piece	kg/100 pc.	Item no.
1	59.000	1	59.000	2360055
1	122.200	1	122.200	2360101

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

## Zinc repairs

Type	Dimension	Pack	Weight	Item no.
		Piece	kg/100 pc.	
ZSF	400ml	1	45.000	2362970

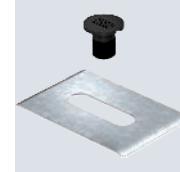
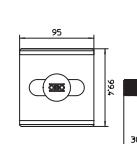
Zinc spray for treatment of unprotected surfaces and cutting edges. Can contents: 400 ml.



## TrayFix mounting adapter for mesh cable trays on FangFix system

Type	Dimension	Pack	Weight	Item no.
		Piece	kg/100 pc.	
TrayFix	ø20mm	25	9.850	5403100

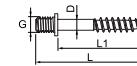
- Mounting system for the fastening of mesh cable trays and cable trays on FangFix stone, e.g. cable routing on a flat roof
- Adapted to OBO cable tray systems MKSM, SKSM and IKSM
- Adapted to OBO mesh cable tray systems with a minimum width of 100 mm



St G

## Screw-in anchor with M6 thread

Type	Dim. L	Dim. L1	Dim. D	Dim. G	Shipping box	Pack	Weight	Item no.
	mm	mm	mm	mm	Piece	Piece	kg/100 pc.	
985 M6 25	35	25	4.3	M6	3000	100	0.412	3133028
985 M6 35	45	35	4.3	M6	2000	100	0.533	3133036

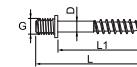


With wood screw shank and M6 thread.

St G

## Screw-in anchor with M8 thread

Type	Dim. L	Dim. L1	Dim. D	Dim. G	Shipping box	Pack	Weight	Item no.
	mm	mm	mm	mm	Piece	Piece	kg/100 pc.	
985 M8 35	47	35	5.2	M8	1200	100	0.950	3133230



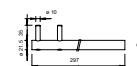
With wood screw shank and M8 thread.

St FT

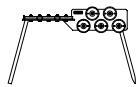
## Directional irons

Type	Length mm	Pack	Weight	Item no.
		Piece	kg/100 pc.	
364	297	1	35.000	3051013

- Directional iron for bending and aligning conductors



### Wire straightening machine

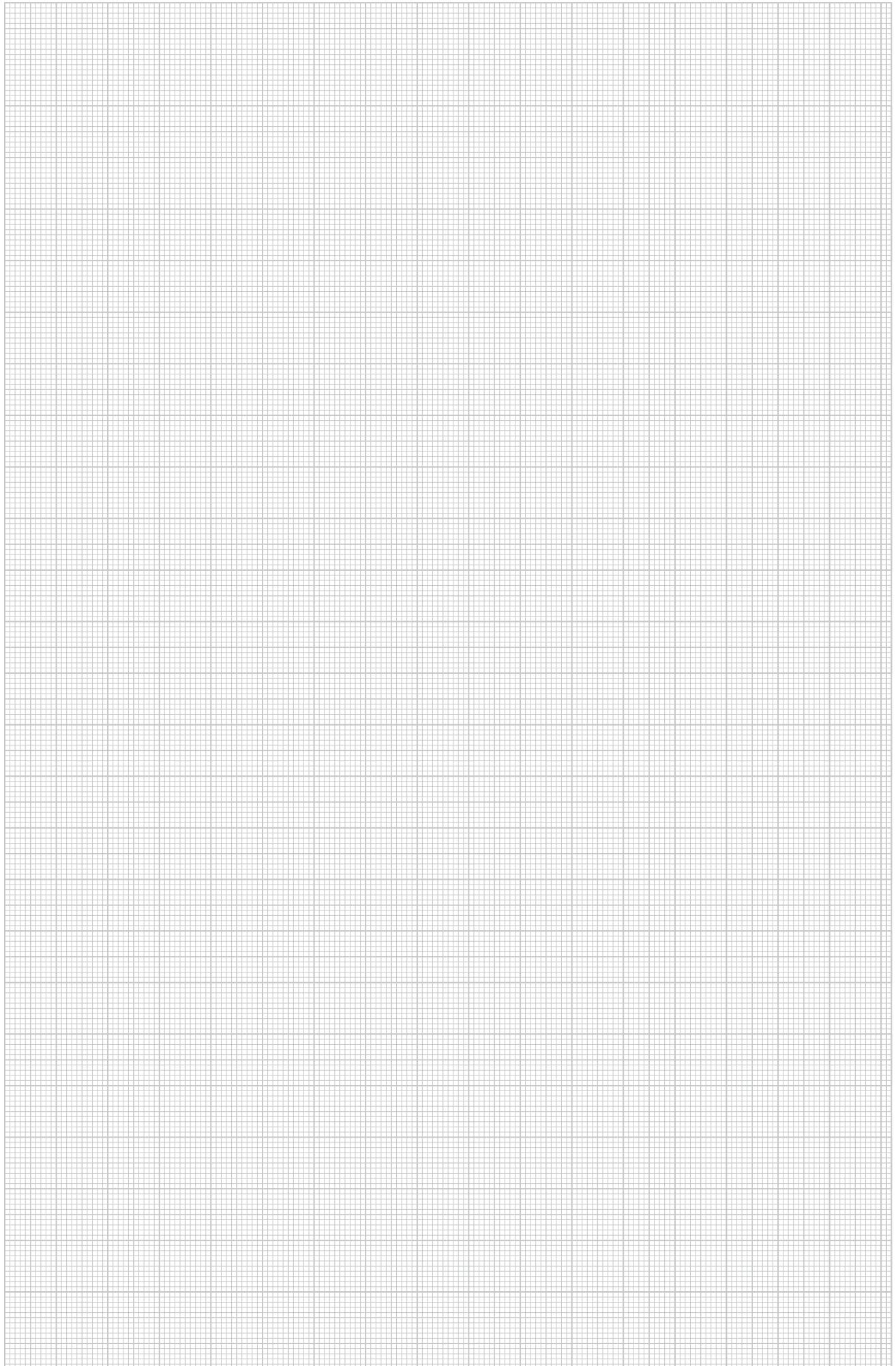


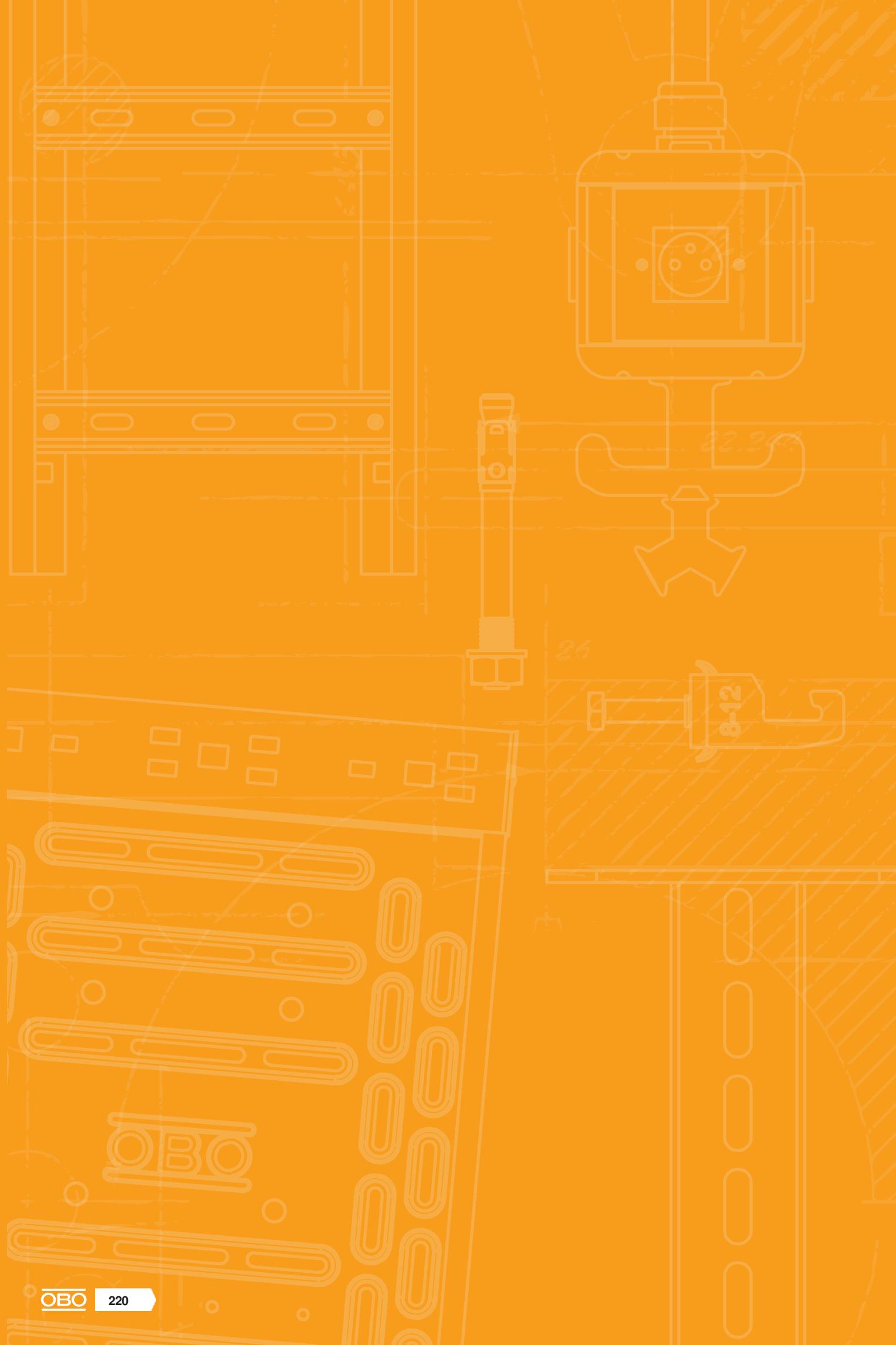
Type  
5900

Pack Weight  
Piece kg/100 pc. Item no.  
1 3,300.000 3059006

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





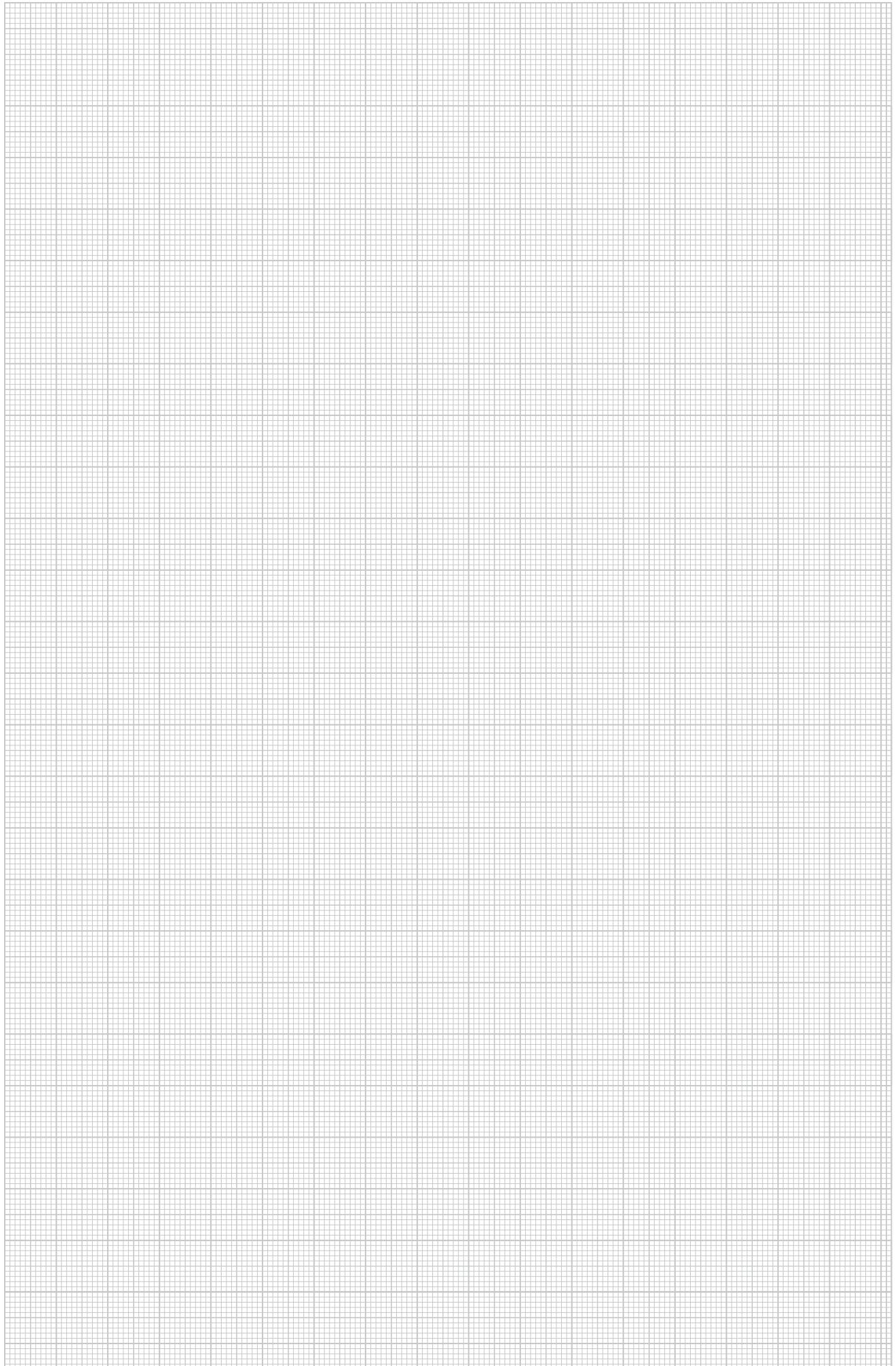


# Directories

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	The latest general conditions of sale and delivery at obo.de/vlb	

# Test marks

	American Bureau of Shipping, USA		Underwriters Laboratories Inc., USA + CSA, Canada
	AENOR, Producto Certificado, Spain		Österreichischer Verband für Elektrotechnik, Austria
	STOWARZYSZENIE ELEKTRYKÓW POLSKICH, Poland		INSTITUTO ITALIANO DEL MARCHO DI QUALITÀ, Italy
	Lightning current-tested		RINA 1861, Ship Classification, Certification and Services
	Lightning current-tested, Class H (100 kA)		Underwriters Laboratories Inc., USA
	CEBEC, Belgium		SEMKO An Inchcape Testing Services Company, Sweden
	Canadian Standards Association, Canada		Eidgenössisches Starkstromspektorat, Switzerland
	DEMKO, Danmarks Elektriske Materielkontrol, Denmark		South African Bureau of Standards
	Deutsches Institut für Bautechnik Berlin, Germany		Shock-tested, Bundesamt für Zivilschutz, Germany
	Det Norske Veritas		Sähkötarkastuskeskus Elinspektilonscentralen Electrical Inspectorate, Finland
	ENEC Austria		Underwriters Laboratories Inc., USA
	ATEX certificate for explosive areas		Underwriters Laboratories Inc., USA
	ELEKTROTECHNICKÝ ZKUŠEBNÍ ÚSTAV, Czech Republic		Verband der Elektrotechnik, Elektronik, Informationstechnik e.V., Germany
	FIMKO, Finland		German Association of Electricians, tested safety
	Forschungs- und Materialprüfungsanstalt, Germany		5-year warranty
	Russia, GOST The State Committee for Standards		
	Test marks for technical resources, VDE Prüf- und Zertifizierungsinstitut Offenbach, Germany		
	Halogen-free; without chlorine, fluorine and bromine		
	INMETRO, Brazil		
	KEMA-KEUR, Netherlands		
	Indication of metric products		
	MAGYAR ELEKTROTECHNIKAI ELLENŐRZŐ INTÉZET Budapest, Hungary		
	NEMKO, Norway		
	AFNOR Quality symbol of the French standardisation institute		



# Pictogram explanation

## Surfaces

	Strip galvanised
	Strip galvanised/plastic-coated
	Strip galvanised zinc/aluminium, double dip
	Bright
	Bright, reworked
	Anodised
	Hot-dip galvanised
	Electrogalvanised
	Electrogalvanised/plastic-coated
	Electrogalvanised, yellow-chromated
	Electrogalvanised, yellow passivated
	Electrogalvanised, transparently passivated
	Primed
	Painted
	Welding primed
	Hot-dip galvanised
	Hot-dip galvanised 85 µm
	Copper-plated
	Nickel-plated
	Galvanised, Deltatone 500
	Galvanised, MAGNI 565
	Zinc-aluminium coated, Galfan
	Zinc scale

## Conformity symbol

	Communautés Européennes, EC declaration of conformity according to EC directives
	RoHS-conformant

## Quality marks

	Halogen-free; without chlorine, fluorine and bromine
	Flame resistant 650 °C
	Flame resistant 750 °C
	Flame resistant 960 °C
	UV-resistant

## Specific product symbols

	Diameter 60 mm
	Diameter 68 mm
	Protection device to DIN EN 61643-11 or IEC 61643-11
	Transition from LPZ 2 to LPZ 3
	Acoustic signalling

## 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 potentially explosive areas
	Channel Performance to ISO/IEC 11801
	Power over Ethernet
	230/400 V system
	Protection rating IP 54
	Protection rating IP 65

## 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

## Lightning protection classes

Type 2+3	Protection device to DIN EN 61643-11 or IEC 61643-11
Type 3	Protection device to DIN EN 61643-11 or IEC 61643-11

## Lightning protection zone

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

## BSS maintenance of electrical function installation

	Fire-tested systems
	Escape route ceiling mounting with pressure clip
	OBO Grip, wall routing type
	OBO Grip, ceiling routing type
	Pressure clip for maintenance of electrical function, ceiling mounting

## BSS anchor

	Fire protection anchor
	Fire protection bolt tie

## BSS test marks/material class

E30	Maintenance of electrical function class E30
E90	Maintenance of electrical function class E90

## Clamp clip base shapes

	Clamp clip for C profile rail, slot width 11–12 mm
	Clamp clip for C profile rail, slot width 16–17 mm
	Clamp clip for C profile rail, slot width 18–22 mm

## Diameter

	Diameter 60 mm
	Diameter 68 mm
	Diameter 70 mm
	Diameter 74 mm

## Entries

	4 cable entries
	6 cable entries
	7 cable entries
	8 cable entries
	9 cable entries
	10 cable entries
	12 cable entries
	10 cable entries ECO
	12 cable entries ECO
	14 cable entries ECO
	16 cable entries
	18 cable entries ECO
	24 cable entries

## Gland thread

	Thread metric
	Thread Pg

## Entry size

	M20 entry
	M25 entry
	M32 entry
	M40 entry

## KTS side heights

	Cable tray, side height 35 mm
	Cable tray, side height 60 mm
	Cable tray, side height 85 mm
	Mesh cable tray, side height 35 mm
	Mesh cable tray, side height 55 mm

## Materials

	Flat steel
	Angular steel
	U steel
	Round material

# Pictogram explanation

## Nominal cross-section

 1,5 mm <sup>2</sup>	Nominal cross-section 1.5 mm <sup>2</sup>
 1,5-2,5 mm <sup>2</sup>	Nominal cross-section 1.5–2.5 mm <sup>2</sup>
 2,5 mm <sup>2</sup>	Nominal cross-section 2.5 mm <sup>2</sup>
 2,5-4 mm <sup>2</sup>	Nominal cross-section 2.5–4 mm <sup>2</sup>
 4 mm <sup>2</sup>	Nominal cross-section 4 mm <sup>2</sup>
 4-6 mm <sup>2</sup>	Nominal cross-section 4–6 mm <sup>2</sup>
 6 mm <sup>2</sup>	Nominal cross-section 6 mm <sup>2</sup>
 10 mm <sup>2</sup>	Nominal cross-section 10 mm <sup>2</sup>
 16 mm <sup>2</sup>	Nominal cross-section 16 mm <sup>2</sup>

## Nominal voltage

 400 V	Nominal voltage 400 V
 500 V	Nominal voltage 500 V
 660 V	Nominal voltage 660 V

## Polarity

 3	3-pole
 5	5-pole
 7	7-pole
 8	8-pole
 10	10-pole
 12	12-pole

## Slot widths

 7,5	Slot width 7.5 mm
 11	Slot width 11 mm
 11-12	Slot width 11–12 mm
 12	Slot width 12 mm
 15	Slot width 15 mm
 16	Slot width 16 mm
 16,5	Slot width 16.5 mm
 16-17	Slot width 16–17 mm
 17	Slot width 17 mm
 18	Slot width 18 mm
 22	Slot width 22 mm
 35	Slot width 35 mm

## Screw heads

 ∙	Philips screw
 ◆	Torx screw
 +	Phillips screw
 * ●	Pozidriv

## Firing devices

 ┌	Bolt-firing tool
 └	Nail device

## Protection rating

 IP 20	Protection rating IP 20
 IP 30	Protection rating IP 30
 IP 31	Protection rating IP 31
 IP 44	Protection rating IP 44
 IP 54	Protection rating IP 54
 IP 55	Protection rating IP 55
 IP 65	Protection rating IP 65
 IP 66	Protection rating IP 66
 IP 67	Protection rating IP 67
 IP 68	Protection rating IP 68

## Metals

 Alu	Aluminium
 Alu/St	Aluminium/steel
 A2	Stainless steel, rustproof
 A4	Stainless steel, rustproof
 A5	Stainless steel, rustproof
 Cu	Copper
 CuZn 37	Brass
 st	Steel
 TG	Malleable iron
 Zn	Die-cast zinc

## Plastics

 ABS/ASA	Acrylonitrile butadiene styrene
 UF	Duroplast, Aminoplast, type 131.5
 MF	Duroplast, melamine resin, type 150
 EVA	Ethylene vinyl acetate

## Plastics

 FA	Fibre-proof material DIN 28091
 GFK	Fibreglass-reinforced plastic
 NBR SBR	Rubber mixture
 NBR	Nitrile rubber
 PETR	Petrolatum
 PA	Polyamide
 PA/GF	Polyamide, fibreglass reinforced
 PBPT	Polybutylene terephthalate
 PC	Polycarbonate
 PE	Polyethylene
 PP	Polypropylene
 PP/GF	Polypropylene, fibre-glass reinforced
 PS	Polystyrene
 PVC	Polyvinylchloride
 ZELL PE	Cellular polyethylene

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5901259	<b>5001672</b>	102	5388876	<b>5059356</b>	111	5902539	<b>5216206</b>	156	5416470	<b>5304601</b>	67			
5754879	<b>5001749</b>	102	5389057	<b>5059496</b>	111	5813019	<b>5216257</b>	156	5817758	<b>5304660</b>	66	5420439	<b>5317010</b>	77
	/pc.		5389919	<b>5052081</b>	89	5813132	<b>5216257</b>	156	5416357	<b>5304407</b>	77	5420491	<b>5317053</b>	77
5377719	<b>5012015</b>	104	5461111	<b>5091322</b>	47	5407959	<b>5217075</b>	163	5417071	<b>5304997</b>	67	5420552	<b>5317207</b>	77
	/pc.		5461296	<b>5091438</b>	47	5407959	<b>5217075</b>		5417316	<b>5311039</b>	70	5420613	<b>5317223</b>	75
5377894	<b>5014018</b>	107				5904274	<b>5218314</b>	159	5417378	<b>5311101</b>	70	5420675	<b>5317258</b>	76
5377955	<b>5014026</b>	107	5461654	<b>5091683</b>	47	5408796	<b>5218683</b>	160	5417439	<b>5311152</b>	70	5420798	<b>5317401</b>	76
5378013	<b>5014212</b>	107	6465644	<b>5091722</b>	48	6648290	<b>5218700</b>	161	5417491	<b>5311209</b>	69	5420859	<b>5317428</b>	75
5901938	<b>5014425</b>	106				6648306	<b>5218704</b>	161	5417552	<b>5311268</b>	69	5420910	<b>5317452</b>	75
5105015	<b>5014468</b>	104				6648313	<b>5218708</b>	161	6466283	<b>5311404</b>	63	5420972	<b>5317479</b>	75
6391059	<b>5014469</b>	104	5399797	<b>5102057</b>	89	6648320	<b>5218716</b>	162	5816584	<b>5311410</b>	62	5850861	<b>5317481</b>	76
6656134	<b>5014471</b>	104	5399858	<b>5102073</b>	89	5408918	<b>5218810</b>	161	5816591	<b>5311417</b>	62	6622368	<b>5317502</b>	78
	/pc.		5399919	<b>5102081</b>	89	5409038	<b>5218861</b>	160	5417675	<b>5311500</b>	64	6622375	<b>5317512</b>	78
5105077	<b>5014476</b>	104	5399971	<b>5102111</b>	89				5737063	<b>5311503</b>	55			
6391042	<b>5014477</b>	104	5400035	<b>5102138</b>	89	5674580	<b>5218882</b>	38	5417736	<b>5311519</b>	63	5421030	<b>5318084</b>	82
			5400097	<b>5102154</b>	89	5417736	<b>5311519</b>		5417798	<b>5311527</b>	63	5421092	<b>5318149</b>	82
5377906	<b>5016029</b>	108	5400158	<b>5102197</b>	89	5623052	<b>5218885</b>	159	5835394	<b>5311530</b>	55			
5379157	<b>5016037</b>	108	5400219	<b>5102219</b>	89	6991921	<b>5218886</b>	162	5417859	<b>5311535</b>	62	5421276	<b>5320011</b>	83
5379218	<b>5016045</b>	108	5400271	<b>5102235</b>	89				5417910	<b>5311551</b>	63	5421337	<b>5320054</b>	83
5922216	<b>5016096</b>	108	5400332	<b>5102251</b>	89	5409090	<b>5218926</b>	88	5835349	<b>5311554</b>	55	5421511	<b>5320690</b>	85
5800354	<b>5016118</b>	108	5400394	<b>5102278</b>	89	5952213	<b>5218977</b>	160	5466192	<b>5311585</b>	55	5421573	<b>5320704</b>	84
5922278	<b>5016126</b>	108				5625889	<b>5218997</b>	160	5925446	<b>5311590</b>	62	6127504	<b>5320707</b>	85
5379270	<b>5016142</b>	107				6388196	<b>5218999</b>	161	6656141	<b>5311595</b>	66	5421634	<b>5320712</b>	84
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5423430	<b>5331501</b>	88	6095452	<b>5403101</b>	135	5674412	<b>5408393</b>	144	6505890	<b>5420022</b>	105	
5629115	<b>5334934</b>	67	6095469	<b>5403102</b>	135	5613275	<b>5408395</b>	144	6505906	<b>5420024</b>	105	
5959663	<b>5334942</b>	67	5070054	<b>5403103</b>	133	5674351	<b>5408458</b>	148		/100 pc.		
						5674290	<b>5408504</b>	144	5751571	<b>5420504</b>	132	
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5890058	<b>5335140</b>	90	5070061	<b>5403110</b>	133	5613312	<b>5408630</b>	145				
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5423614	<b>5335205</b>	90	5070085	<b>5403124</b>	134	5613305	<b>5408689</b>	144	5430216	<b>5424151</b>	138	
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5424819	<b>5336341</b>	92		/pc.		6647842	<b>5408854</b>	127				
5424871	<b>5336376</b>	92	5034872	<b>5403308</b>	130	6647859	<b>5408856</b>	127				
5424932	<b>5336503</b>	92	5613572	<b>5403330</b>	139	6647866	<b>5408858</b>	127				
			5813903	<b>5403333</b>	139	6647873	<b>5408860</b>	127				
5425559	<b>5350085</b>	85	5670735	<b>5403335</b>	139	6219391	<b>5408868</b>	128				
5425656	<b>5350093</b>	85				6219407	<b>5408870</b>	128				
5425717	<b>5350107</b>	85		/100 pc.		6647804	<b>5408874</b>	128				
5425779	<b>5350115</b>	85	5428657	<b>5405068</b>	131	6647811	<b>5408876</b>	128				
5425830	<b>5350123</b>	85		/pc.		6647828	<b>5408878</b>	128				
5426257	<b>5350689</b>	85	5428718	<b>5405769</b>	140	6647835	<b>5408880</b>	128				
5426370	<b>5350700</b>	85				6219414	<b>5408888</b>	127				
5426790	<b>5350867</b>	87		price/100		6219421	<b>5408890</b>	127				
5426851	<b>5350883</b>	87	5888123	<b>5407995</b>	32	6219452	<b>5408902</b>	129				
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5427278	<b>5351472</b>	86	6591664	<b>5408014</b>	34	5785330	<b>5408943</b>	120				
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5427575	<b>5400155</b>	131		/pc.		5785347	<b>5408947</b>	120				
5629054	<b>5400627</b>	132	6591695	<b>5408019</b>	37	6792221	<b>5408949</b>	123				
			6591701	<b>5408020</b>	37		/pc.					
6219339	<b>5400810</b>	124	6591671	<b>5408021</b>	37	5670070	<b>5408950</b>	122				
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				5674696	<b>5408026</b>	129	5670100	<b>5408956</b>	123			
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5902119	<b>5401879</b>	137	5674870	<b>5408047</b>	38	5802433	<b>5408966</b>	121				
5034810	<b>5401970</b>	130	5674887	<b>5408049</b>	38	5802440	<b>5408967</b>	121				
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159 VA-V	5407959	5217075	163	1805 4 VA	5800354	5016118	108
163 100 CU	5409939	5223601	52	1805 6 FT	5379218	5016045	108
163 100 CU	5409939	5223601	170	1805 6 VA	5922278	5016126	108
163 100 FT	5409519	5223105	53				
163 100 FT	5409519	5223105	170	1807	5379270	5016142	107
163 70 FT	5409458	5223075	53	1807 DB	6561063	5016160	107
163 70 FT	5409458	5223075	170				
165 B 60	5408918	5218810	161	1811	5377894	5014018	107
165 KR	5409038	5218861	160	1811 L	5377955	5014026	107
165 KRB SO	5952213	5218977	160				
165 MBG HFL	5623052	5218885	159	1813 DIN	5378013	5014212	107
165 MBG HGRM	6991921	5218886	162	1813 KL	5901938	5014425	106
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165 MBG UH	5674580	5218882	38	1814 FT	5105015	5014468	104
165 MBG UH	5674580	5218882	159	1814 FT D14	6656134	5014471	104
		/100 pc.					
165 MBG-8-10	6648290	5218700	161	1814 FT D37	6391059	5014469	104
165 MBG-8-10 200	6648320	5218716	162	1814 ST	5105077	5014476	104
165 MBG-8-10 FO	6648306	5218704	161	1814 ST D37	6391042	5014477	104
165 MBG-8-10 GR	6648313	5218708	161				
165 NBK 55	5904274	5218314	159	1818	5377719	5012015	104
165 OBG-8	5408796	5218683	160				
165 R-8-10	5625889	5218997	160	194	5404651	5207258	59
165 R-8-10 OBG	6388196	5218999	161	194	5404651	5207258	175
168 8-10 M6	5411499	5229162	54	194 K	5110392	5207266	59
168 8-10 M6	5411499	5229162	172	194 K	5110392	5207266	175
168 DIN 30	5411734	5229480	53				
168 DIN 30	5411734	5229480	171	199 DIN	5405252	5208017	59
168 DIN-K-M8	5411611	5229383	54	199 DIN	5405252	5208017	176
168 DIN-K-M8	5412151	5229839	54				
168 DIN-K-M8	5411611	5229383	172	200 V4A-1500	5751571	5420504	132
168 DIN-K-M8	5412151	5229839	172	200 V4A-2000	5331575	5420539	132
168 FL30-M6	5411673	5229464	53				
168 FL30-M6	5411673	5229464	171	205 DG L180 FT	6505906	5420024	105
168 FL40-M8	5411970	5229553	54	205 DG L180 V4A	6505890	5420022	105
168 FL40-M8	5411970	5229553	171	205 DG V4A	6505869	5420020	105
172 AR	5409090	5218926	88				
172 AR	5409090	5218926	203	223 DIN MS	5423676	5335256	90
				223 DIN MS	5423676	5335256	180
176 A 100	5410652	5227100	52	223 DIN ZN	5423614	5335205	90
176 A 100	5410652	5227100	169	223 DIN ZN	5423614	5335205	180
176 A 150	5410713	5227151	52	223 O DIN MS	5890119	5335167	90
176 A 150	5410713	5227151	169	223 O DIN MS	5890119	5335167	180
176 A 65	5410539	5227070	52	223 O DIN ZN	5890058	5335140	90
176 A 65	5410539	5227070	169	223 O DIN ZN	5890058	5335140	180
176 A 80	5410591	5227089	52				
176 A 80	5410591	5227089	169	226 8-10	5424215	5336007	91
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177 20 KL	5009726	5207451	51	226 VA	5424338	5336058	91
177 20 KL	5009726	5207451	169	226 VA	5424338	5336058	181
177 20 M8	5404897	5207444	51	226 ZV VA	5424390	5336074	91
177 20 M8	5404897	5207444	169	226 ZV VA	5424390	5336074	181
177 20 VA B-HD	5915836	5207901	50				
177 20 VA B-HD	5915836	5207901	168	233 8	5424635	5336309	91
177 20 VA M6	5404774	5207339	50	233 8	5424635	5336309	181
177 20 VA M6	5404774	5207339	167	233 A VA	5424871	5336457	92
177 20 VA M8	5404835	5207347	50	233 A VA	5424871	5336457	182
177 20 VA M8	5404835	5207347	167	233 A ZV	5424932	5336503	92
177 30 CU	5905059	5207754	51	233 A ZV	5424932	5336503	182
177 30 CU	5905059	5207754	169	233 VA	5424758	5336341	92
177 30 M8	5404958	5207460	51	233 VA	5424758	5336341	182
177 30 M8	5404958	5207460	169	233 ZV	5424819	5336376	92
177 35 VA M6	5735762	5207342	50	233 ZV	5424819	5336376	182
177 35 VA M6	5735762	5207342	168				
177 55 M8	5405016	5207487	51	237 N CU	5453673	5328284	68
177 55 M8	5405016	5207487	169	237 N CU	5453673	5328284	188
177 B-HD20	5336433	5207851	51	237 N FT	5453611	5328209	69
177 B-HD20	5336433	5207851	168	237 N FT	5453611	5328209	188
177 BHD30	5334811	5207878	51				
177 BHD30	5334811	5207878	168	239	5423195	5329078	69
177 U	5069546	5207371	59	239	5423195	5329078	188
177 U	5069546	5207371	176				
177 WDVS 64x25 B	6657940	5207375	60	244	5417316	5311039	70
177 WDVS 64x25 B	6657940	5207375	176	244	5417316	5311039	206
		/pc.		245 8-10 CU	5417439	5311152	70
1805 2 FT	5379096	5016029	108	245 8-10 CU	5417439	5311152	205
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249 6-10 CU	5816591	5311417	62	256 A-DIN 30 V4A	5893080	5314659	100
249 6-10 CU	5816591	5311417	201	256 A-DIN 30 VA	5925873	5314720	100
249 6-10 ST	5816584	5311410	62	256 A-DIN 40 FT	5419532	5314666	100
249 6-10 ST	5816584	5311410	201	256 DIN 30 FT	5419297	5314615	100
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249 8-10 ALU	5417736	5311519	202	256 DIN 40 FT	5419358	5314623	100
249 8-10 ALU-OT	5466192	5311585	55	259 8-10	5419716	5315506	68
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249 8-10 ALU-OT	5466192	5311585	173	259 A FT	5740414	5315514	106
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249 8-10 CU-OT	5835394	5311530	55	260 8	5419839	5315700	68
249 8-10 CU-OT	5835394	5311530	81	260 8	5419839	5315700	195
249 8-10 CU-OT	5835394	5311530	172	260 8-10 MS	5419778	5315654	68
249 8-10 ST	5417675	5311500	64	260 8-10 MS	5419778	5315654	195
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249 8-10 ST-OT	5737063	5311503	55	260 8-10	5420316	5316510	200
249 8-10 ST-OT	5737063	5311503	82	262	5419891	5316014	80
249 8-10 ST-OT	5737063	5311503	173	262	5419891	5316014	198
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249 8-10X16 VA	5925446	5311590	62	264 CU	5420378	5316553	200
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249 B ALU	5452058	5311713	63	264 CU	5420132	5316308	79
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250 A-VA	5740476	5313023	103	270 8-10 CU	5420675	5317258	76
250 V4A	5700876	5312925	74	270 8-10 CU	5420675	5317258	190
250 V4A	5700876	5312925	96	270 8-10 FT	5420552	5317207	77
250 VA	5418757	5312922	74	270 8-10 FT	5420552	5317207	191
250 VA	5418757	5312922	96	270 8-10 VA	5893158	5317208	76
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252 8-10 CU	5418214	5312418	72	271 8-10	5420798	5317401	190
252 8-10 CU	5418214	5312418	98	271 8-10 VA	5850861	5317481	76
252 8-10 FT	5418092	5312310	72	271 8-10 VA	5850861	5317481	190
252 8-10 FT	5418092	5312310	99	271 CU	5420910	5317452	75
252 8-10 V4A	5700869	5312318	72	271 CU	5420910	5317452	189
252 8-10 V4A	5700869	5312318	98			/pc.	
252 8-10X16 CU	5418276	5312442	71			/pc.	
252 8-10X16 CU	5418276	5312442	97	2710 20 FT	5372370	5001218	101
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287 DCT	6127504	5320707	193	324 S-FT	5422419	5326303	84
288 DIN	5421634	5320712	84	324 S-FT	5422419	5326303	194
288 DIN	5421634	5320712	193	324 S-VA	5422471	5326311	83
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301 S-VA-100	5427094	5351251	196	5001 N-FT	5817512	5304164	65
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5800 VZ	5900375	5106133	114	F-FIX-BASIS	5034933	/pc. 5403324	130
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853 300	5423379	5331013	88	isCon connect	5674689	5408022	37
853 300	5423379	5331013	204	isCon DH	5674863	5408043	39
853 400	5885580	5331017	88				
853 400	5885580	5331017	204	isCon EPPA 004	5813781	/100 pc. 5408060	36
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856	5423430	5331501	88	isCon H 26 VA	5872696	5408064	39
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927 2 6-K	5699651	5057599	121	isCon H280 26 VA	5872764	5408074	38
				isCon H280 PA	5674887	5408049	38
985 M6 25	5250395	3133028	115	isCon H280 VA	5674870	5408047	38
985 M6 25	5250395	3133028	217	isCon HS 26 PA	5872702	5408066	39
985 M6 35	5250456	3133036	115	isCon HS 26 VA	5872740	5408068	39
985 M6 35	5250456	3133036	217	isCon HS VA	5674726	5408052	39
985 M8 35	5250579	3133230	116	isCon HWS	5813774	5408058	40
985 M8 35	5250579	3133230	217	isCon HWS EN	6586981	5408059	40
985 M8 35	5250579	3133230	217	isCon IN con 2	6591695	5408019	37
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