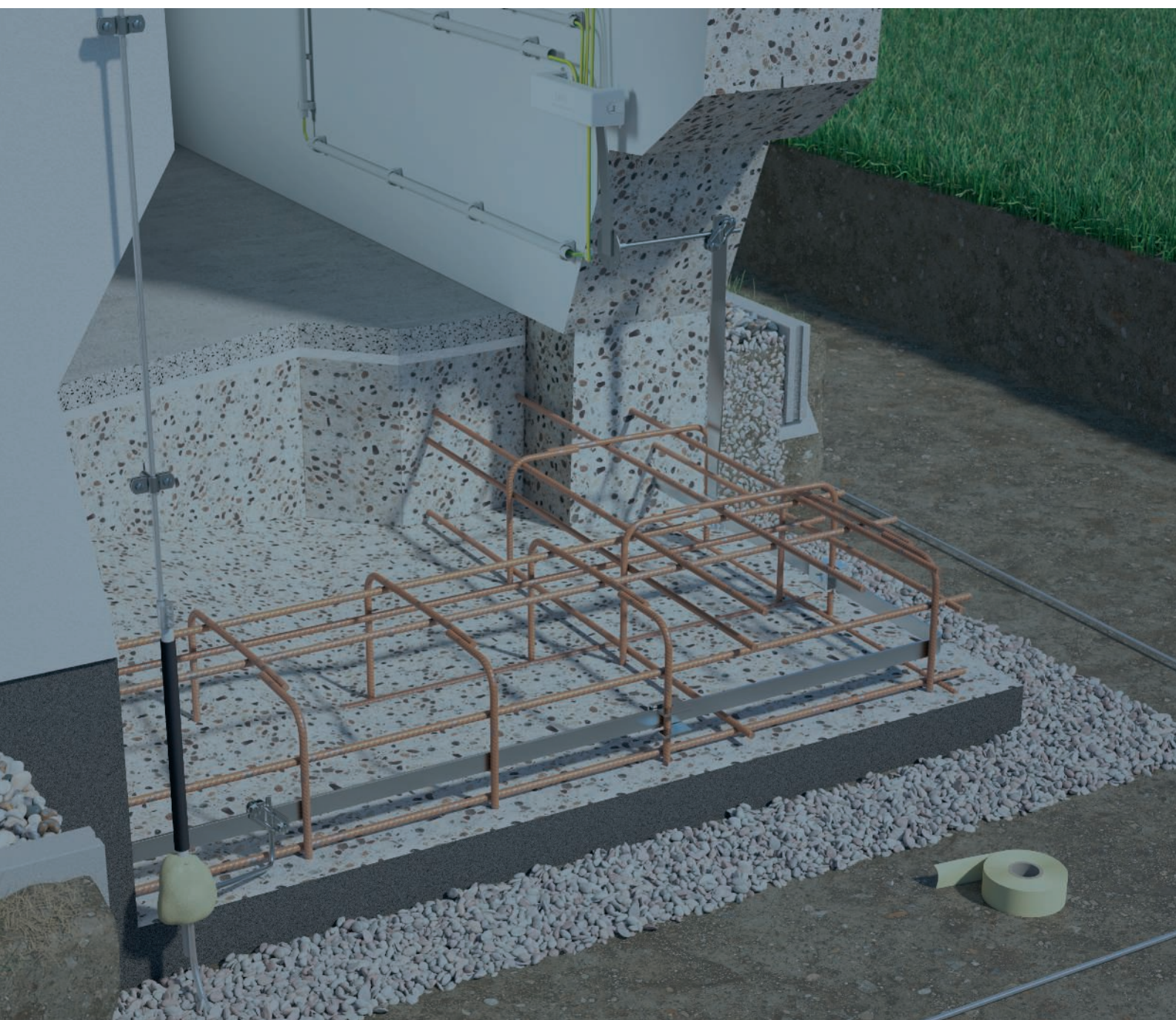




Equipotential bonding and earthing



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, trunking 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.



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.



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.





Clear delivery capability

With an approximate storage area of 38,000 m² 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 Fallingbommel
- 2 Sales Warehouse West**
Iserlohn
- 3 Sales Warehouse East**
Delitzsch
- 4 Sales Warehouse South-West**
Groß-Rohrheim
- 5 Sales Warehouse South**
Dasing





Planning aids

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Conductor material

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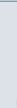
Earth rods

Page 104



Air-termination/earth entry rods

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Equipotential busbars

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Earthing clamps and earthing terminals

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Protection and spark gaps

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Directories

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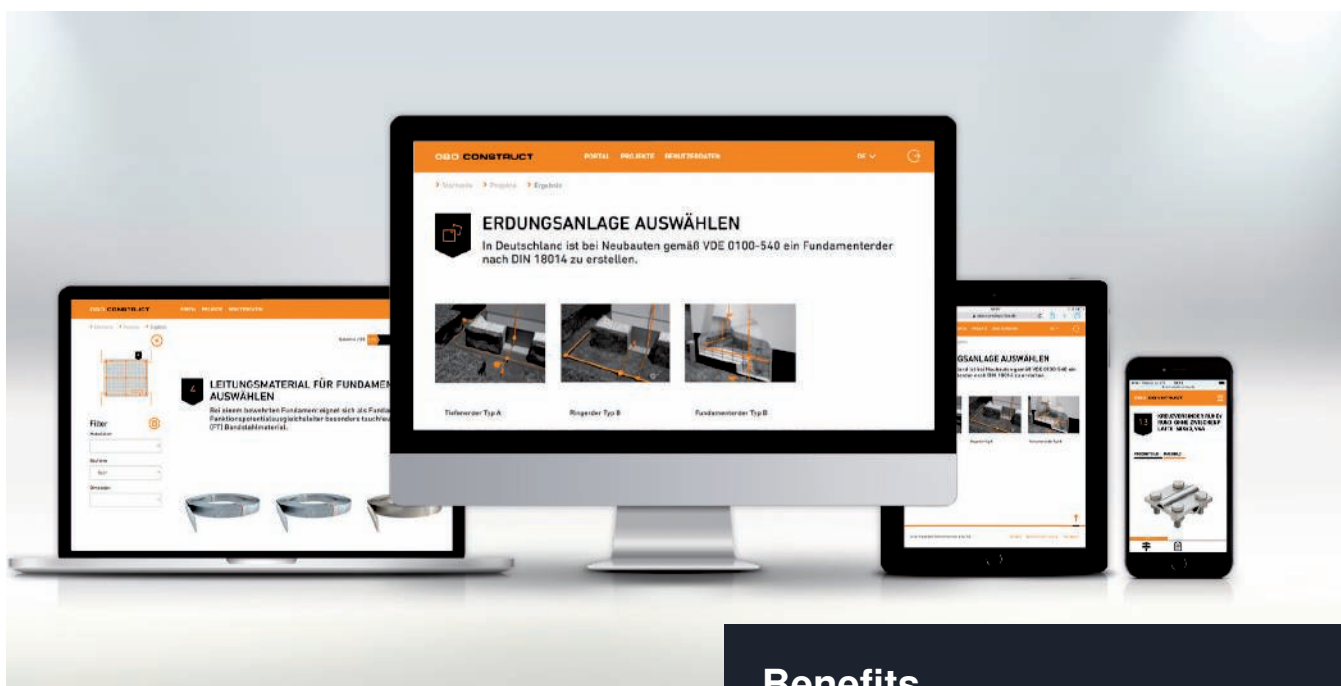




Planning aids

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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



OBO TBS seminars: First-hand knowledge

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

Invitations to tender on the Internet at www.ausschreiben.de

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

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.



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.

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.

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.



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.



External and internal lightning protection systems



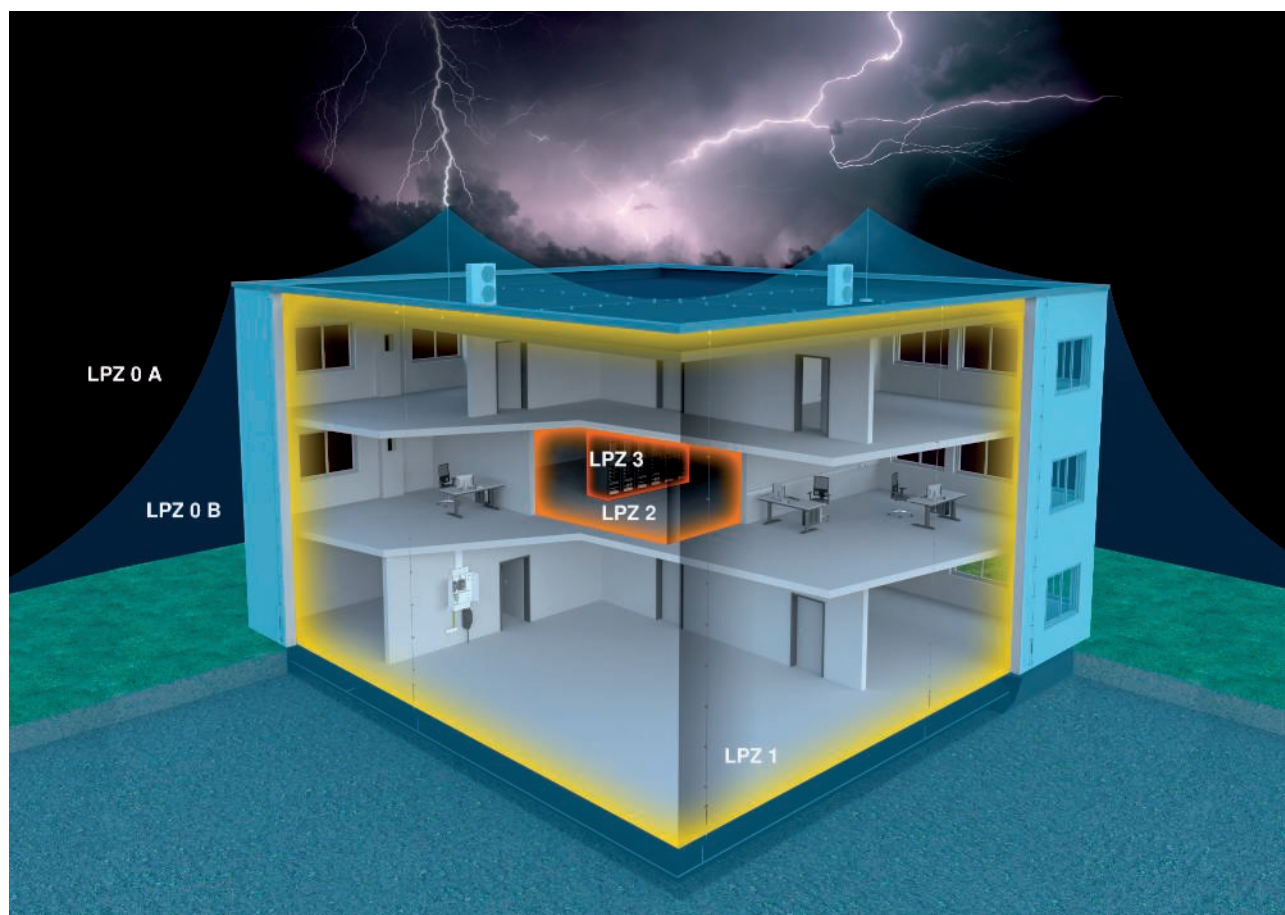
Standard	German supplement	Contents
VDE 0185-305-1 (IEC 62305-1)		Protection against lightning – Part 1: General principles
VDE 0185-305-2 (IEC 62305-2)		Protection against lightning – Part 2: Risk management
	1	Lightning risk in Germany
	2	Calculation aids for estimating the risk of damage for buildings
	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 60755-6-11)		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

situation, a building's entire energy network is split into lightning protection zones (LPZ = lightning protection zone). Installed at each transition from one zone to another is a surge arrester for equipotential bonding. These 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.



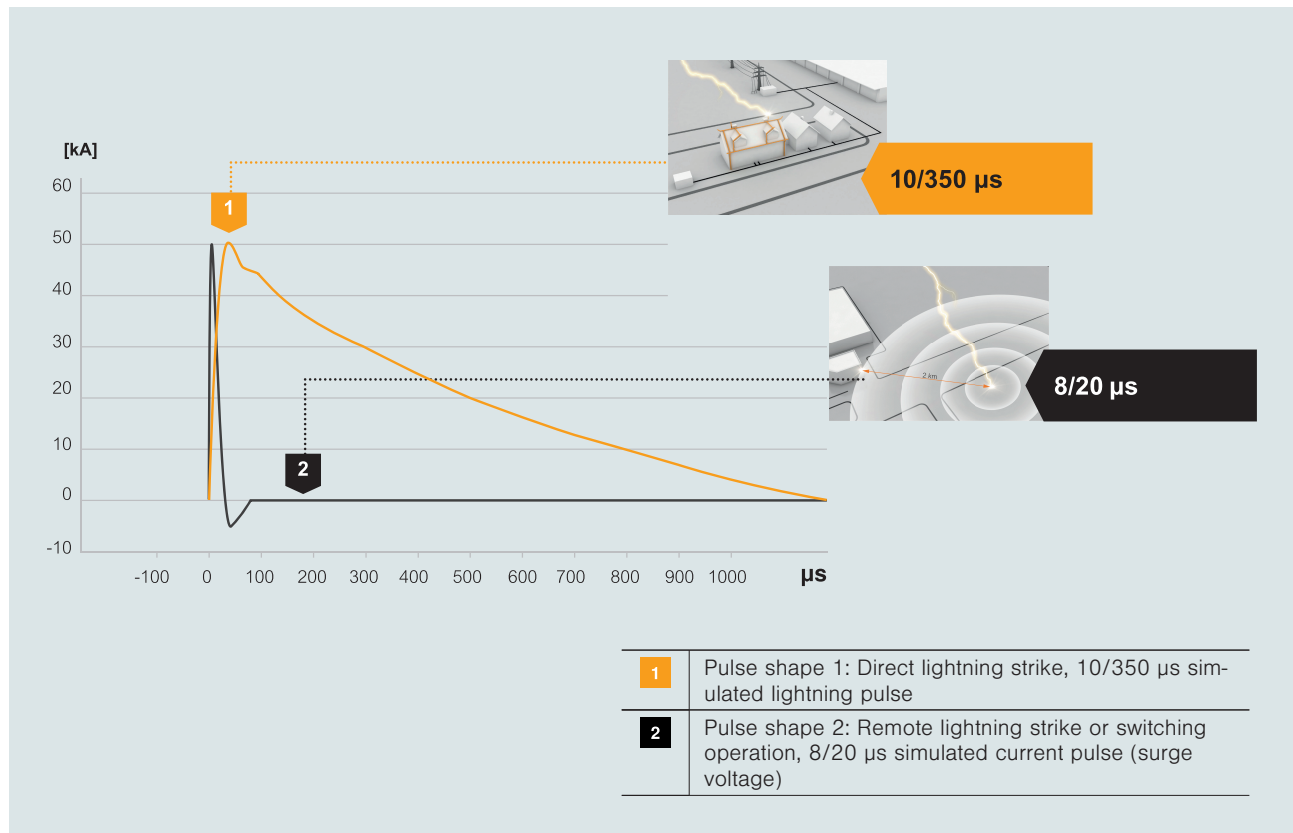
Certification

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.



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

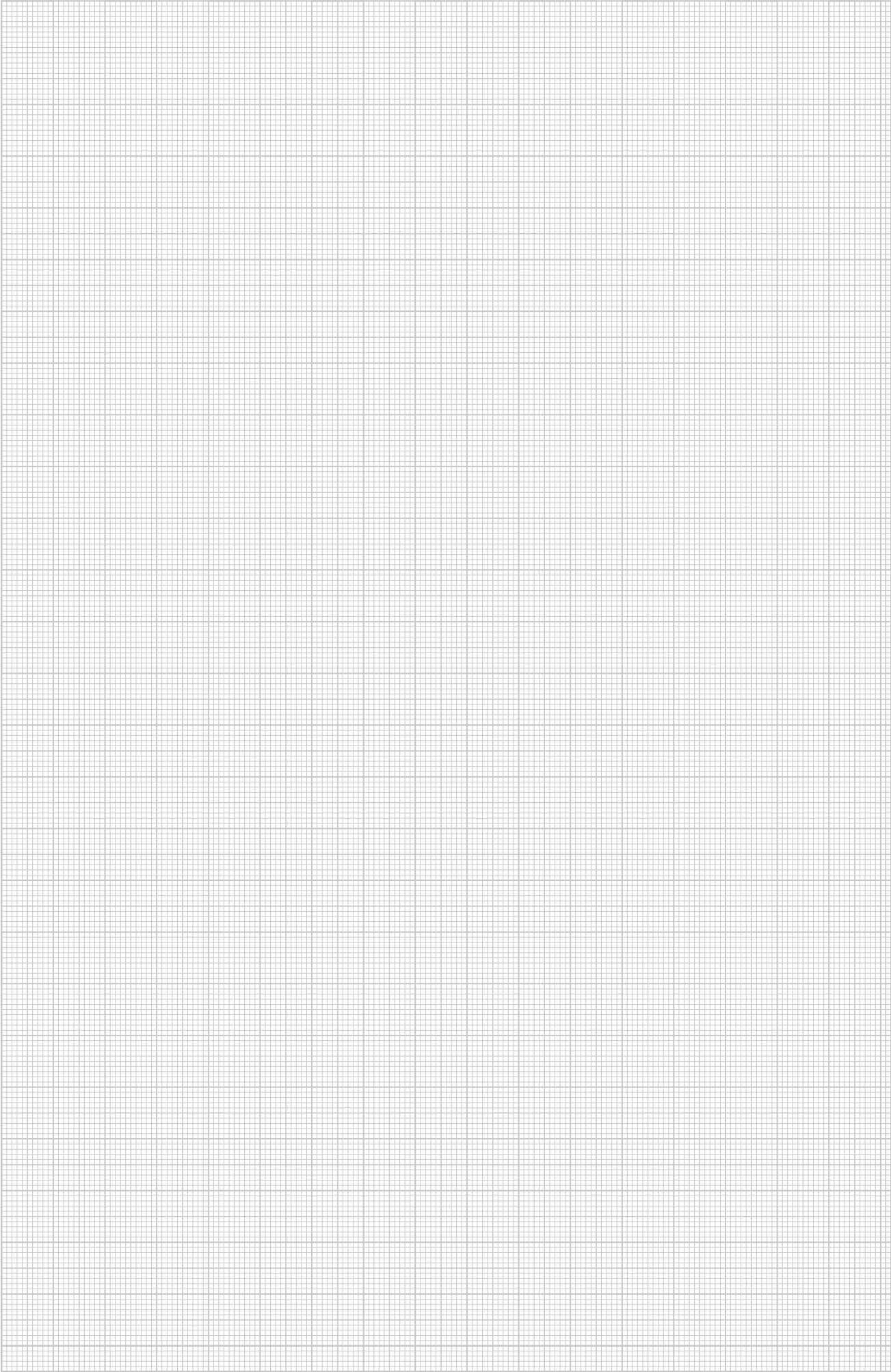
To carry out standardised tests on components intended for external use, they must be pretreated under real environmental conditions. This takes place in a salt spray trough and a sulphur dioxide testing

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.





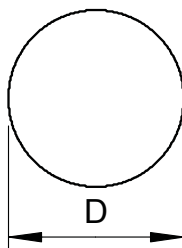
Conductor material

	Conductor material	28
	Cable brackets	34
	Connection clamps and connection terminals	46
	Connection and separating terminals	74
	Connection material	80
	Protection and spark gaps	98
	Accessories	100



Round conductor, galvanised steel

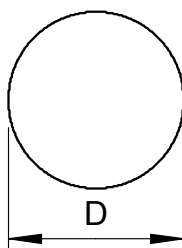
St FT



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

- 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: $\geq 350 \text{ g/m}^2$ (approx. $50 \mu\text{m}$ in mean value)

Round conductor, stainless steel A2

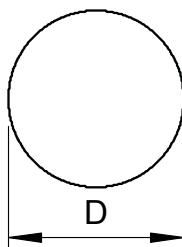


Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
RD 8-V2A	8	50	125	50	125	40.000	5021235
RD 10-V2A	10	78	50	32	50	63.000	5021227
RD 10-V2A	10	78	80	50	80	63.000	5021239
RD 8-V4A	8	50	125	50	125	40.000	5021644
RD 10-V4A 20	10	78	20	12	20	63.000	5021640
RD 10-V4A	10	78	50	32	50	63.000	5021642
RD 10-V4A	10	78	80	50	80	63.000	5021647

- 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



Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
RD 8-CU	8	50	100	45	100	45.000	5021480
RD 10-CU	10	78	50	35	50	70.000	5021502

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

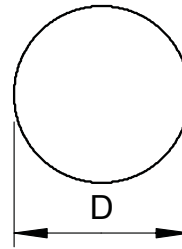
Alu



Round conductor, aluminium

Type	Nominal size Ø mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
RD 8-ALU	8	50	150	20	150	13.500	5021286
RD 8-ALU-T	8	50	150	20	150	13.500	5021294
RD 8-ALU-T 75	8	50	75	10	75	13.500	5021296
RD 10-ALU	10	78	95	20	95	21.000	5021308

- 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



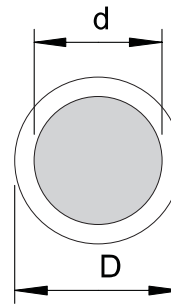
Alu



Round conductor, aluminium, with PVC jacketing

Type	Colour	Dim. d mm	Dim. D mm	Cross-section mm²	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	5021332

- 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



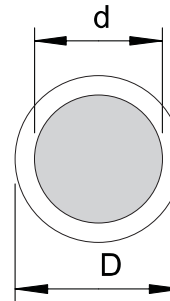
St FT



Round conductor, galvanised steel with PVC jacketing

Type	Colour	Dim. d mm	Dim. D mm	Cross-section mm²	Normal ring ca. m	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
RD 10-PVC	Black	10	13	78	75	50	75	67.000	5021162

- Corresponds to the requirements according to VDE 0185-305 (IEC 62305)
- Zinc coating: $\geq 350 \text{ g/m}^2$ (approx. $50 \mu\text{m}$ in mean value)
- With PVC jacketing

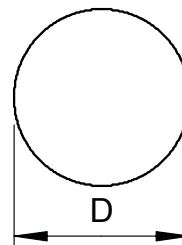


St Cu

Round conductor, copper sheathed

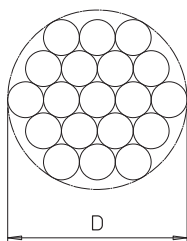
Type	Nominal size Ø mm	Cross-section mm²	Pack m	Weight kg/100 m	Item no.
RD 8-ST CU	8	50	100	40.000	5021380

- According to IEC/ EN 62561-2 (VDE 0185-561-2)
- Meets the requirements of VDE 0185-305 (IEC 62305)
- Copper layer thickness: Min. $250 \mu\text{m}$



Copper cable

Cu

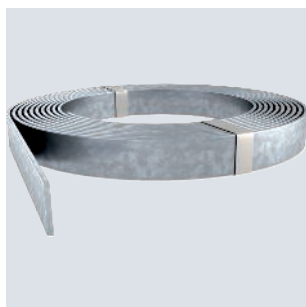


Type	Dim. D mm	Single wires	Cross- section mm ²	Normal ring ca. m	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
S 11-CU	10.5	19xØ2,1	70	50	30	50	58.600	5021654
S 9-CU	9	19xØ1,8	50	100	45	100	45.000	5021652
S-11-CU SN	10.5	19xØ2,1	70	50	30	50	58.600	5021656

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

Galvanised steel flat conductor for earth

St FT



Type	Dim. B mm	Dim. H mm	Cross- section mm ²	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: ≥ 500 g/m² (approx. 70 µm in mean value)
- For lightning protection, earthing systems and ring equipotential bonding

Stainless steel flat conductor

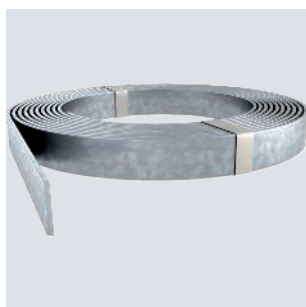


Type	Dim. B mm	Dim. H mm	Cross- section mm ²	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
5052 V2A 30X3.5	30	3.5	105	42	50	82.500	5018501
5052 V4A 30X3.5	30	3.5	105	42	50	82.425	5018706
5052 V4A 30X3.5	30	3.5	105	21	25	82.425	5018730

- 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

Galvanised steel flat conductor for earth

St FT



Type	Dim. B mm	Dim. H mm	Cross- section mm ²	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
5052 DIN 20X2.5	20	2.5	50	50	122	41.000	5019340
5052 DIN 25X3	25	3	75	50	84	59.700	5019342
5052 DIN 30X3	30	3	90	50	71	70.650	5019344
5052 DIN 30X4	30	4	120	50	52	97.000	5019350

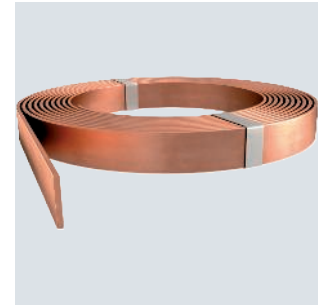
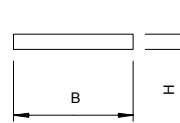
- According to DIN EN 62561-2 (VDE 0185-561-2)
- Meets the requirements of VDE 0185-305 (IEC 62305)
- Zinc coating: ≥ 500 g/m² (approx. 70 µm in mean value)
- For lightning protection, earthing systems and ring equipotential bonding

Cu

Flat conductor, copper

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

- According to DIN EN 62561-2 (VDE 0185-561-2)
- Meets the requirements of VDE 0185-305 (IEC 62305)
- For lightning protection, earthing systems and ring equipotential bonding

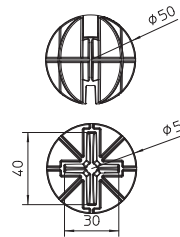


PE

Protective cap for connection lugs, reflective

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

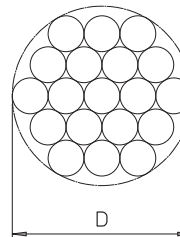


Alu

Aluminium bare stranded conductor 50 mm²

Type	Nominal size Ø mm	Cross- section mm ²	Normal ring ca. m	Normal ring ca. kg	Pack m	Weight kg/100 m	Item no.
S 9-AL	9	50	100	13.3	100	13.300	5021700

Aluminium bare stranded conductor for use as air-termination system or conductor according to DIN EN 62561-2 (VDE 0185-561-2).



Accessories

Magnetic card PCS

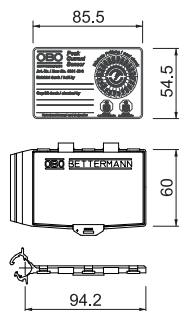
Type	Pack PU	Weight kg/100 PUs	Item no.
PCS	1	5.000	5091438

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

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



Magnetic card and holder MK-B

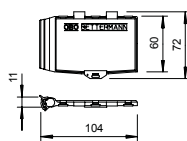


Type	Pack	Weight	Item no.
MK-B	1	31.000	5091322

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

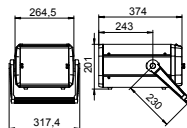


Type	Pack	Weight	Item no.
PCS-H	1	31.000	5091527

Magnetic card holder for mounting PCS cards.

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

Card reader PCS-CS..

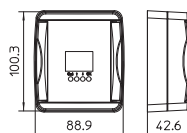


Type	Country version	Nom. V	Measuring range	Measuring tolerances	Pack Piece	Weight kg/100 pc.	Item no.
PCS-CS-D	EN	230	3--120 kA	<2 kA (<2%)	1	750.000	5091683

Magnetic card reader for reading and analysing PCS cards.

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

Lightning strike and surge counter



Type	Measuring range	Pack Piece	Weight kg/100 pc.	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).

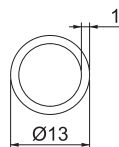
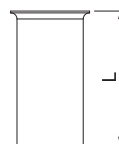
- Saving and display of time and date
- Usable both inside and outside due to its protection class of IP65
- Cable clip for round conductor or flat conductor
- Direct mounting on the conductor or the PE conductor of the surge protective device
- Long lifespan of the internal lithium batteries
- LCD display
- Internal battery
- Tested according to VDE 0185-561-6 (IEC 62561-6)

Cu

Wire end sleeve for aluminium cables 50 mm²

Type	Fit mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
AEH S 9-AL	9 mm	22	10	0.205	5021740

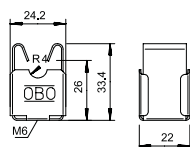
Wire end sleeve for secure fixing of the aluminium cable with a cross-section of 50 mm².



Conductor material



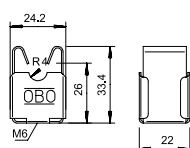
Cable bracket for Rd 8 mm, through-way Ø 7 mm



Type	Fit 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)

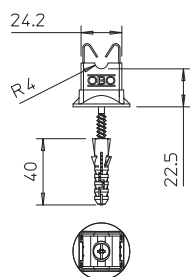
Cable bracket for Rd 8 mm, through-way Ø 5 mm



Type	Fit 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)

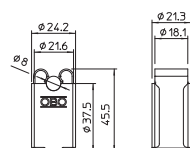
Cable bracket for Rd 8 mm, fastening with screw and anchor



Type	Fit 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, raised construction type, for Rd 8 mm, through-way Ø 5 mm



Type	Fit mm	Installation height mm	Pack Piece	Weight kg/100 pc.	Item no.
177 35 VA M6	Rd 8	35	20	2.680	5207342

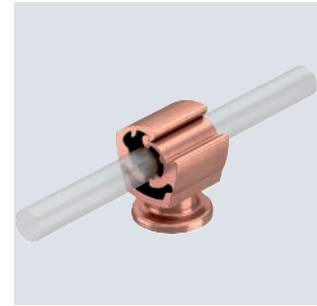
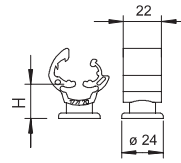
- With female thread M6 or through hole Ø 5 mm
- From stainless steel (V2A)

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

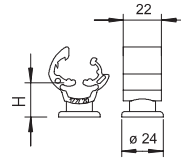


PA

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

Type	Fit 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)

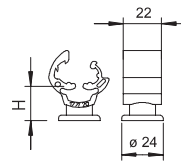


PA

Cable bracket Rd 8–10 mm

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

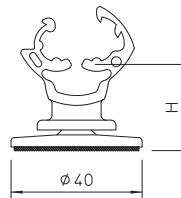


PA

Cable bracket, Rd 8–10 mm with bonding base

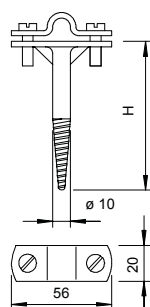
Type	Dim. H mm	Pack Piece	Weight kg/100 pc.	Item no.
177 20 KL	25	50	1.239	5207451

- 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 Rd 8–10 mm, with wood screw thread

TG F

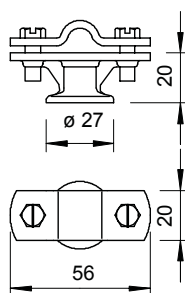


Type	Fit mm	Dim. H mm	Pack Piece	Weight kg/100 pc.	Item no.
176 A 65	Rd 8-10	65	50	9.536	5227070
176 A 80	Rd 8-10	80	50	10.025	5227089
176 A 100	Rd 8-10	100	50	11.500	5227100
176 A 150	Rd 8-10	150	20	13.100	5227151

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

Zn Cu

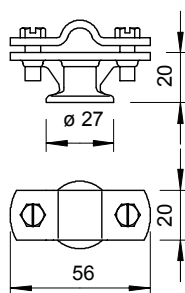


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 B-MS-HD 8-10	Rd 8-10	100	7.280	5230365

- 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

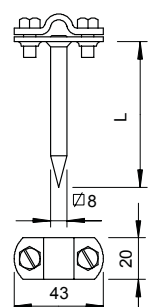
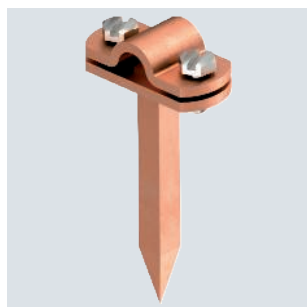


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 B-Z-HD	Rd 8-10	100	6.580	5230322

- 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

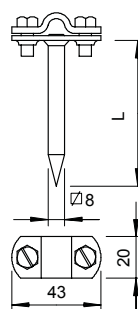
- Complete with crossbar and hexagonal bolts
- With square pin for rapid mounting
- With hexagonal bolts made of VA

St FT

Cable bracket Rd 8–10 mm, with square pin

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

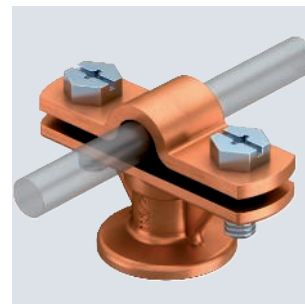
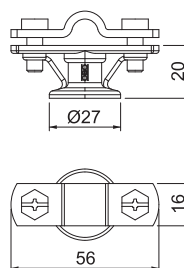


Zn Cu

Cable bracket Rd 8–10 mm

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

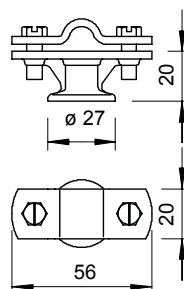


Zn G

Cable bracket with crossbar Rd 8–10 mm

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)

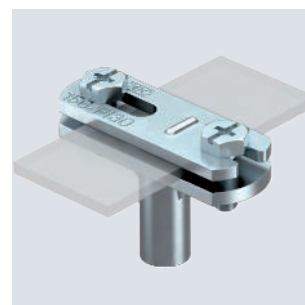
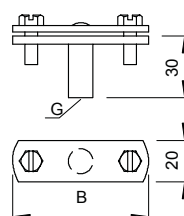


Zn G

Cable bracket for flat conductors

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

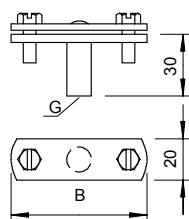
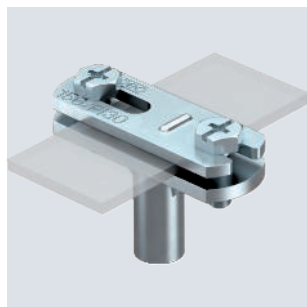
- For flat strip
- With female thread (G)
- Installed height 30 mm



Cable bracket with crossbar

Cable bracket for flat conductors

TG FT



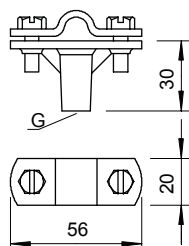
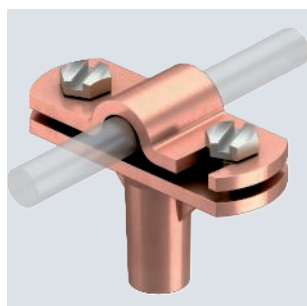
Type	Dim. B mm	Fit mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
168 FL40-M8	66	FL 40	M8	20	8.200	5229553

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

Cable bracket with hinged crossbar

Zn Cu

Cable bracket with hinged crossbar

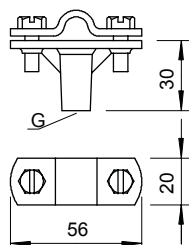
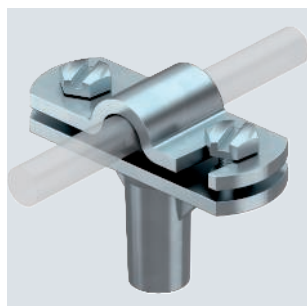


Type	Fit mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
168 DIN-K-M8	Rd 8-10	M8	20	8.440	5229383

- 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

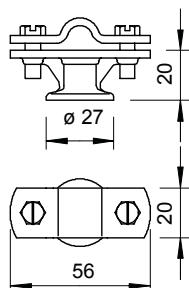


Type	Fit mm	Thread	Pack Piece	Weight kg/100 pc.	Item no.
168 8-10 M6	Rd 8-10	M6	20	7.800	5229162
168 DIN-K-M8	Rd 8-10	M8	20	7.780	5229389

- 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



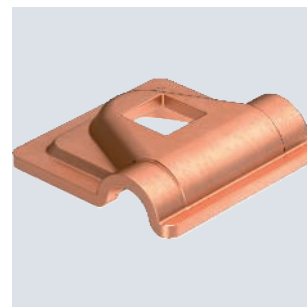
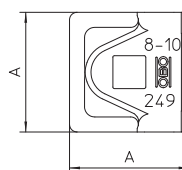
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 Z-K 8-10	Rd 8-10	20	6.202	5229961

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

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

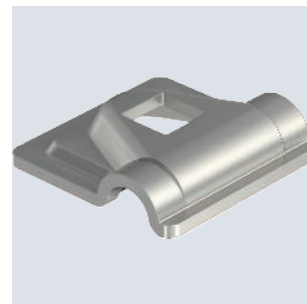
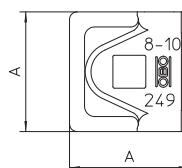
Type	Fit mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 CU-OT	Rd 8-10	40	100	3.580	5311530

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

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

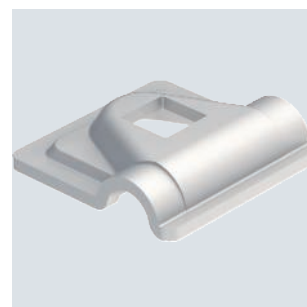
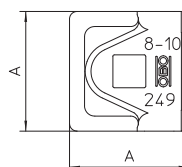
Type	Fit mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 VA-OT	Rd 8-10	40	100	3.130	5311554

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

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

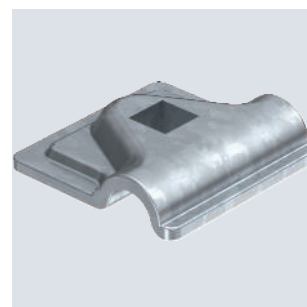
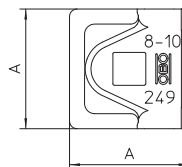
Type	Fit mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 ALU-OT	Rd 8-10	44	100	2.100	5311585

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

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

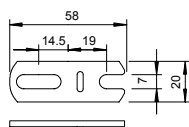
Type	Fit mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 ST-OT	Rd 8-10	40	100	3.240	5311503

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



Cable bracket, upper part for FL 30 mm

St FT

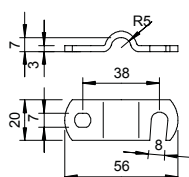


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 FL	FL30	50	2.460	5228328

- With slot for quick installation

Cable bracket, upper part for Rd 8–10 mm

St FT



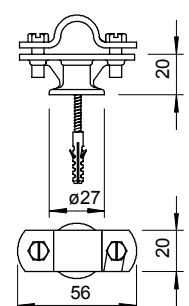
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 8-10	Rd 8-10	100	2.680	5228026

- With open slot for quick installation

Holder for air-termination and earth entry rods

Zn Cu

Rod holder, 16 mm, with screw and anchor

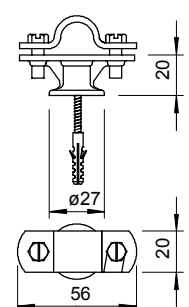


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 B-HD-16	Rd 16	100	10.100	5412811

- 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 mm	Pack Piece	Weight kg/100 pc.	Item no.
113 B-Z-HD	Rd 16	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



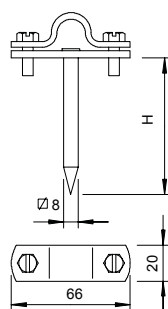


St F

Rod holder, 16 mm, with square pin

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

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

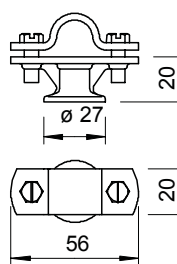


Zn Cu

Rod holder, 16 mm

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 ZN-16	Rd 16	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

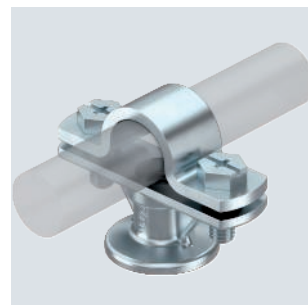
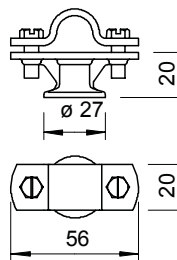


Zn

Rod holder, 16 mm

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

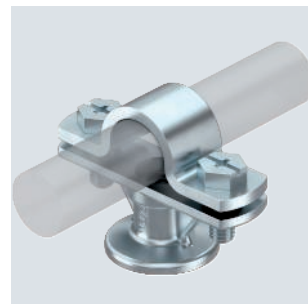
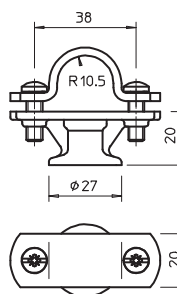


Zn

Rod holder, 20 mm

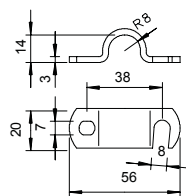
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
113 Z-20	Rd 20	20	8.200	5230527

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



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

St FT

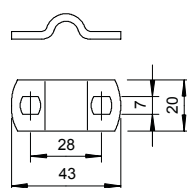
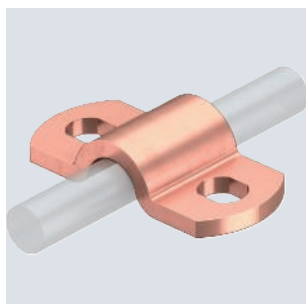


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 16	Rd 16	50	3.230	5228220

• With open slot for quick installation

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

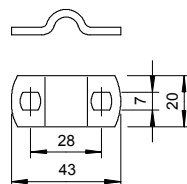
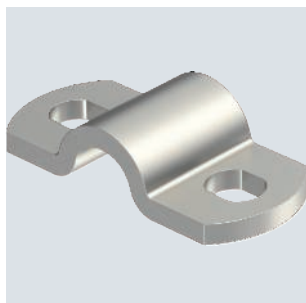
Cu



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

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

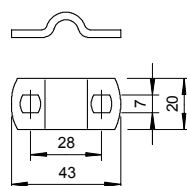
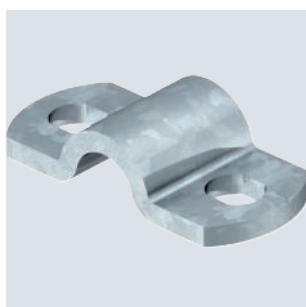


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
156 K8-10 VA	Rd 8-10	100	2.100	5228134

• For Rd 8–10 mm

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

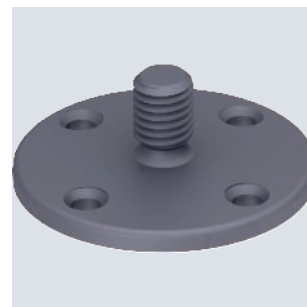
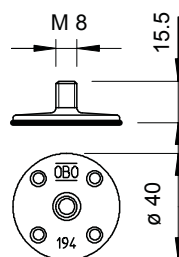
• For Rd 8–10 mm

PA

Bonding base including industrial bonding pad

Type	Colour	Thread	Pack 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

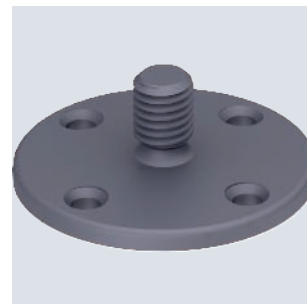
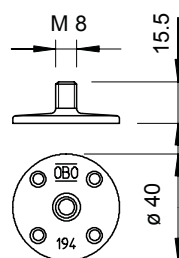


PA

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

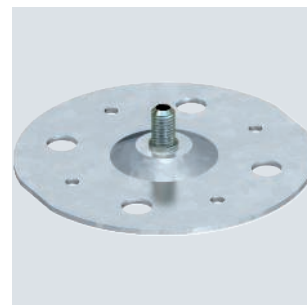
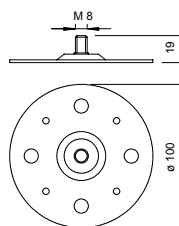


St FS

Base plate

Type	Thread	Pack Piece	Weight kg/100 pc.	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

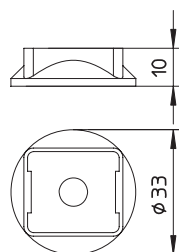


PP

Washer for cable bracket, type 177

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
177 U	Light grey	20	0.286	5207371

- For simple wall installation
- UV-resistant





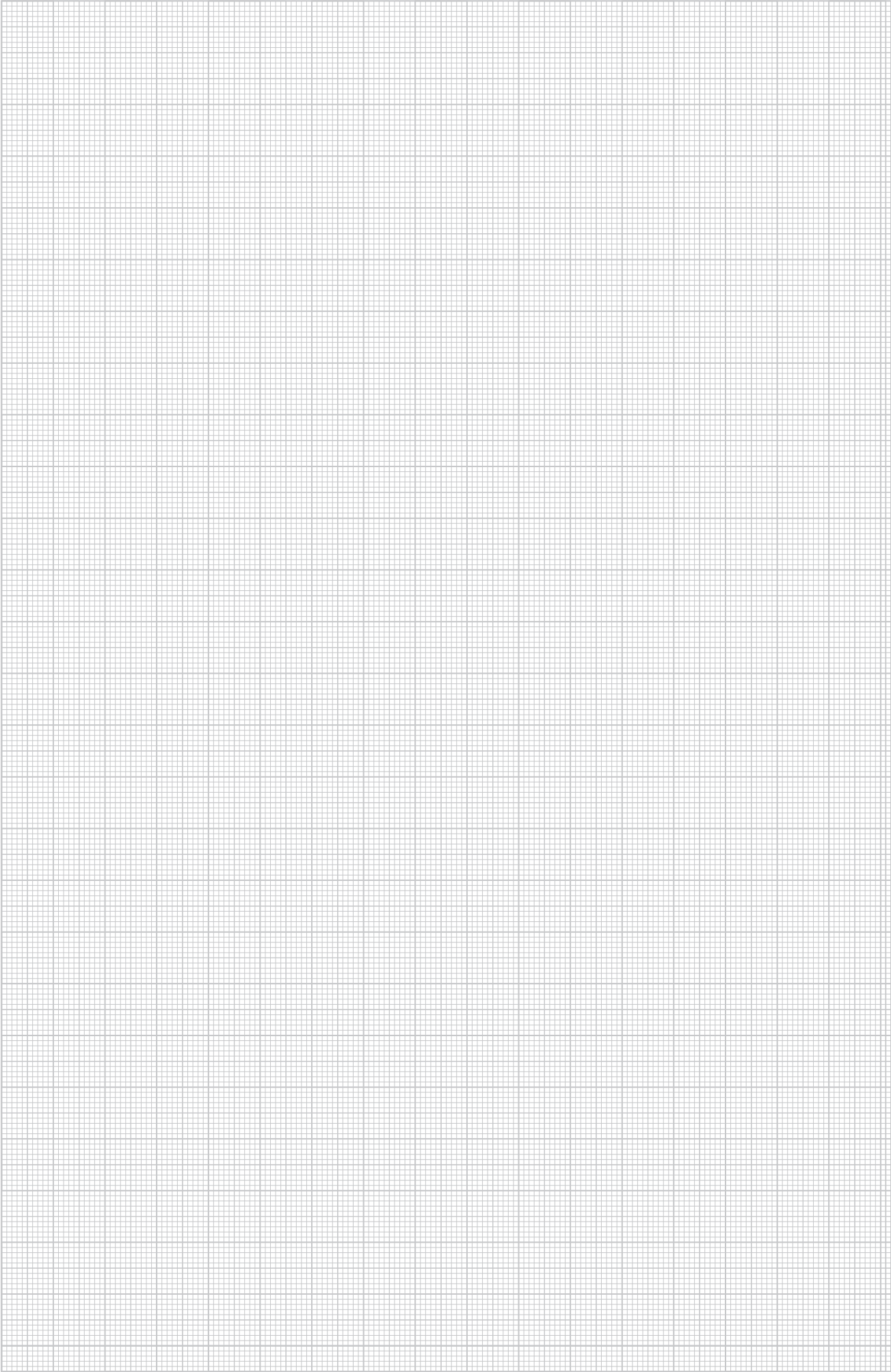
Hard foam plate anchor

PA

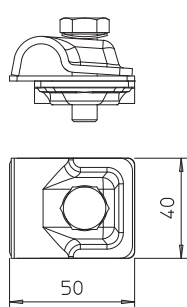
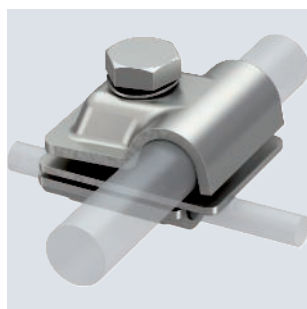


Type	Length mm	Dowel Ø mm	Wood screws Ø mm	Break load kN	Pack Piece	Weight kg/100 pc.	Item no.
177 WDVS 64x25 B	63.5	9	4-5	0.05	50	0.658	5207375

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



Vario quick connector Rd 8-10x16

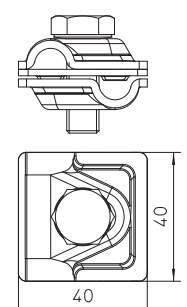
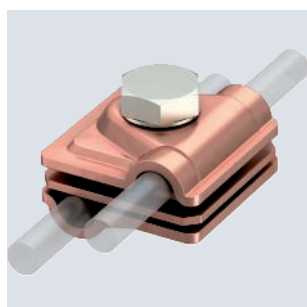


Type	Fit mm	Dim. A mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10x16 VA	8-10x16	40	H/100	10	14.958	5311590

- 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

Cu

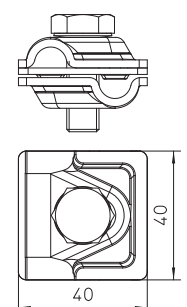
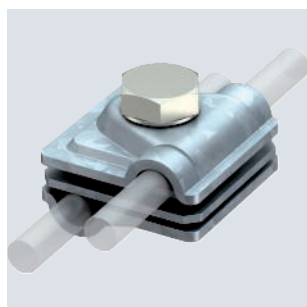


Type	Fit mm	Dim. A mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
249 6-10 CU	Rd 6-8 / 8-10	40	H/100	10	14.540	5311417

- 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

St FT

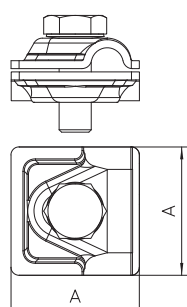
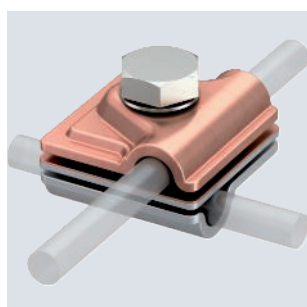


Type	Fit mm	Dim. A mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
249 6-10 ST	Rd 6-8 / 8-10	40	H/100	20	13.100	5311410

- 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

Cu



Type	Fit mm	Dim. A mm	Lightning current 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)

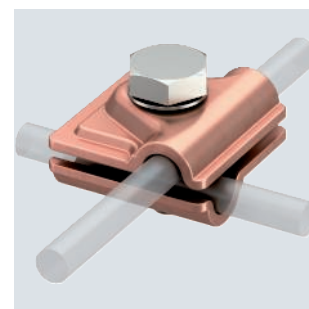
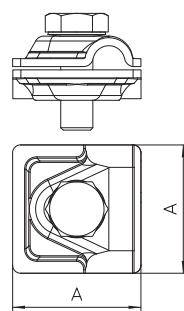


Cu



Type	Fit mm	Dim. A mm	Lightning current carrying capacity kA	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)

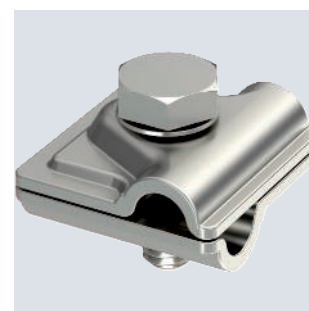
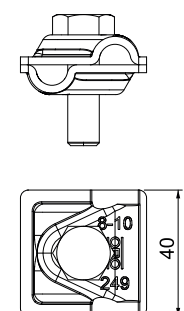


Vario quick connector



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.
249 8-10 V4A	Rd 8-10	H/100	1.4	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)

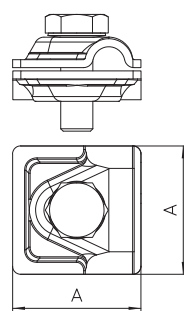


Vario quick connector



Type	Fit mm	Dim. A mm	Lightning current carrying capacity kA	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)

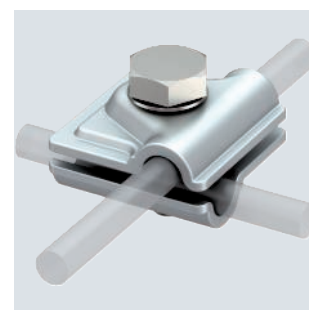
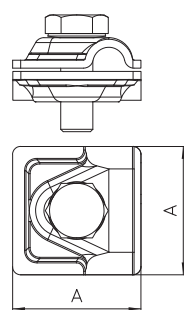


Alu



Type	Fit mm	Dim. A mm	Lightning current carrying capacity kA	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

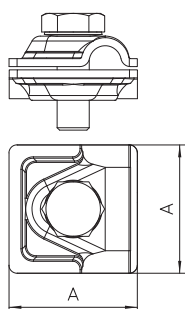
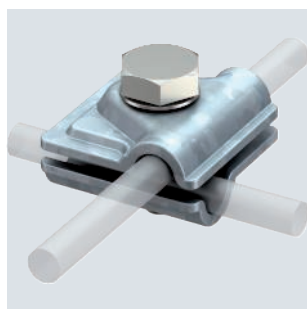
- For T, cross and parallel connectors
- Quick installation using hexagonal bolt M10 x 30, high-grade stainless steel
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)



Vario quick connector

Vario quick connector

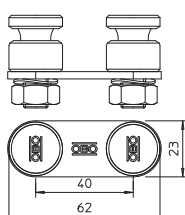
St FT



Type	Fit mm	Dim. A mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current 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)

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

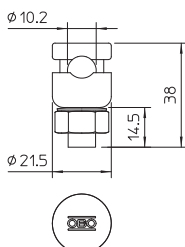


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5002 N-VA	Rd 8-10	N/50	10	16.200	5304270

- 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

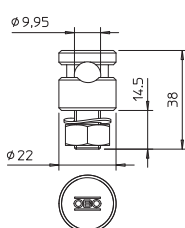
Cu



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



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)

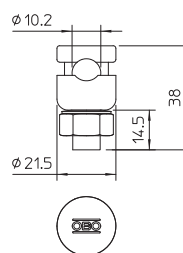
St FT



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)



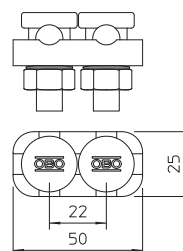
St FT



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)



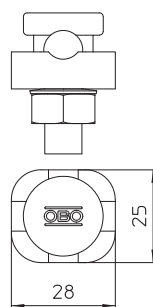
Zn Cu



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)



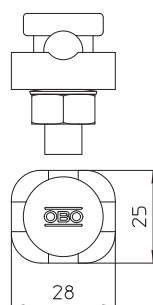
St FT



Connector Rd 8–10 mm, single

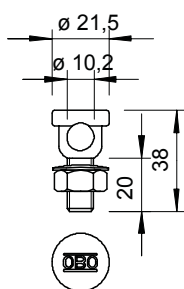
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5001 DIN-FT	Rd 8-10	H/100	20	7.450	5304105
5001 DIN-FT+VA	Rd 8-10	N/50	20	7.450	5304107

- 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, Rd 8–10 mm with M10 thread

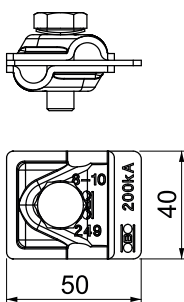
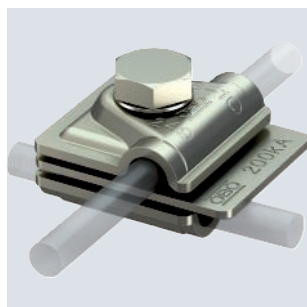
St F



Type	Fit	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



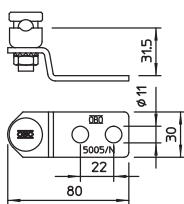
Type	Fit	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 V2A 200	Rd 8-10	H2/200	10	12.374	5311595

- 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 isCon® Premium conductor

Connection and end pieces

Connection and end piece with connector and pressure trough

St FT



Type	Fit	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)

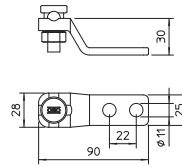
St F



Connection and end piece, DIN version

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)



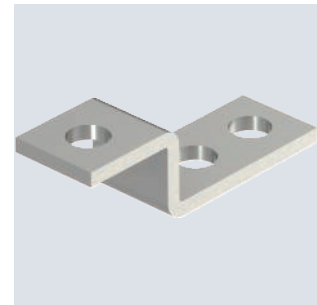
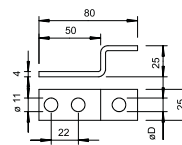
Conductor material



Connection and end piece

Type	Dim. D 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

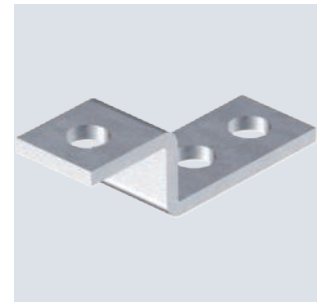
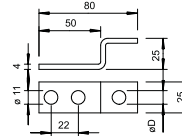


St FT

Connection and end piece

Type	Dim. D 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

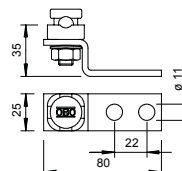


St F

Connection and end piece with connector

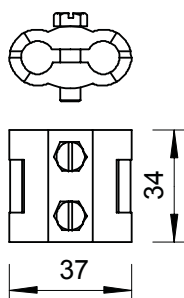
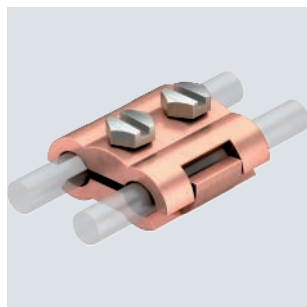
Type	Material	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5009	St	Rd 8-10	H/100	10	14.500	5304970

- 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 Rd 6–10 mm, M6 x 20

CuZn 37 Cu

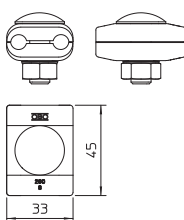
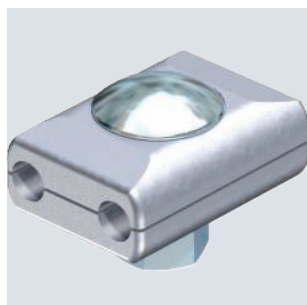


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
260 8-10 MS	Rd 6-10	N/50	50	15.820	5315654

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

Parallel connector Rd 8 mm, M10 x 30

Zn G

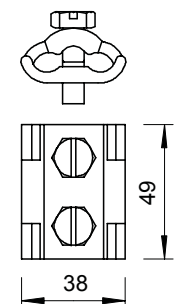


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
260 8	Rd 8	H/100	50	13.930	5315700

• 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

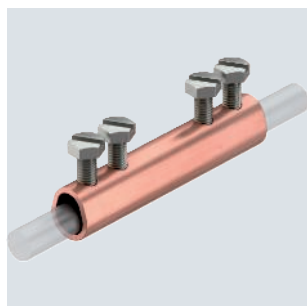


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
259 8-10	Rd 8-10	N/50	25	13.230	5315506

• 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)



St F



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)

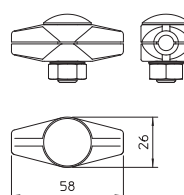


Zn G



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)



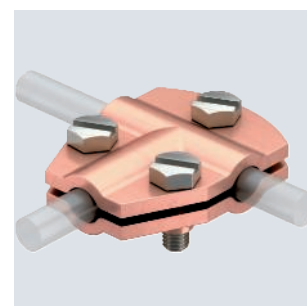
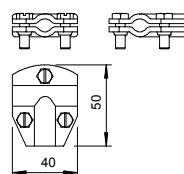
Straight connector Rd 8 mm

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)



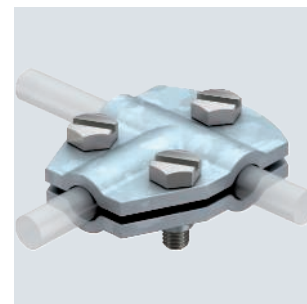
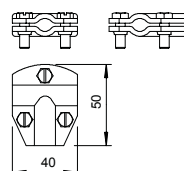
T connector Rd 8-10 mm, triple-screwed

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

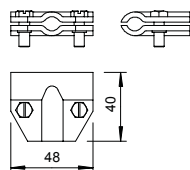
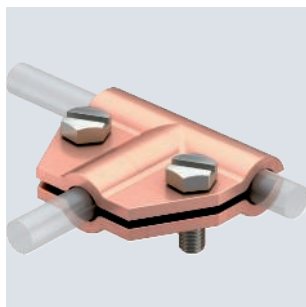
- With 3 hexagonal bolts M6 x 16 (VA)



T connector Rd 8-10 mm, triple-screwed

T connector Rd 8–10 mm

Cu



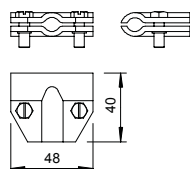
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
245 8-10 CU	Rd 8-10	N/50	10	11.560	5311152

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

T connector Rd 8–10 mm

St

FT



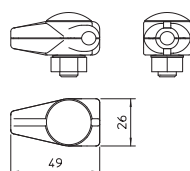
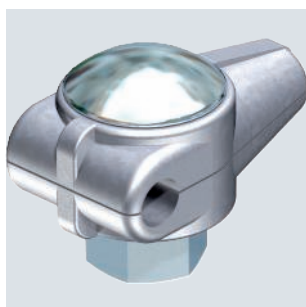
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
245 8-10 FT	Rd 8-10	N/50	10	9.401	5311101

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

T connector Rd 8 mm

Zn

G



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)



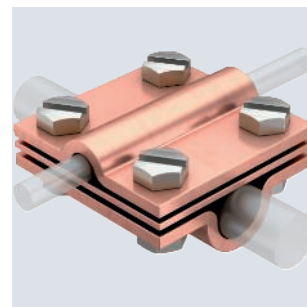
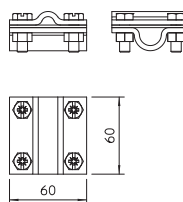
Cu



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

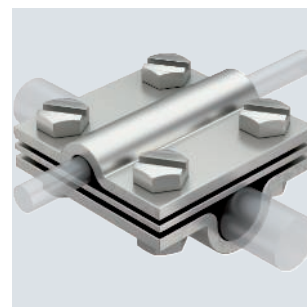
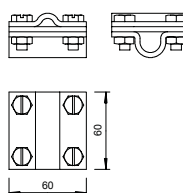
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8–10 x Rd 16 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 made of rust-proof stainless steel (A2)



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



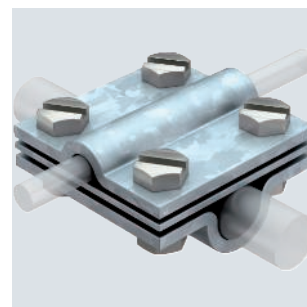
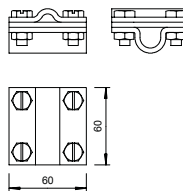
St FT



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



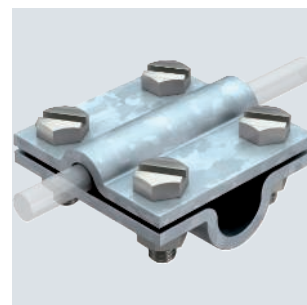
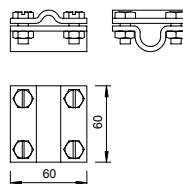
St FT



Cross-connector for Rd 8–10 x Rd 16

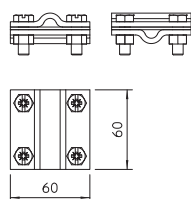
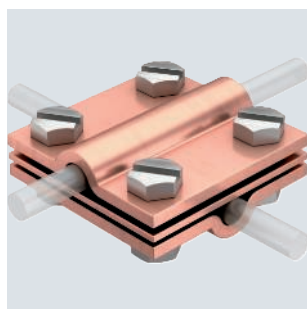
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
253 10X16	Rd 8-10 x 16	H/100	25	29.800	5312809

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

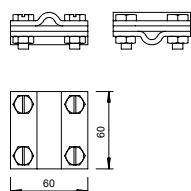
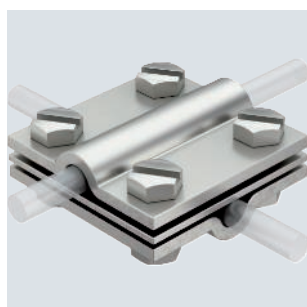
Cu



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

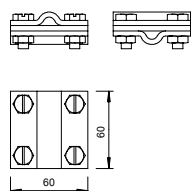
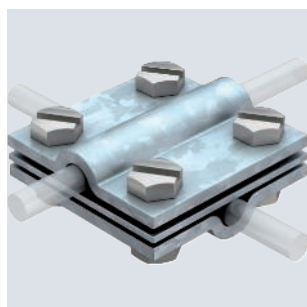


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10 V4A	Rd 8-10	H/100	10	33.530	5312318
252 S1 V4A	Rd 8-10	H/100	2800	28.800	5312294

- 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

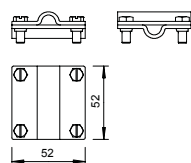
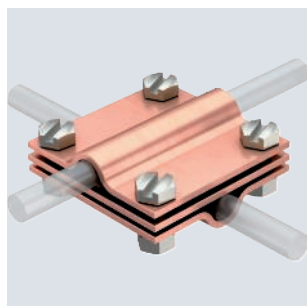


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10 FT	Rd 8-10	H/100	25	33.530	5312310
252 S1 FT	Rd 8-10	H/100	2800	28.600	5312292

- 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



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)



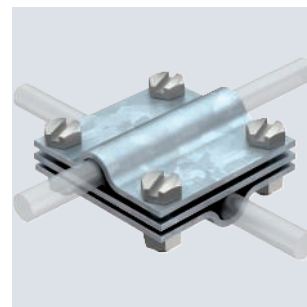
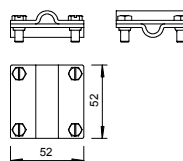
St FT



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



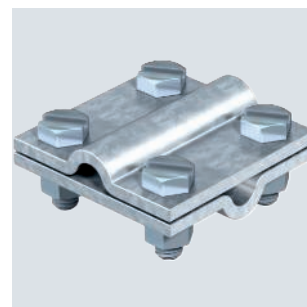
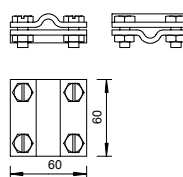
St FT



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	22.900	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)



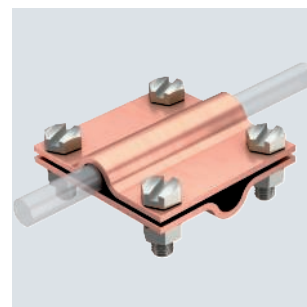
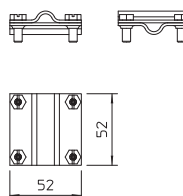
Cu



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)



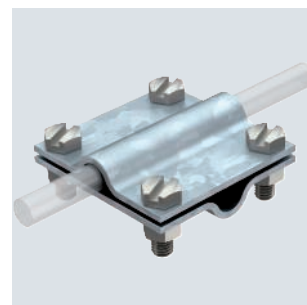
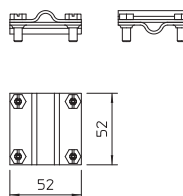
St FT



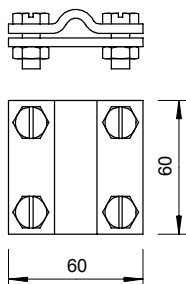
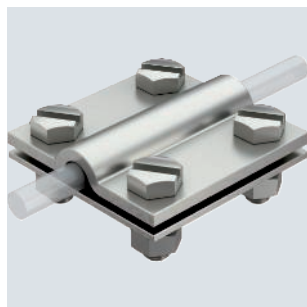
Cross-connector Rd 8–10 mm

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-connector for round conductors and flat conductors



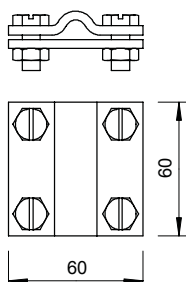
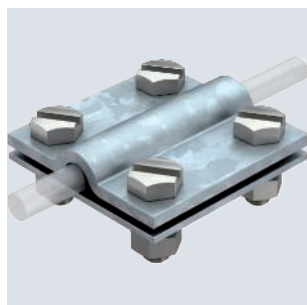
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10xFL30V4A	8-10xFL30	H/100	10	28.500	5312655
252 S4 V4A	8-10xFL30	H/100	3600	23.200	5312308

- 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

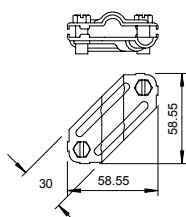
FT



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
252 S4 FT	8-10xFL30	H/100	3600	25.000	5312302

- 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



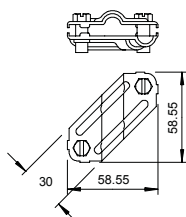
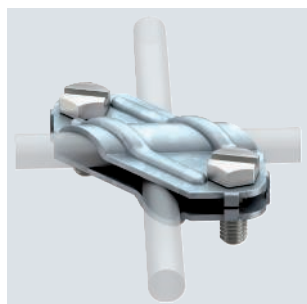
Type	Fit mm	Lightning current carrying capacity kA	Short-circuit current (50 HZ) (1 s; ≤300 °C) kA	Pack Piece	Weight kg/100 pc.	Item no.
250 VA	Rd 8-10/ FL30	H/100	1.4	25	10.260	5312922
250 V4A	Rd 8-10/ FL30	H/100	1.4	10	10.260	5312925

- 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



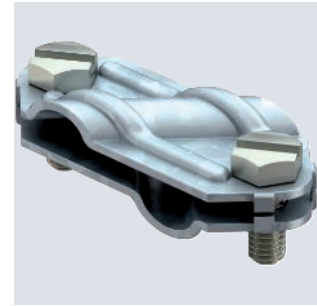
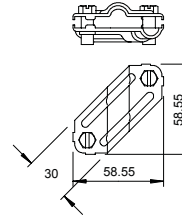
Type	Fit mm	Lightning current carrying capacity kA	Short-circuit current (50 HZ) (1 s; ≤300 °C) kA	Pack Piece	Weight kg/100 pc.	Item no.
250	Rd 8-10/ FL30	N/50	5.6	25	10.260	5312906

- 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)

Cross-connector 250 VA

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
250 VA-FR	Rd 8-10/FL30	H/100	25	8.700	5312930

Cross-connector to connect round and flat conductors. Conforms to the requirements according to VDE 0185-305-3 (IEC/EN 62305-3). With separator plate. Mounted with 2 hexagonal bolts.



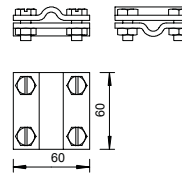
Conductor material



Cross-connector round/round without intermediate plate

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
253 S3 V4A	Rd 8-10	H/100	3400	25.900	5312594

- 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)



Folding clamps

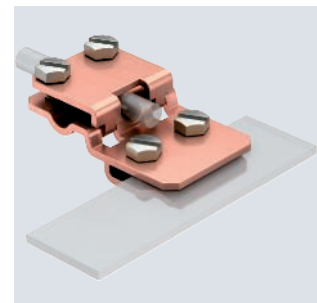
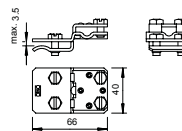
Cu



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	-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)



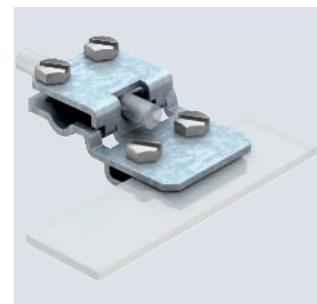
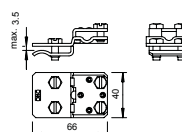
St FT



Folding clamp and connection terminal up to 10 mm plate thickness

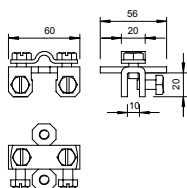
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
274 8-10	Rd 8-10	-10	N/50	20	10.400	5317428

- 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

St FT

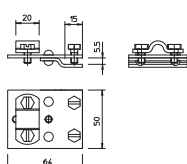
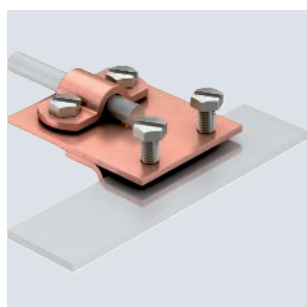


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
273 8-10	Rd 8-10	- 10	N/50	50	17.200	5317223

- 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

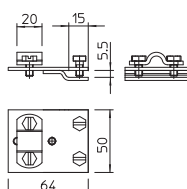
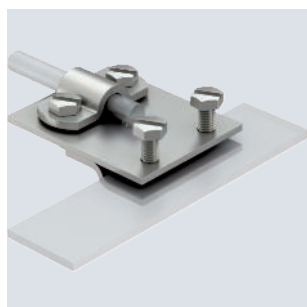
Cu



Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
271 CU	Rd 8-10	- 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 clamp up to 5 mm plate thickness

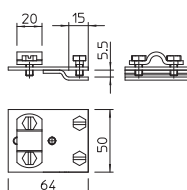
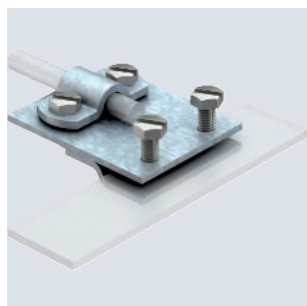


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
271 8-10 VA	Rd 8-10	- 5	N/50	10	15.000	5317481

- 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

St FT



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	- 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)

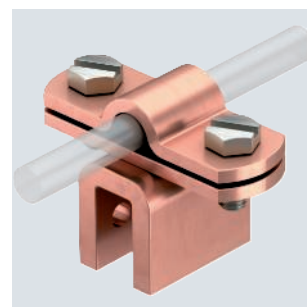
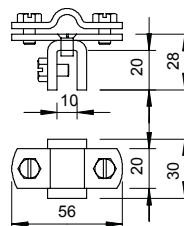
Cu



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	-10	H/100	10	14.740	5317258

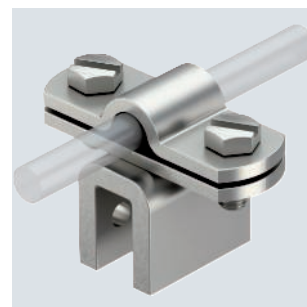
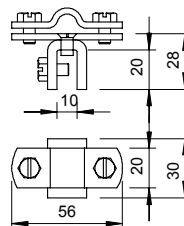
- Metal thickness to 10 mm
- For conductor routing transverse and in parallel to the plate
- Corresponds to the requirements to DIN V VDE V 0185-3 section 4.5



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	-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



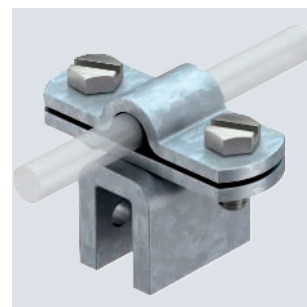
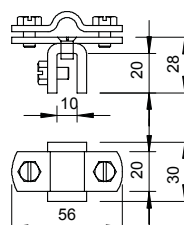
St FT



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	-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



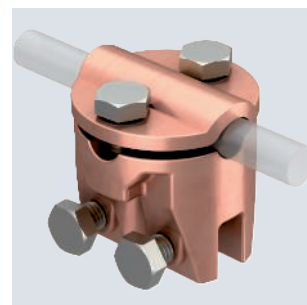
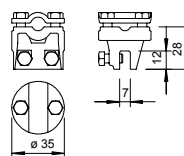
Zn Cu



Folding clamp up to 7 mm plate thickness

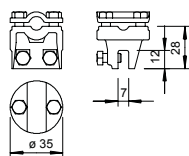
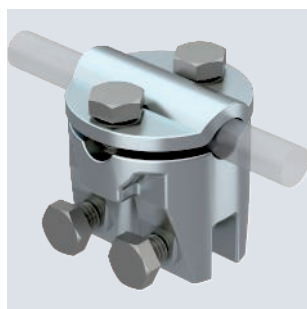
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
269 MS	Rd 8-10	-7	H/100	10	14.480	5317053

- 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

Zn G

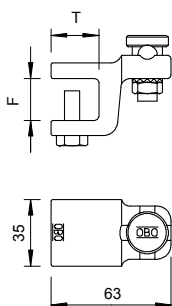


Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
269 8-10	Rd 8-10	-7	N/50	20	14.460	5317010

- 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

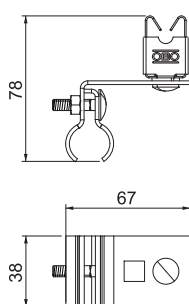
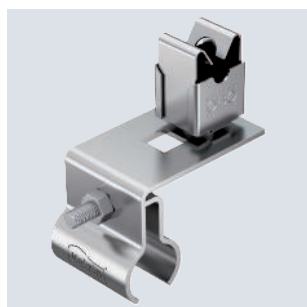
TG FT



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	-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 contact 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

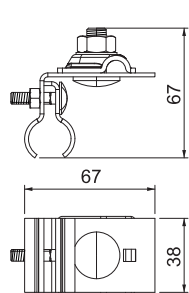
Folding and construction clamp



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

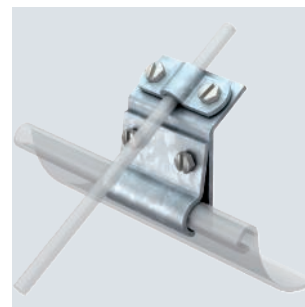
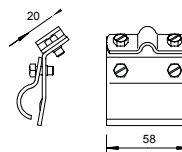
- For round standing seam systems, fixed cable routing
- Manufacturer release by Kalzip
- Tested according to VDE 0185-561-1 (IEC/EN 62561-1)

St FT

Gutter clamp for bead thickness 15–22 mm

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
262 A-DIN FT	Rd 8-10	25	19.610	5316219

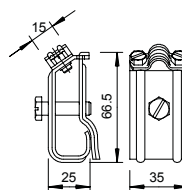
- Suitable for bulge thickness 15–22 mm
- With 4 hexagonal bolts M6 x 16 (VA)



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)

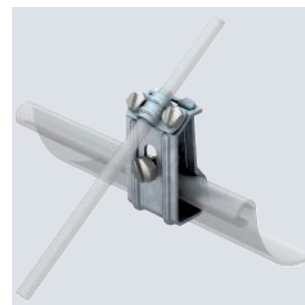
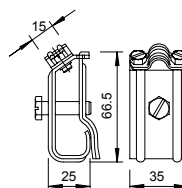


St FT

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



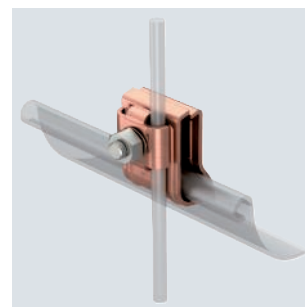
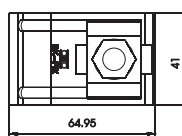
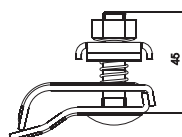
Cu



Gutter clamp RK-FIX

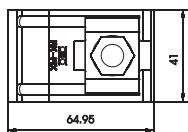
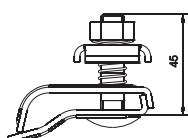
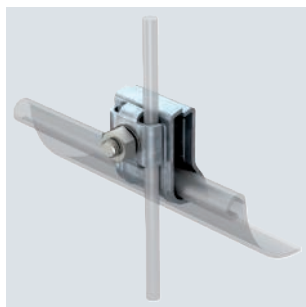
Type	Fit mm	Lightning current carrying capacity kA	Material	Pack Piece	Weight kg/100 pc.	Item no.
RK-FIX CU	2 x Rd 8/ 2 x Rd 6	H/100	A2	10	21.000	5316468

- 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)



Gutter clamp RK-FIX

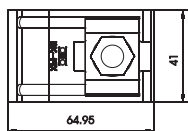
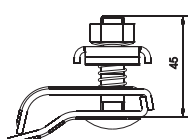
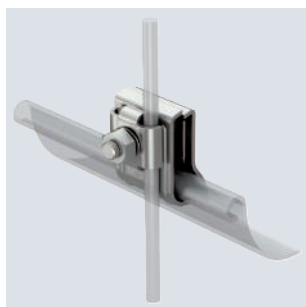
St FT



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)

Gutter clamp RK-FIX

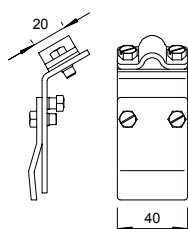
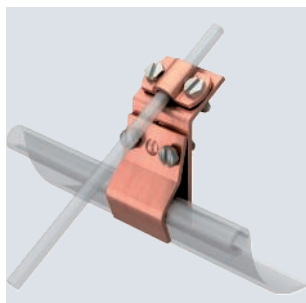


Type	Fit mm	Lightning current carrying capacity kA	Material	Pack Piece	Weight kg/100 pc.	Item no.
RK-FIX VA	2xRd 8/ 2xRd 6	H/100	A2	10	19.100	5316459

- 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 clamp for all bead thicknesses

Cu

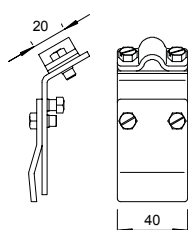
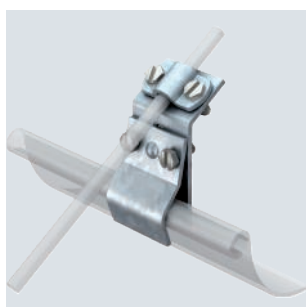


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
262 CU	Rd 8-10	10	20.940	5316154

- 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

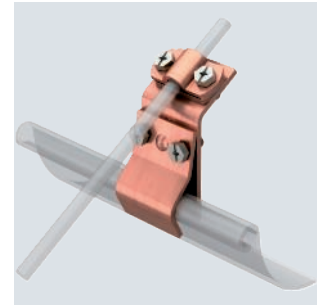
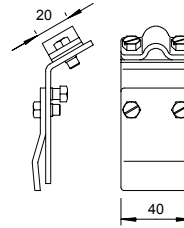


St FT

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



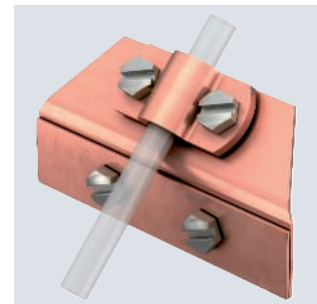
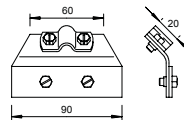
Snow catching grate clamps

Cu

Snow catching grate clamp

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

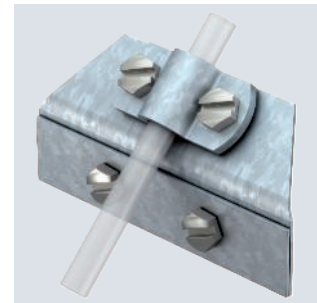
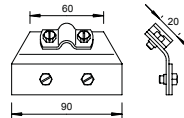


St F

Snow catching grate clamp

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



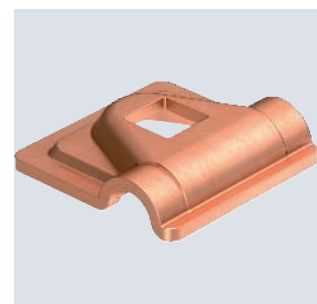
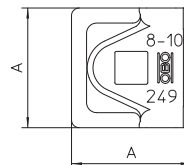
Connection terminals

Cu

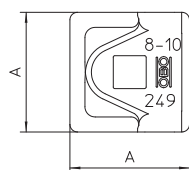
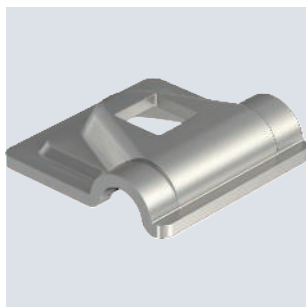
Quick connector, upper part Rd 8–10 mm

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



Quick connector, upper part Rd 8–10 mm

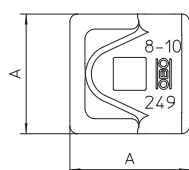
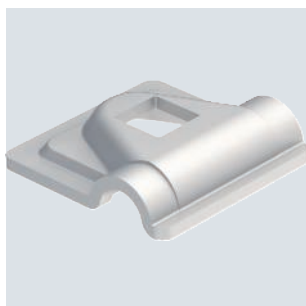


Type	Fit mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 VA-OT	Rd 8-10	40	100	3.130	5311554

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

Quick connector, upper part Rd 8–10 mm

Alu

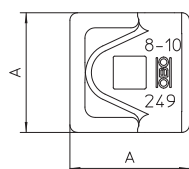
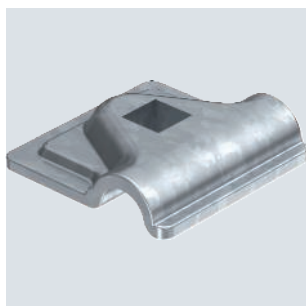


Type	Fit mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 ALU-OT	Rd 8-10	44	100	2.100	5311585

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

Quick connector, upper part Rd 8–10 mm

St FT

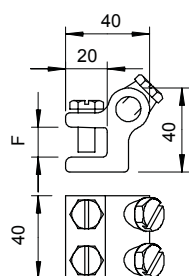


Type	Fit mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 ST-OT	Rd 8-10	40	100	3.240	5311503

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

Connection terminal to 14 mm

TG FT



Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
272 8	Rd 8-10	-8	N/50	20	22.800	5318084
272 14	Rd 8-10	-14	N/50	20	25.230	5318149

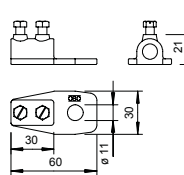
- Flange thickness to 8 and/or 14 mm
- With 4 hexagonal bolts M8
- Conforms to the requirements according to DIN V VDE V 0185-3, Section 4.5

Zn G

End piece

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

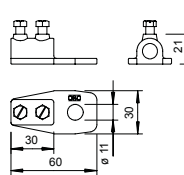


Zn

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



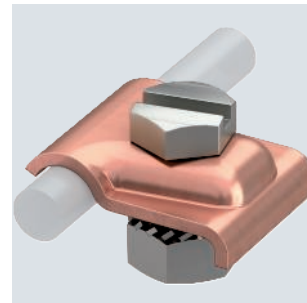
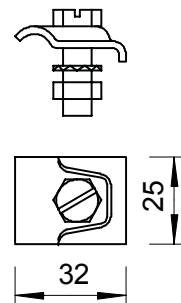
Universal clamping block

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

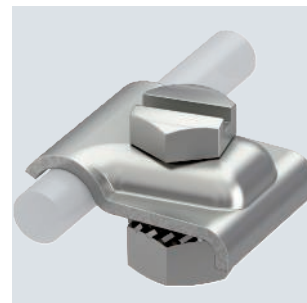
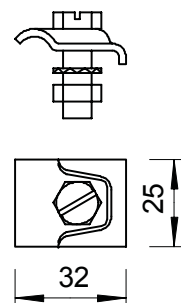
- Including hexagonal bolt M8 x 25, washer and nuts



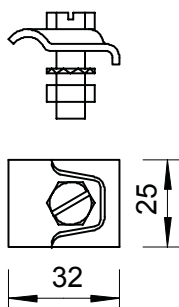
Universal clamping block Rd 8–10 mm

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



St FT



- Including hexagonal bolt M8 x 25, washer and nuts

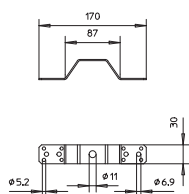
A|u

Technical drawing of a mechanical part showing dimensions and tolerances. The drawing includes a side view and a top view. Key dimensions and tolerances are:

- Overall length: 33
- Overall width: 49
- Height of the main body: 24
- Height of the flange: 2
- Flange diameter: $\varnothing 5,2$
- Flange thickness: 15
- Distance from flange center to first hole center: 20
- Distance between first and second hole centers: 12
- Distance from flange center to third hole center: 28
- Distance from flange center to fourth hole center: 8
- Distance from flange center to fifth hole center: 18
- Distance from flange center to sixth hole center: 30
- Hole diameters: $\varnothing 11$, $\varnothing 6,9$

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

Alu



- 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

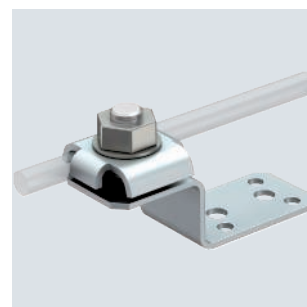
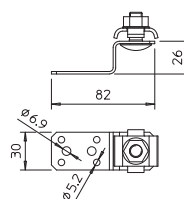
Alu



Connection component with double crossbar

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)

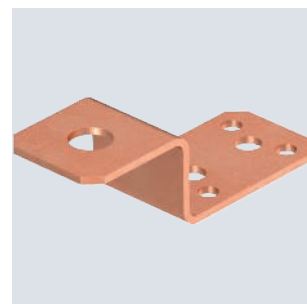
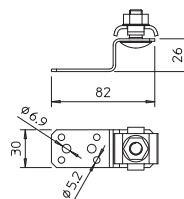


Cu

Connection component

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



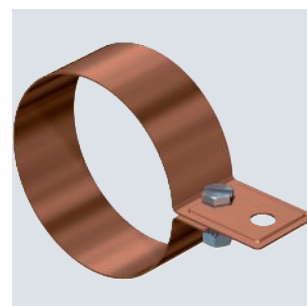
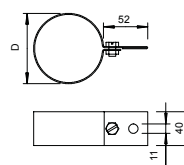
Downpipe clips

Cu

Downpipe clip

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

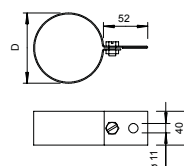


St FS

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/m² = 40 µm average value)
- With 1x hexagonal bolt M8 x 20
- With 1x hexagonal nut M8 and 1 stainless steel serrated washer
- With connection hole Ø 11 mm



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

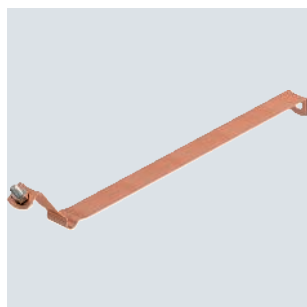


Type	For pipe mm	Pack Piece	Weight kg/100 pc.	Item no.
301 S-VA-100	100	10	5.200	5351251
301 S-VA-120	120	10	5.950	5351286

- 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

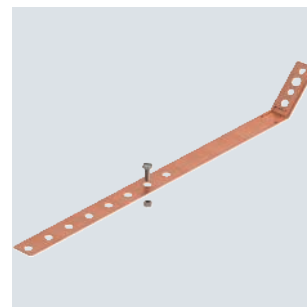
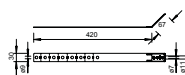


Cu

Universal downpipe clip 60–130 mm

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

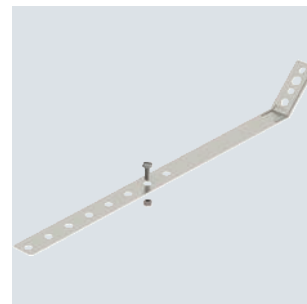
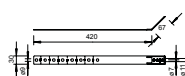
- Adjustable for pipes from 60-130 mm
- With 2x attaching holes Ø 7 mm
- With 1x attaching hole Ø 9 mm
- With 1x attaching hole Ø 11 mm
- Including hexagonal bolt M6 x 20 and nuts M6



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

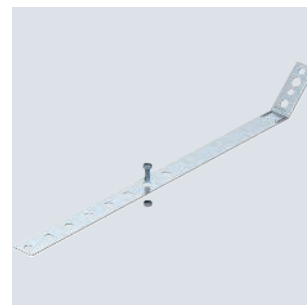
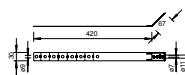


St FS

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



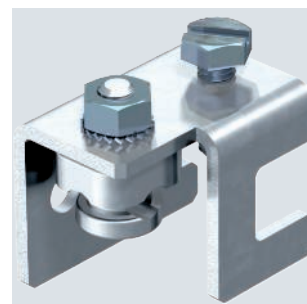
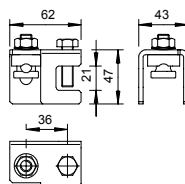
Accessories, connection clamps and connection terminals

St FT

Construction clamp to 20 mm

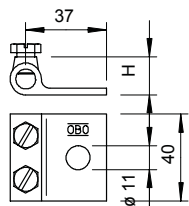
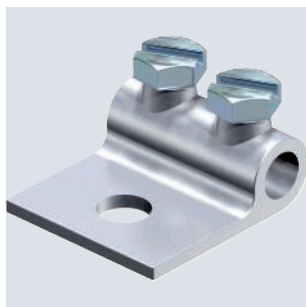
Type	Fit mm	Clamping range mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
5010 20 FT	Rd 8-10	4-20	N/50	10	30.600	5304520

- 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

TG F

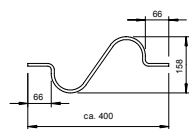


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
319 8	Rd 8	25	7.800	5325307
319 10	Rd 10	25	9.650	5325315

- 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

Alu

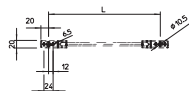


Type	Pack Piece	Weight kg/100 pc.	Item no.
172 AR	10	7.500	5218926

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

Bridging cable

Cu

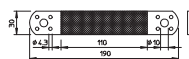
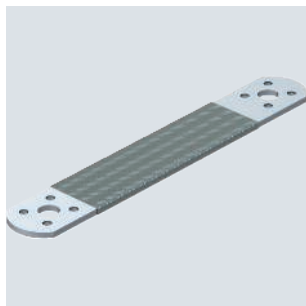


Type	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
853 200	200	10	4.840	5331008
853 300	300	10	7.260	5331013
853 400	400	10	9.680	5331017

- With aluminium cable lugs
- From flexible copper cable 16 mm²
- 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

Cu



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

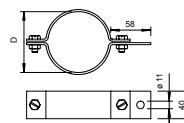
- Copper strip 35 mm², tin-plated
- Highly flexible with rigid ends
- Each end with 1 fastening hole Ø 10 mm and 4 fastening holes Ø 4.3 mm

St FT

Pipe clamp

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)

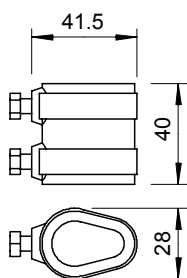


Conductor material



Separating piece, open

Zn G

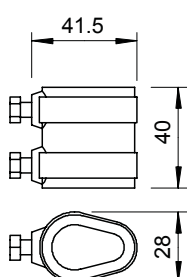


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
223 O DIN ZN	Rd 8-10/16	20	12.500	5335140

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

Separating piece, open

Zn Cu

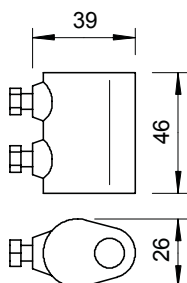
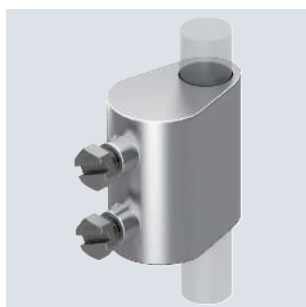


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
223 O DIN MS	Rd 8-10/16	20	14.900	5335167

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

Separating piece, closed

Zn G

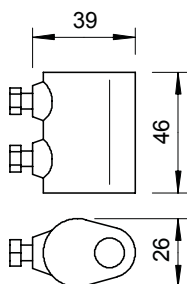
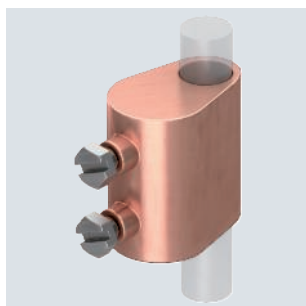


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
223 DIN ZN	Rd 8-10/16	20	12.406	5335205

- 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

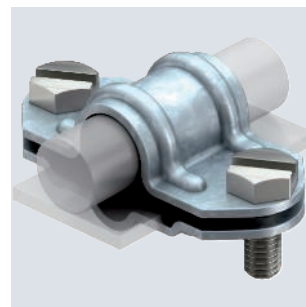
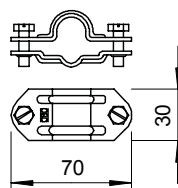
- For fitting round conductors Rd 8-10 to ground insertion rods Rd 16
- Including 2 hexagonal bolts, high-grade stainless steel (V2A)
- Conforms to the requirements according to DIN VDE 0185-305 (IEC 62305)

St FT



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)

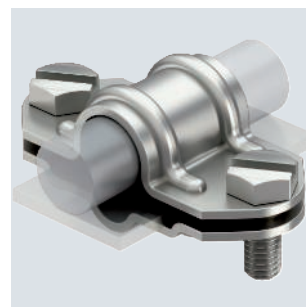
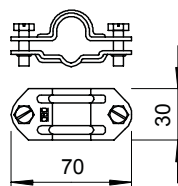


Universal separating piece



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)

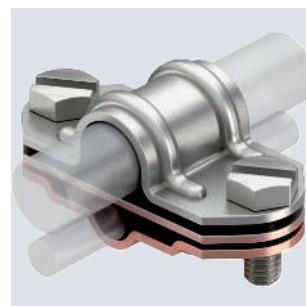
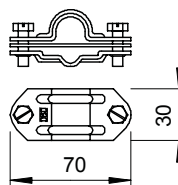


Cu

Universal bi-metal 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

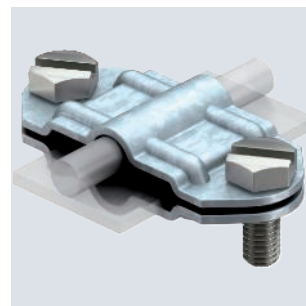
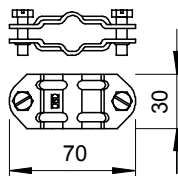


St FT

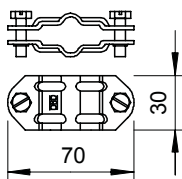
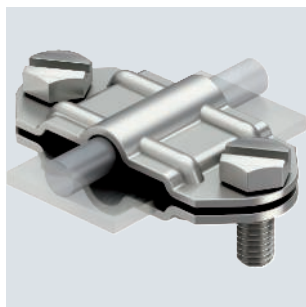
Separating piece for Rd 8–10 and FL 30 mm

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_{lk} (50 Hz), time 0.6 s, temp. max. 300 °C: 8.5 kA



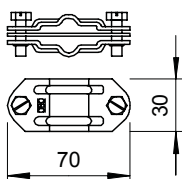
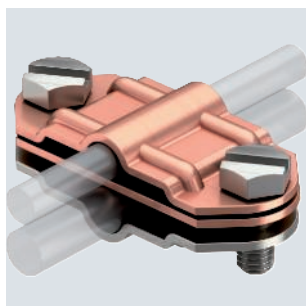
Separating piece for Rd 8–10 and FL 30 mm



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)

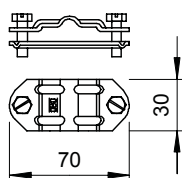
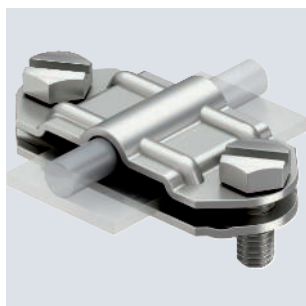
Bi-metal separating piece for Rd 8–10 and FL 30 mm



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

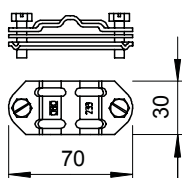
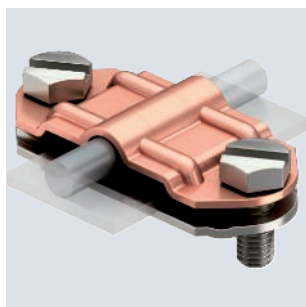


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
233 A VA	8-10xFL30-40	10	7.851	5336457

- 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

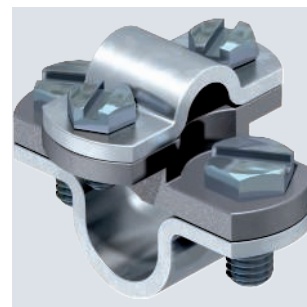
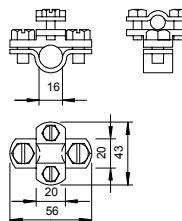
- Fit: Rd 8-10 x FL 30-40, FL 30 x FL 30-40
- With 2 hexagonal bolts M8 x 20, stainless steel (VA)
- Intermediate plate, aluminium/copper
- Top section copper, bottom section stainless steel

St FT

Rod clamp

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

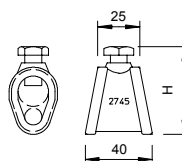


CuZn 37 Cu

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 mm²	5	16.000	5001560

- For earth rods Ø 20 or conductors of 95 mm²
- For round conductor attachments Rd 7–12.5 with hexagonal bolts M10 x 25

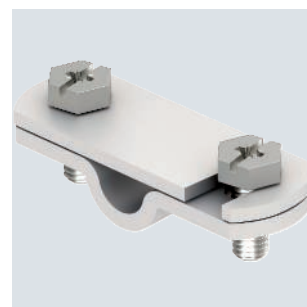
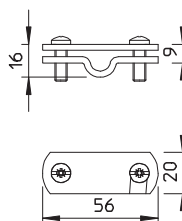


Alu

Number plates

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)

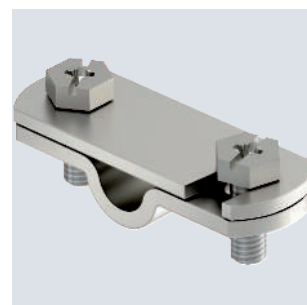
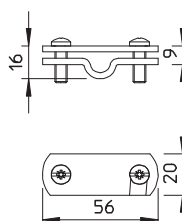


A2

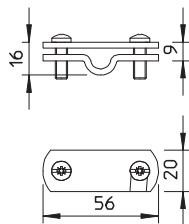
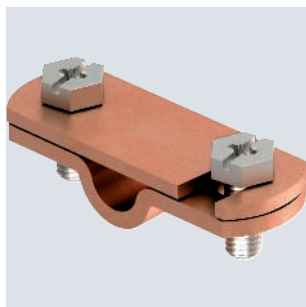
Number plates

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)



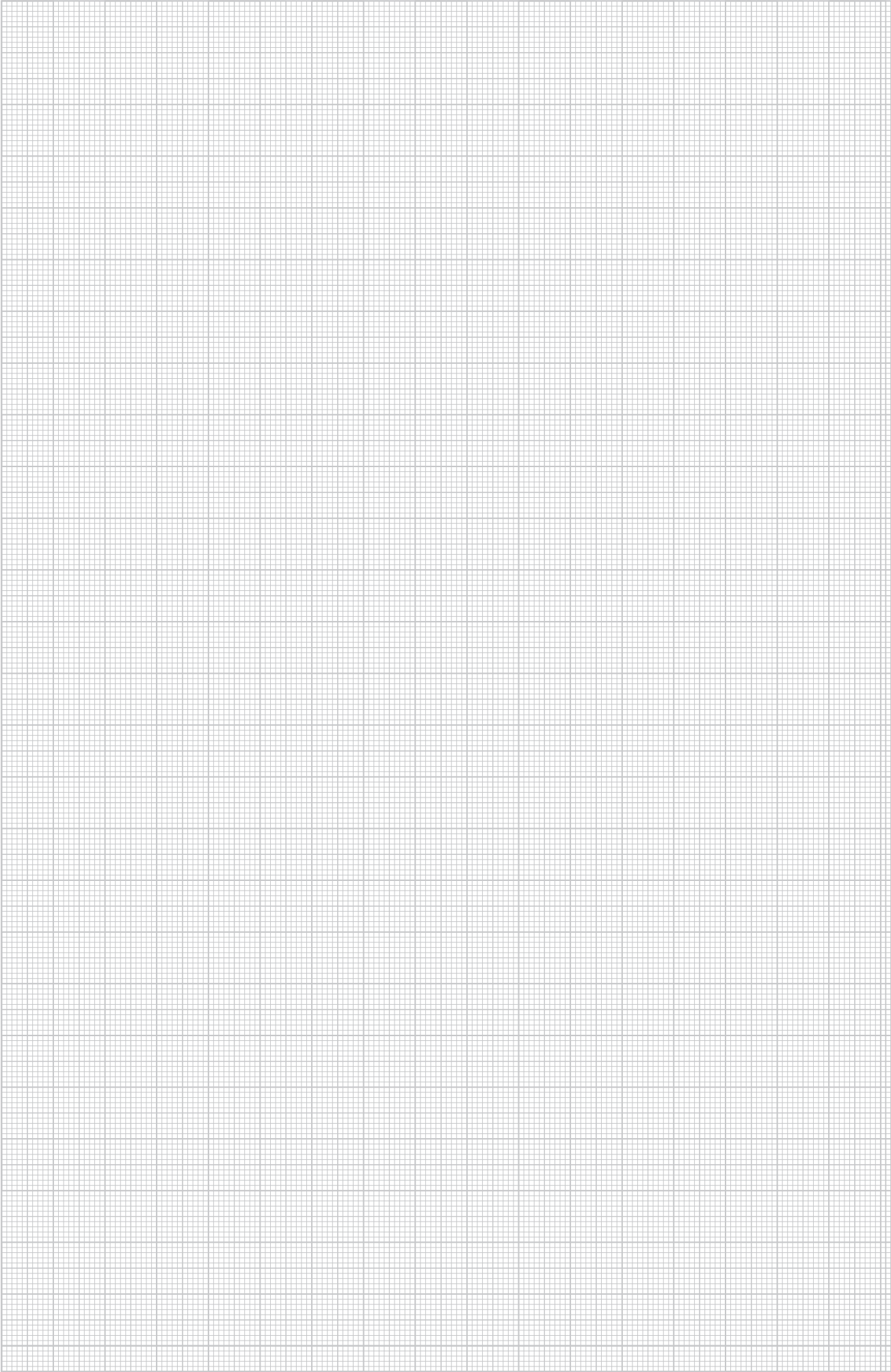
Number plates



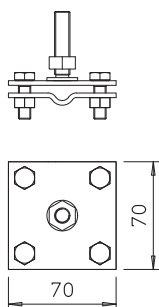
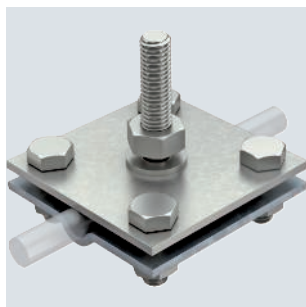
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
311 N-CU 8-10	RD 8-10 / FL30	5	6.400	3049205

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





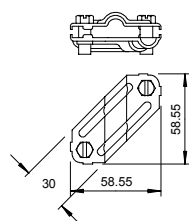
Cross-connector for flat conductors and round conductors with threaded bolt M10x45



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.
252 GB 10x45	8-10 x 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

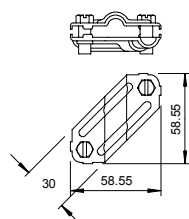
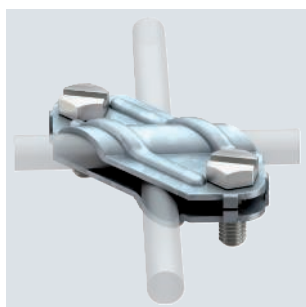
Cross-connector for flat conductors and round conductors



Type	Fit mm	Lightning current carrying capacity kA	Short-circuit current (50 HZ) (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



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

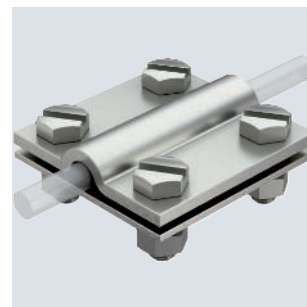
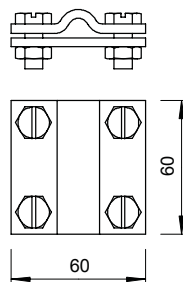
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8-10 x Rd 8-10
- Fit: Rd 8-10 x FL 30
- Fit: FL 30 x FL 30
- Mounted with 2 hexagonal bolts M8 x 20 (F)

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	8-10 x FL30	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



Conductor material



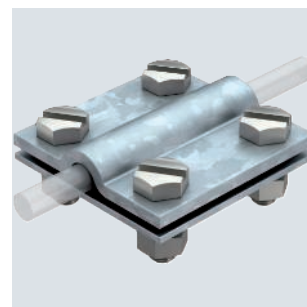
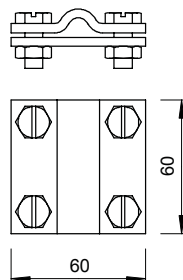
St FT



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	8-10 x FL30	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



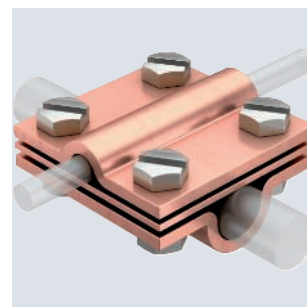
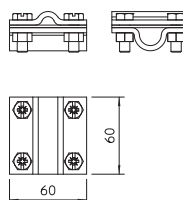
Cu



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

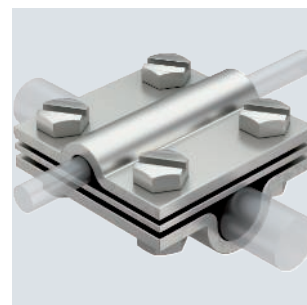
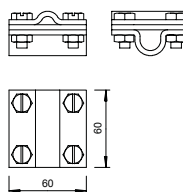
- Meets the requirements of VDE 0185-305-3 (IEC/ EN 62305-3)
- Fit: Rd 8–10 x Rd 16 / FL 30
- With adapter plate
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 made of rust-proof stainless steel (A2)



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

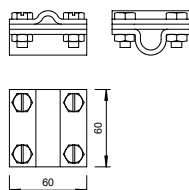
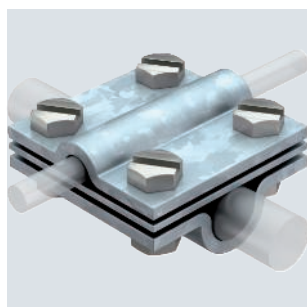
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10x16 V4A	Rd 8-10 x 16	H/100	10	39.000	5312346

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

St FT

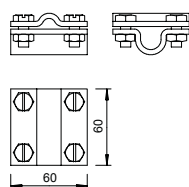
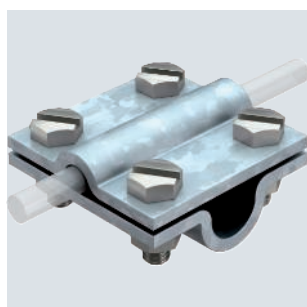


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
252 8-10X16 FT	Rd 8-10 x 16	H/100	25	38.800	5312345

- 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

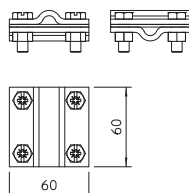
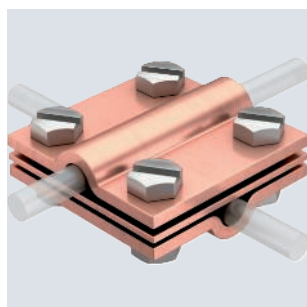


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
253 10X16	Rd 8-10 x 16	H/100	25	29.800	5312809

- 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

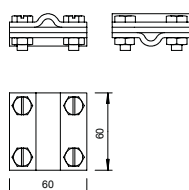
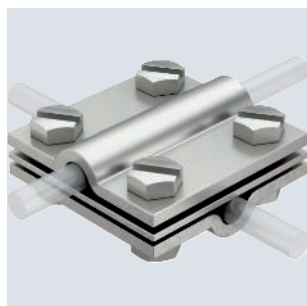
Cu



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



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

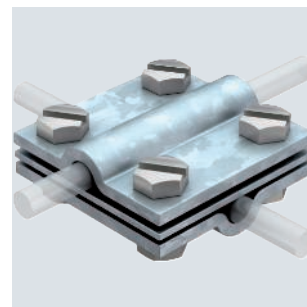
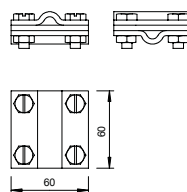
St FT



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)



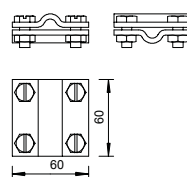
Conductor material



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)



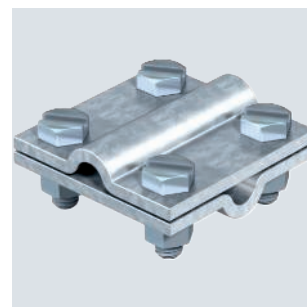
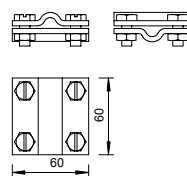
St FT



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	22.900	5312604

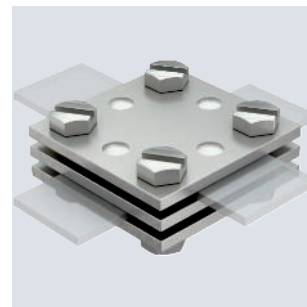
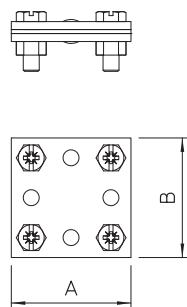
- Meets the requirements of VDE 0185-305-3 (IEC/EN 62305-3)
- Fit: Rd 8–10 x Rd 8–10/FL 30
- Mounted with 4 hexagonal bolts M8 x 25 and 4 hexagonal nuts M8 (F)



DIN cross-connector for flat conductor, with intermediate plate

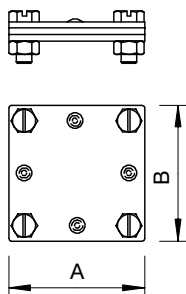
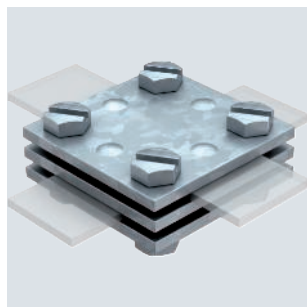
Type	Fit mm	Dim. A mm	Dim. B mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
256 DIN 30 V4A	max. FL 30	60	60	H/100	10	29.100	5314616

- 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



DIN cross-connector for flat conductor, with intermediate plate

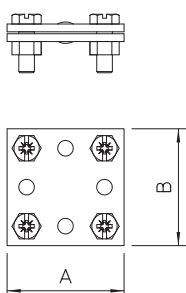
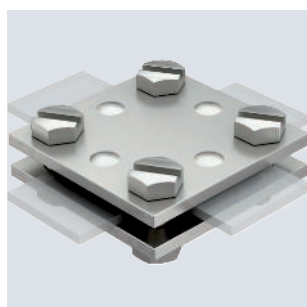
St FT



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

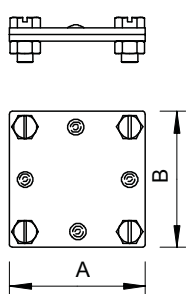
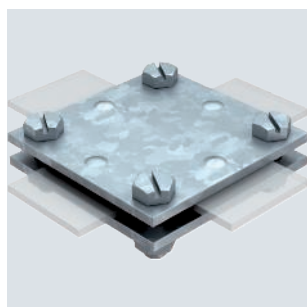


Type	Fit mm	Dim. A mm	Dim. B mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
256 A-DIN 30 VA	max. FL30	60	60	H/100	10	27.800	5314720
256 A-DIN 30 V4A	max. FL30	60	60	H/100	10	26.400	5314659

- 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	22.550	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)



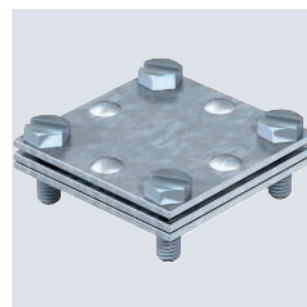
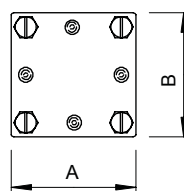
St FT



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)



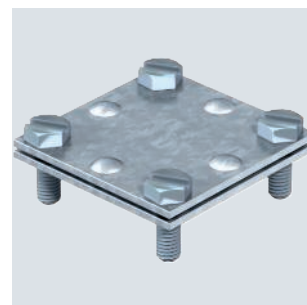
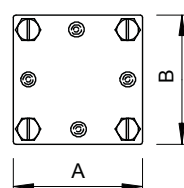
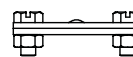
St FT



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 clamps

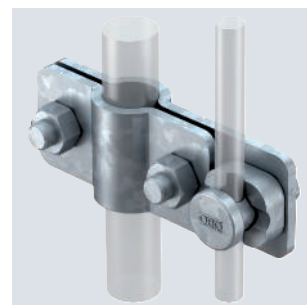
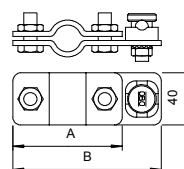
St FT



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



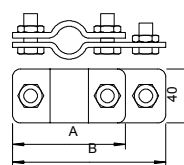
St FT



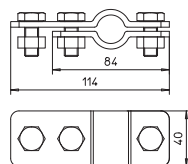
Connection clamp for earth rod on flat conductor

Type	For earth rods Ø mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) 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
2730 25 M12 FT	25	8.5	89	119	5	46.280	5001416

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



Connection clamp for earth rod on flat conductor

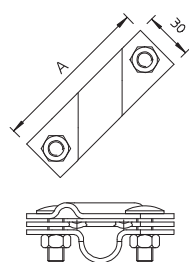
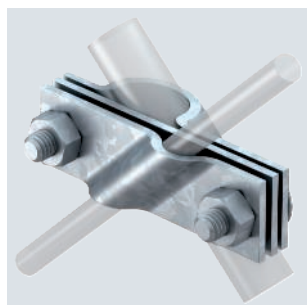


Type	For earth rods Ø mm	Dim. A mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
2730 20 VA	20	84	114	5	33.764	5001366

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

Connection clamp for earth rod, universal

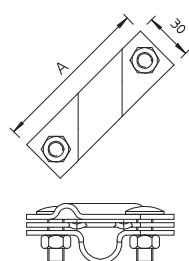
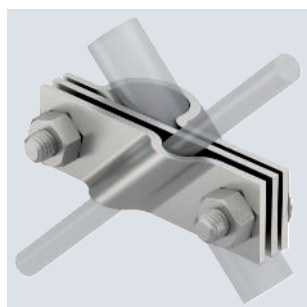
St FT



Type	Dim. A mm	For earth rods Ø mm	Fit mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	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

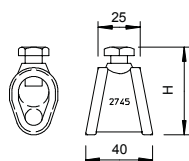


Type	Dim. A mm	For earth rods Ø mm	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
2760 20 VA	101	20	Rd 8-10/FL40	5	28.286	5001617
2760 B-20 VA	101	20	Rd 8-10/FL40	20	32.400	5001625
2760 20 V4A	101	20	Rd 8-10/FL40	5	32.400	5001633
2760 25 V4A	110	25	Rd 8-10/FL40	5	32.400	5001672

- 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 bolts M10

Connection clamp for earth rod or cables

CuZn 37 Cu



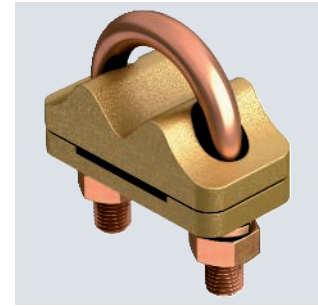
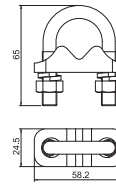
Type	For earth rods Ø mm	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
2745 20 MS	20	7-12.5/S95 mm²	5	16.000	5001560

- For earth rods Ø 20 or conductors of 95 mm²
- For round conductor attachments Rd 7–12.5 with hexagonal bolts M10 x 25

Connection clamp

Type	For earth rods Ø mm	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
2740 16	14.2	FL/ Rd	10	12.900	5001511
2740 16 KL	14.2	Rd 8-10/FL max. 26	10	17.500	5001513

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



Conductor material

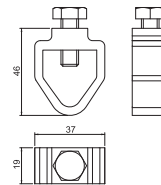


CuAl

Connection clamp

Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
2745 16 25	Rd 14.2/ FL max. 26 x 12	10	12.000	5001590
2745 16 30	Rd 14.2/ FL max. 40 x 12	10	19.000	5001592
2745 16 70	Rd 14.2	10	6.400	5001594

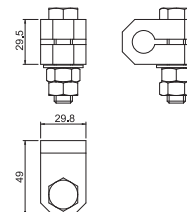
- For connection of the copper-plated earth rod, type 219 16 CU, to conductor material
- Type A terminal



Connection clamp

Type	For earth rods Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
2760 16	14.2	5	35.000	5001601

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

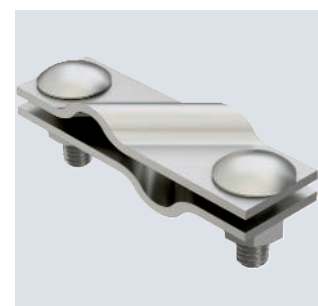
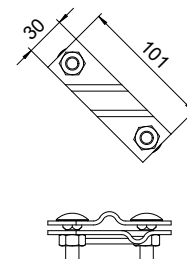


Diagonal clamps

Diagonal connector for round conductor

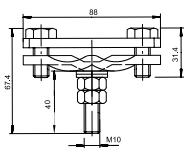
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
2760 S8 V4A	Rd 8-10	H/100	3600	20.600	5313012
2760 8-10 V4A	Rd 8-10	H/100	25	21.364	5313013

- 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



Diagonal clamp with bolt

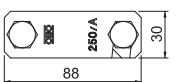
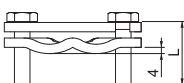
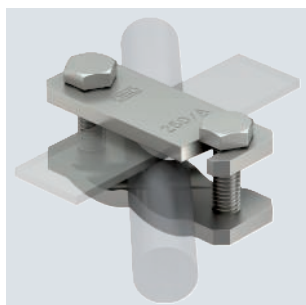
St F



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

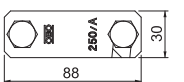
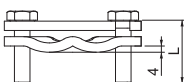
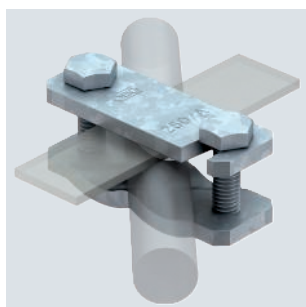


Type	Dim. L mm	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
250 A-VA	40	Rd 6-22/max. FL50	H/100	10	28.800	5313023

- 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

St FT



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



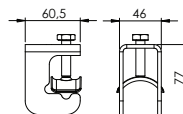
St FT



VARIO earthing terminal for large reinforced steels

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



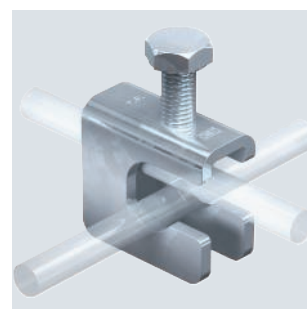
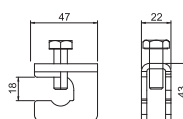
St FT



VARIO earthing terminal for reinforced steels

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



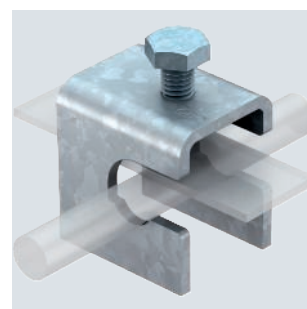
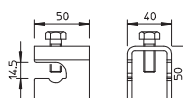
St FT



VARIO earthing terminal for reinforced steels

Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
1814 ST	FL30x5 x Rd8-14	N/50	25	20.000	5014476
1814 FT	FL30x5 x Rd8-14	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



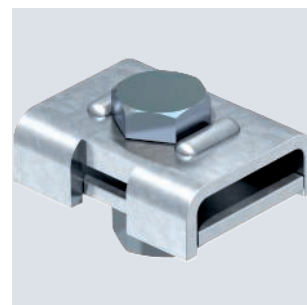
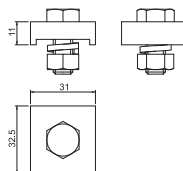
St Cu FT



Connection terminal for round conductors

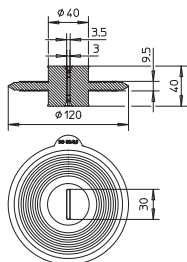
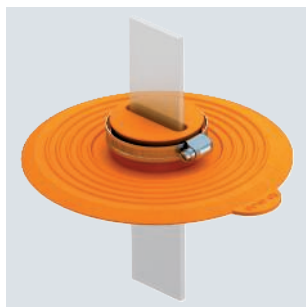
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
1818	Rd 8-10	10	17.600	5012015
1818 FL CU	FL 20 ÷ FL 26	10	10.000	5012270

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



Sealing sleeve for flat conductors

TPE

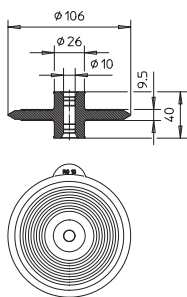


Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
DW FL30x3,5	FL 30x3,5	1	18.000	2360043

- 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 round conductors

TPE



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

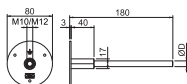
- Sealing sleeve for penetrations of waterproof foundation plates/walls (e.g. white trough)
- For mounting on connection lugs with stainless steel tightening straps
- With pressurised water testing to 5 bar
- According to DIN EN 62561-5 (VDE 0185-561-5)

Fixed earthing terminals

Fixed earthing terminal with axis and double thread

St

FT



Type	Thread	Short-circuit current (50 HZ) (1 s; ≤300 °C) 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



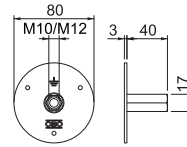


Fixed earthing terminal with double thread



Type	Thread	Short-circuit current (50 HZ) (1 s; ≤300 °C) 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

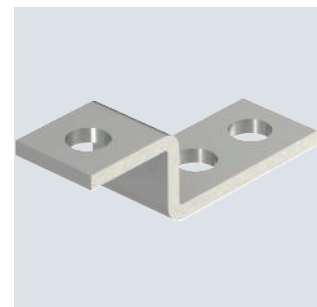
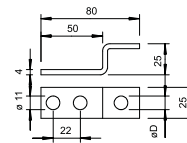


Connection material

Connection and end piece

Type	Dim. D 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

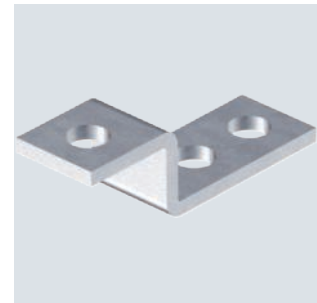
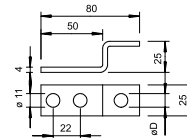


St FT

Connection and end piece

Type	Dim. D 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



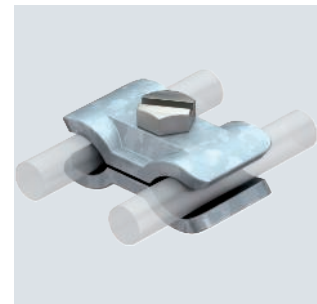
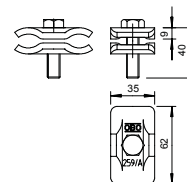
St FT

Parallel clamp for the connecting of reinforcing steels



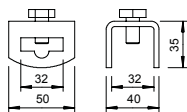
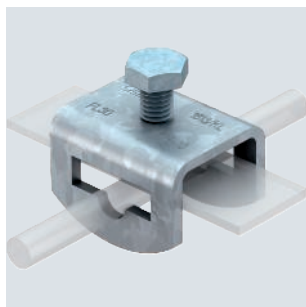
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
259 A ST	Ø 10-20	H/100	25	18.800	5315557
259 A FT	Ø 10-20	H/100	25	18.800	5315514
259 A VA	Ø 10-20	H/100	10	15.880	5315522

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



Variable earthing terminal

St FT

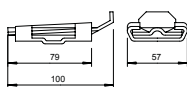
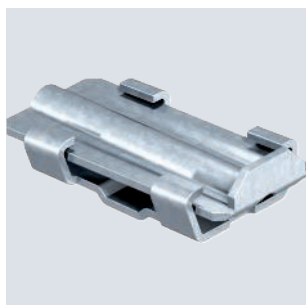


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
1813 KL	FL30 x Rd 8-10	H/100	50	18.000	5014425

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

Wedge connector

St FT

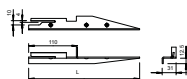


Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
1813 DIN	10/FL30 x FL30	H/100	5	21.144	5014212

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

Spacer

St FT

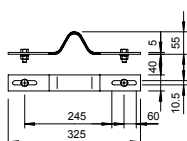


Type	Fit mm	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
1811	10/FL30 x 3,5	250	25	19.000	5014018
1811 L	10/FL30 x 3,5	400	25	31.500	5014026

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

Expansion piece

Alu



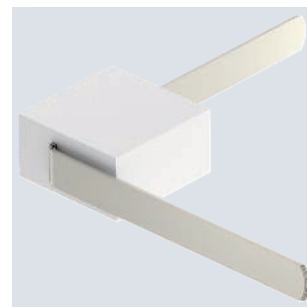
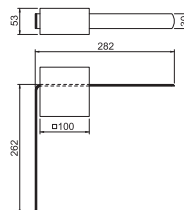
Type	Pack Piece	Weight kg/100 pc.	Item no.
1807	1	27.000	5016142

- 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 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



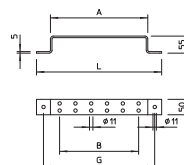
Earthing connection bar



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



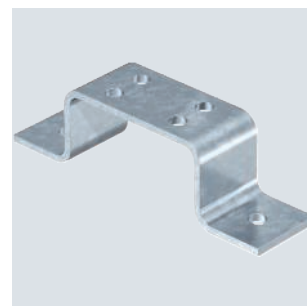
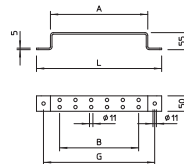
St FT



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

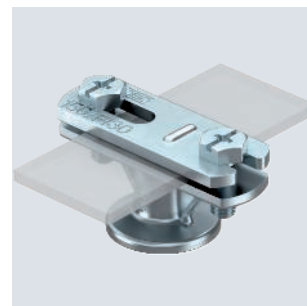
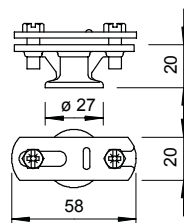


Zn G

Cable bracket for flat conductor

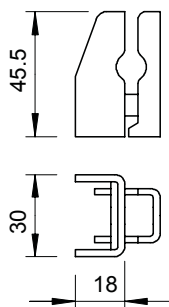
Type	Pack Piece	Weight kg/100 pc.	Item no.
113 BZ-FL	100	6.280	5230446
113 B-Z-HD-FL	100	7.000	5230462

- 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

St FT



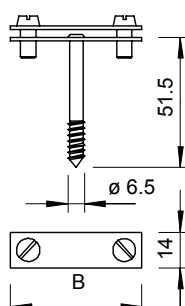
Type	Fit mm	Pack Piece	Weight kg/100 pc.	Item no.
835	Rd 8/10/ FL 30x3,5	1	8.907	5033209

- 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

Spacer clips

Spacer clip for flat conductor, with wood screw

St G

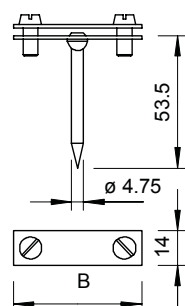


Type	Fit mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
708 30 HG	max. FL30	52	50	2.536	5030234
708 40 HG	max. FL40	62	50	2.827	5030242

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

Spacer clip for flat conductor, with square pin

St G



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

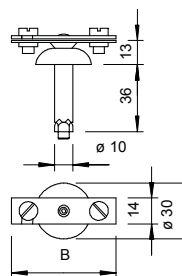
- Fit: FL 30 and FL 40
- With 2 cylinder bolts M5 x 12 (G) and over-piece
- With square pin

St G

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

Type	Fit mm	Dim. B mm	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)

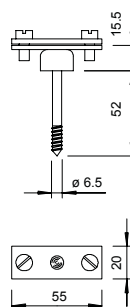


St FT

Spacer clip for flat conductor, with wood screw and spacer

Type	Fit mm	Dim. B mm	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

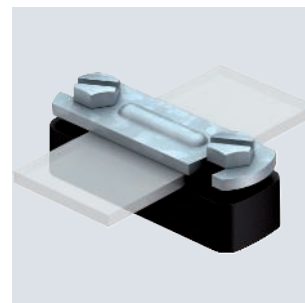
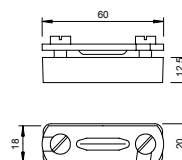


St FT

Spacer clip for flat conductor, with polyamide base

Type	Fit mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
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

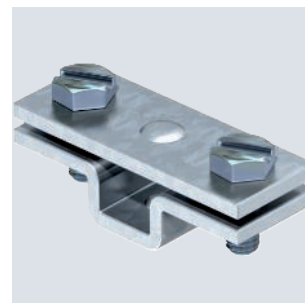
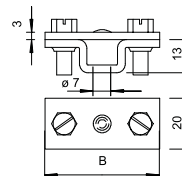


St FT

Spacer clip for flat conductor, with fastening hole Ø 7

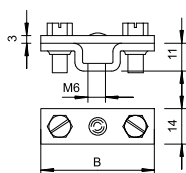
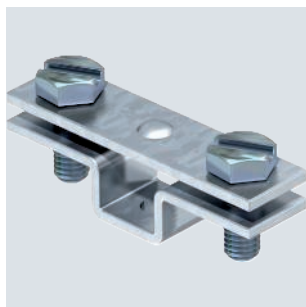
Type	Fit mm	Dim. B mm	Pack Piece	Weight kg/100 pc.	Item no.
832 30	max. FL30	55	25	7.416	5032539
832 40	max. FL40	65	25	7.612	5032547

- 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

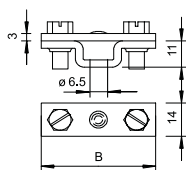
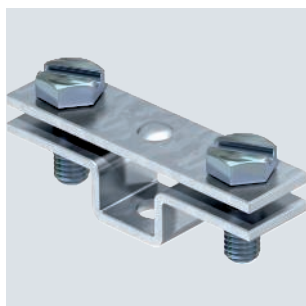


Type	Fit	Dim. B	Pack Piece	Weight kg/100 pc.	Item no.
831 30 M6	max. FL30	54	25	3.712	5032237
831 40 M6	max. FL40	65	25	3.880	5032245

- 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



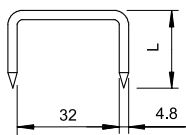
Type	Fit	Dim. B	Pack Piece	Weight kg/100 pc.	Item no.
831 30	max. FL30	54	25	3.580	5032032
831 40	max. FL40	65	25	3.894	5032040

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

Accessories

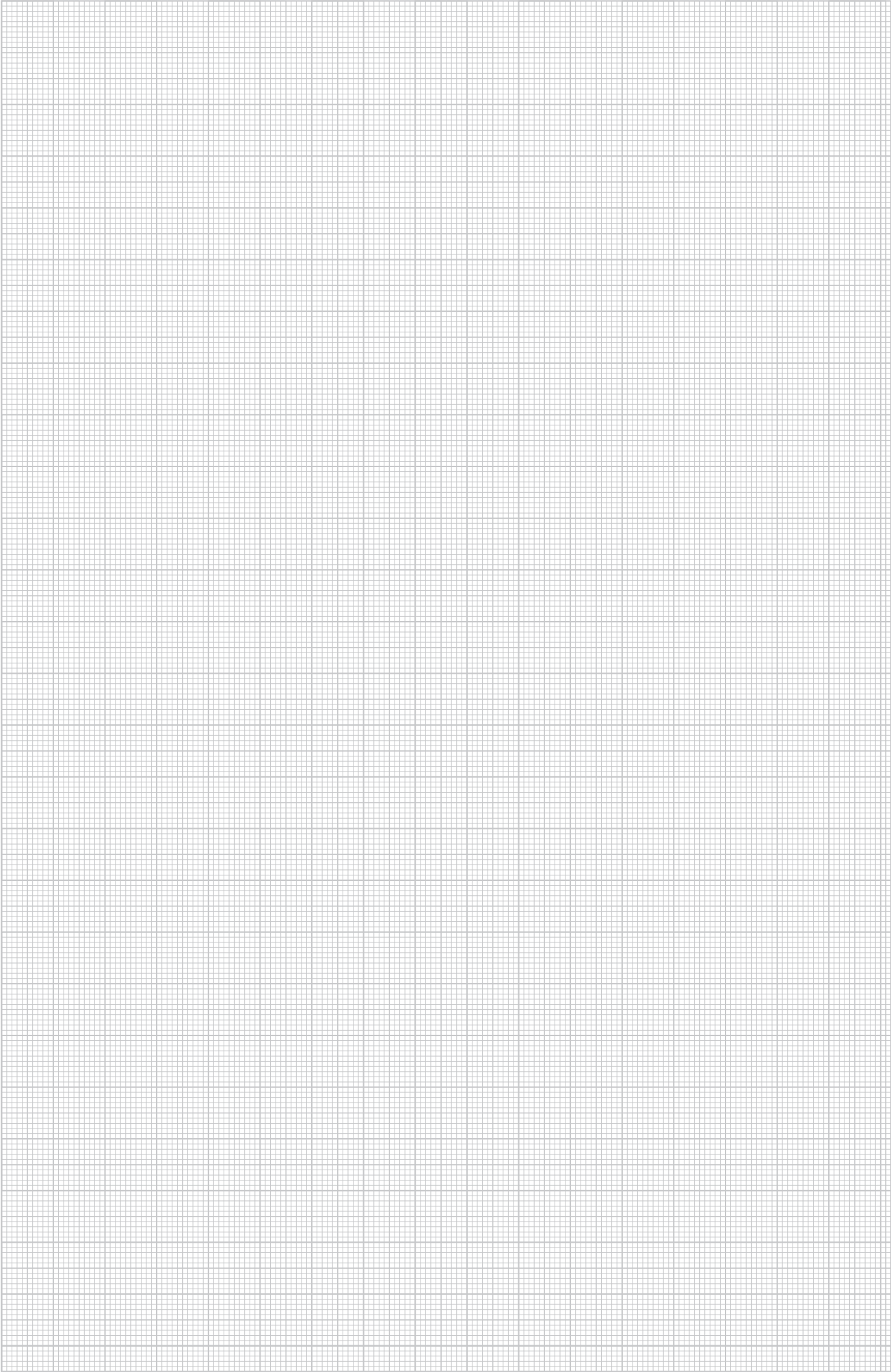
Strip steel crimp

St FT



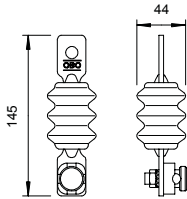
Type	Length	Fit	Pack Piece	Weight kg/100 pc.	Item no.
366 35	35	max. FL30	100	1.737	5059356
366 50	50	max. FL30	100	2.300	5059496

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





Protective spark gap

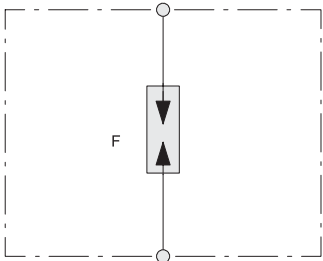


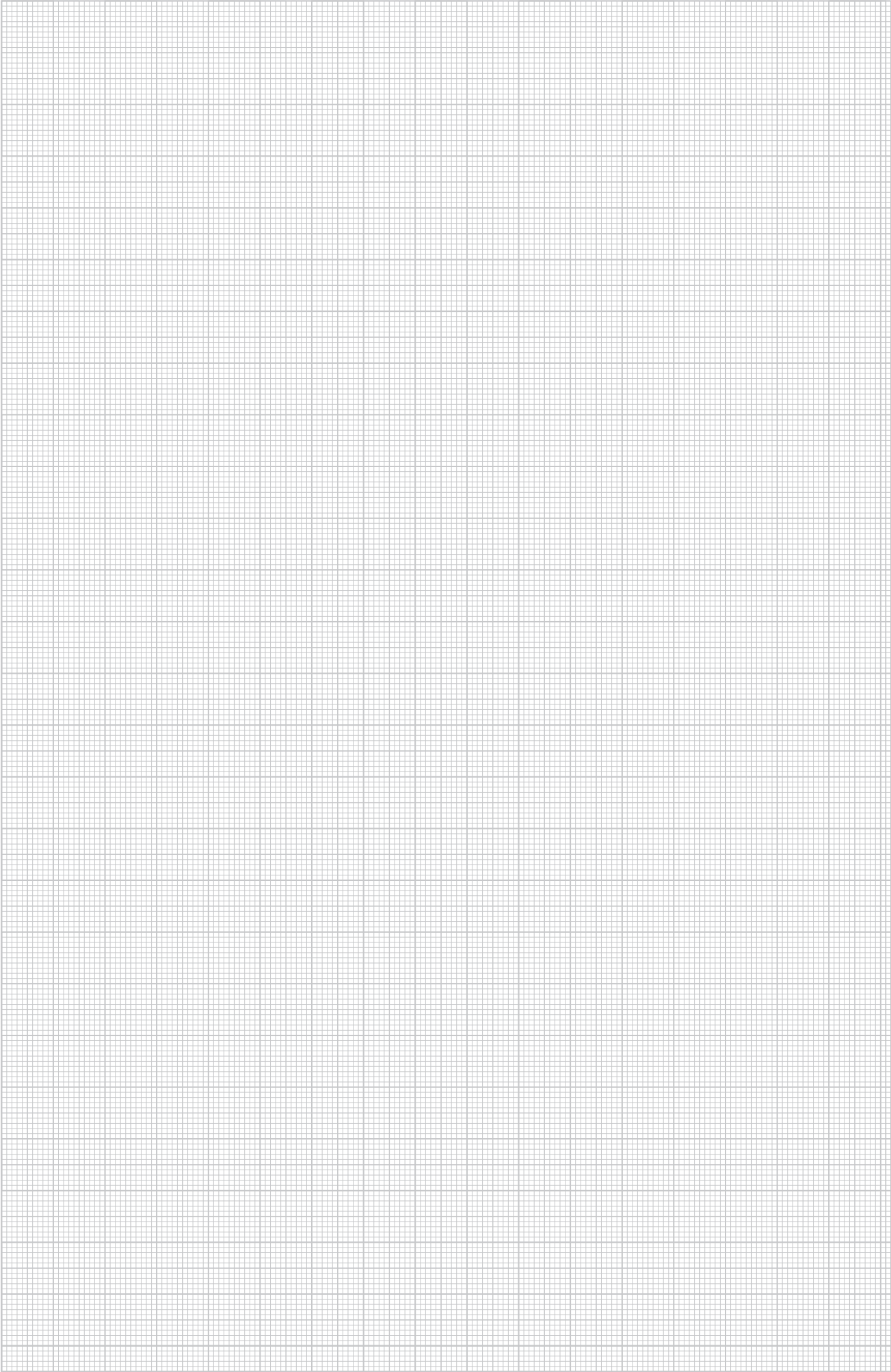
Type	Protection level kV	Nominal discharge current (8/20) kA	Power frequency spark-over voltage kV	Pack Piece	Weight kg/100 pc.	Item no.
482	< 10	25	10	1	56.000	5240050

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

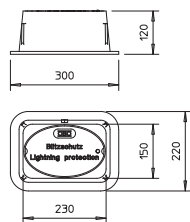
- Protection rating IP 54
- With pre-mounted type 5001 connector for attaching round conductors Rd 8 - 10

Connection options





Underfloor test box



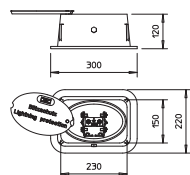
Type

5700

Pack Piece	Weight 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

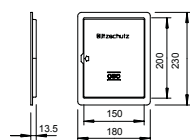
5700 SP

Pack Piece	Weight 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



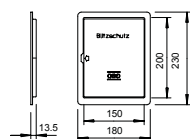
Type

5800 VZ

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

- Lightweight design for flush-mounted separation points
- With fastening straps to be bent

Inspection door



Type

5800 VA

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

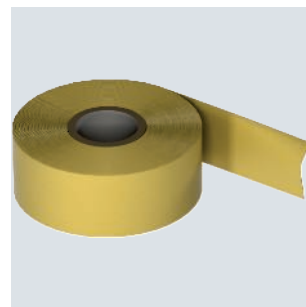
- Lightweight design for flush-mounted separation points
- With fastening straps to be bent

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

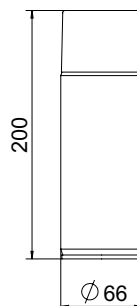
Corrosion protection strip



CE UK CA

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.



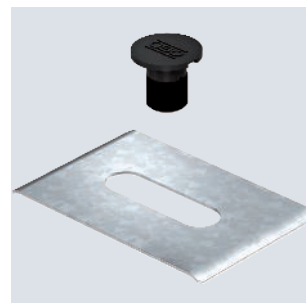
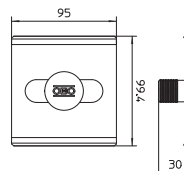
Zinc repairs



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

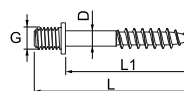


St G

CE

Type	Dim. L mm	Dim. L1 mm	Dim. D mm	Dim. G mm	Shipping box Piece	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.

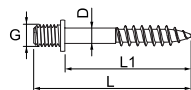


Screw-in anchor with M6 thread



Screw-in anchor with M8 thread

St G

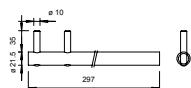


Type	Dim. L mm	Dim. L1 mm	Dim. D mm	Dim. G mm	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
985 M8 35	47	35	5,2	M8	1200	100	0.950	3133230

With wood screw shank and M8 thread.

Directional irons

St FT

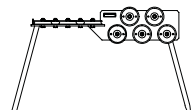


Type	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
364	297	1	35.000	3051013

• Directional iron for bending and aligning conductors

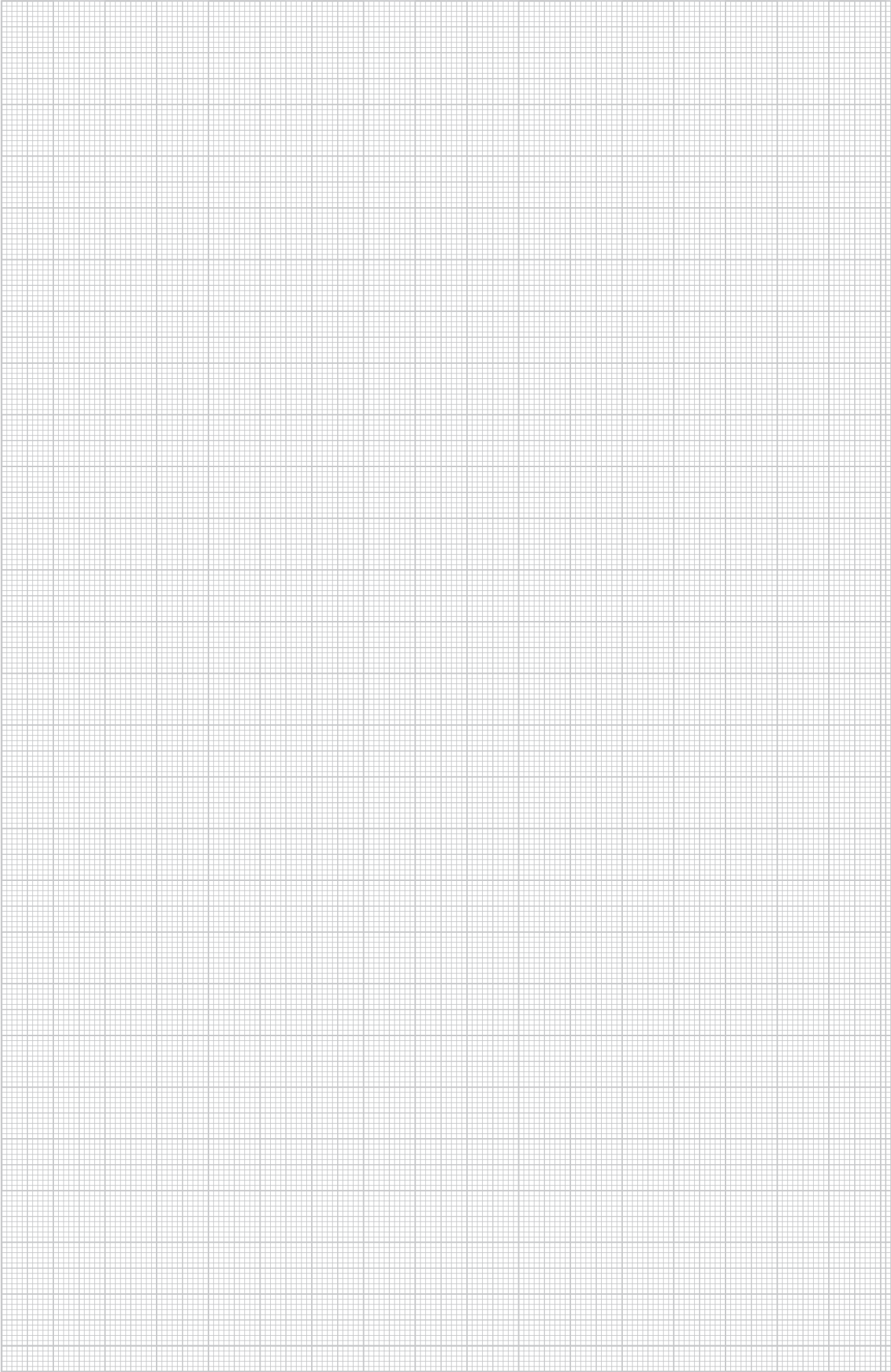
Wire straightening machine

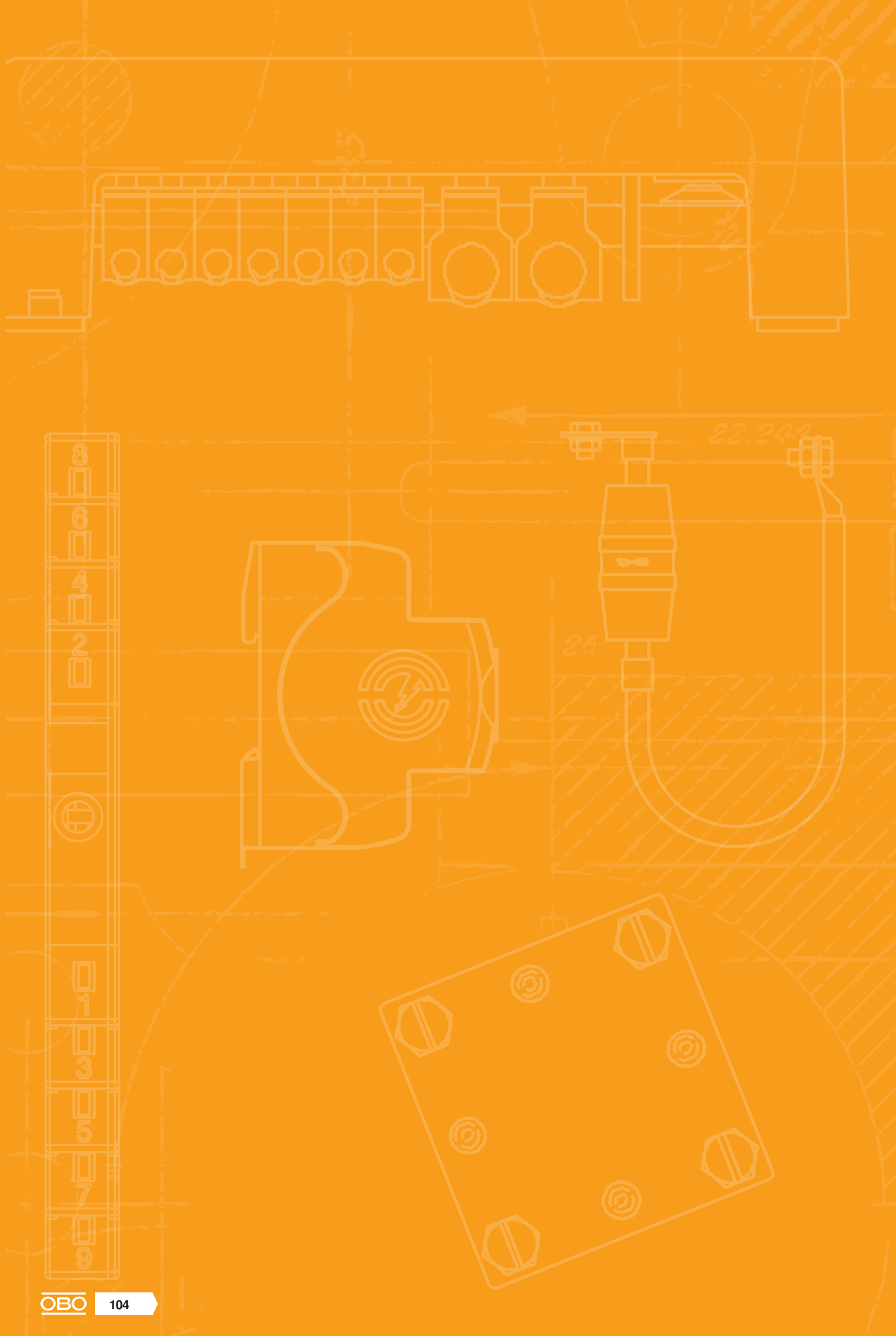
St



Type	Pack Piece	Weight kg/100 pc.	Item no.
5900	1	3,300.000	3059006

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

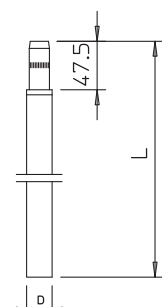




Earth rods

	Earth rods	104
	Accessories	110
	Profile rod earth connection	116

Pipe earth rod LE

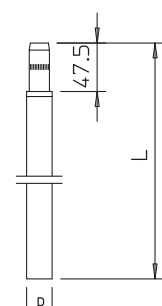


Type	Length mm	External Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
LE ERDER V4A	1500	25	5	235.000	5000335

- Expandable earth rod system for erecting earthing connections (type A)
- The pipe earth rod system LE is connected using the pre-mounted sleeve
- Complies with requirements according to DIN VDE 0185-305 (IEC 62305) and DIN EN 62561-2
- For use with antenna earthing systems, lightning earthing systems, etc.

Pipe earth rod LE

St FT



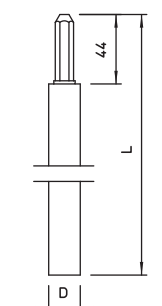
Type	Length mm	External Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
LE ERDER FT	1500	25	5	235.000	5000300

- Expandable earth rod system for erecting earthing connections (type A)
- The pipe earth rod system LE is connected using the pre-mounted sleeve
- Complies with requirements according to DIN VDE 0185-305 (IEC 62305) and DIN EN 62561-2
- For use with antenna earthing systems, lightning earthing systems, etc.

Earth rod

Earth rod OMEX

St FT

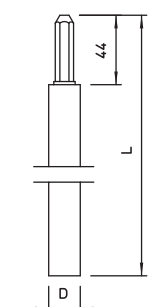


Type	Length mm	External Ø mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
219 25 OMEX FT	1500	25	12.3	H/100	5	577.200	5000025

- OMEX system
- With peg and bore for linking together
- With hardened hexagonal pins
- Min. zinc coating 60 µm
- Very good contacting properties with soft metal inlay in the bore hole
- Conforms to the requirements according to VDE 0185-305 (IEC 62305) and DIN EN 62561-2

Earth rod OMEX

St FT



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

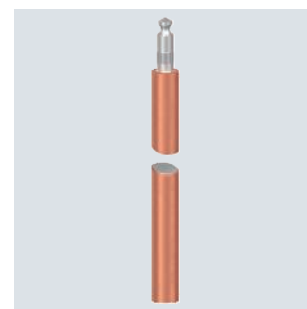
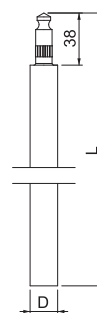
- OMEX system
- With peg and bore for linking together
- With hardened hexagonal pins
- Min. zinc coating 60 µm
- Very good contacting properties with soft metal inlay in the bore hole
- Conforms to the requirements according to VDE 0185-305 (IEC 62305) and DIN EN 62561-2

St Cu

Earth rod BP with copper sheath

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

- "BP" system (Bundespost)
- Made of steel with a copper jacket of min. 0.25 mm
- Very good contacting properties with soft metal inlay in the bore hole
- With peg and bore for linking together
- Tensile strength min. 600 N/mm²
- Conforms to the requirements according to VDE 0185-305 (IEC 62305)

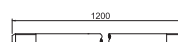


St Cu

Earth rod BS with copper sheath

Type	Length mm	External Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
219 16 CU	1200	14.2	5	192.000	5000481

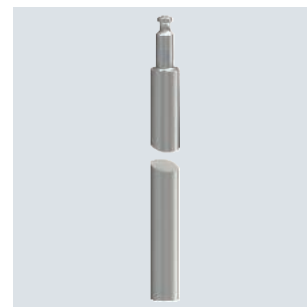
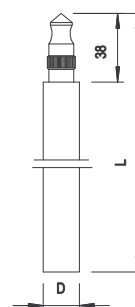
- Made of steel with a copper jacket of min. 0.25 mm
- With thread for linking together
- Tensile strength min. 600 N/mm²
- Meets the requirements of VDE 0185-305 (IEC 62305)



Earth rod BP

Type	Length mm	External Ø mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
219 20 BP V4A	1000	20	4.2	H1/150	5	250.000	5000858
219 20 BP V4A	1500	20	4.2	H1/150	5	365.000	5000866

- "BP" system (Bundespost)
- Very good contacting properties with soft metal inlay in the bore hole
- With peg and bore for linking together
- Conforms to the requirements according to VDE 0185-305 (IEC 62305) and DIN EN 62561-2
- Short circuit current I_k (50 Hz), time 1 s, max. temp. 300 °C: 4.5 kA (219 20 BP V4A)

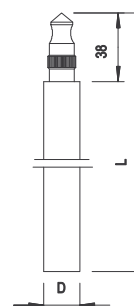


St FT

Earth rod BP

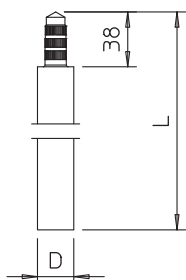
Type	Length mm	External Ø mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
219 20 BP FT	1500	20	7.9	H/100	5	360.000	5000947
219 25 BP FT	1500	25	12.3	H/100	5	573.000	5000955

- "BP" system (Bundespost)
- Very good contacting properties with soft metal inlay in the bore hole
- With peg and bore for linking together
- FT version with zinc coating approx. 130 µm
- Conforms to the requirements according to VDE 0185-305 (IEC 62305) and DIN EN 62561-2



Earth rod for standard applications

St FT

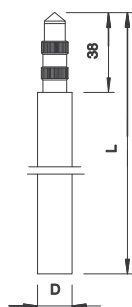


Type	Length mm	External Ø mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
219 25 ST FT	1500	25	12.3	H/100	5	573.000	5000769

- High corrosion resistance
- Zinc support approx. 130 µm
- With peg and bore for linking together
- Round pegs with three knurls
- Conforms to the requirements according to VDE 0185-305 (IEC 62305) and DIN EN 62561-2
- Short-circuit current I_k (50 Hz), time 1 s, temp. max. 300 °C: 12.3 kA

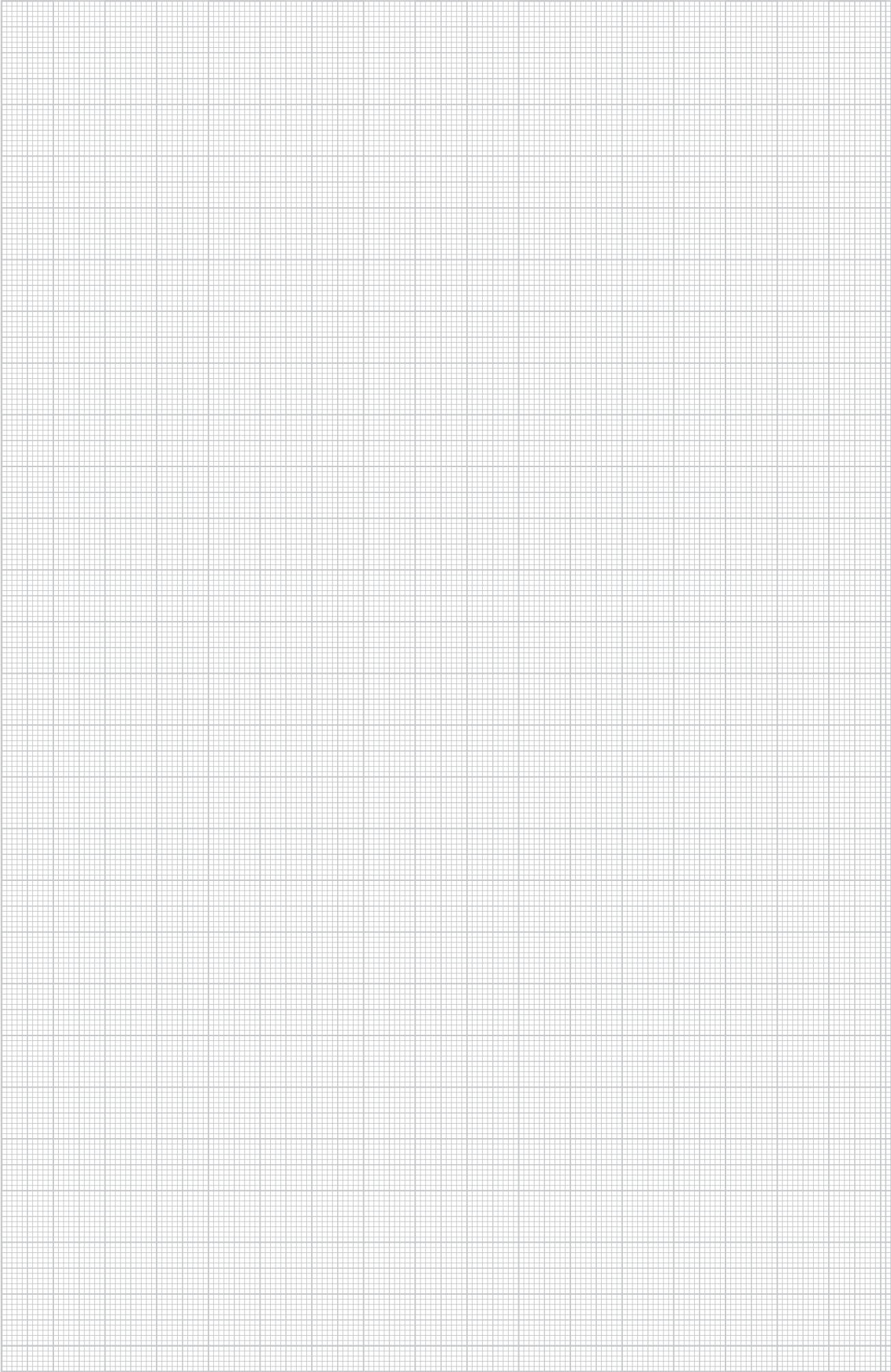
Earth rod for standard applications

St FT



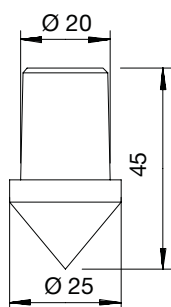
Type	Length mm	External Ø mm	Short-circuit current (50 Hz) (1 s; ≤300 °C) kA	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
219 20 ST FT	1000	20	7.9	H/100	5	250.000	5000742
219 20 ST FT	1500	20	7.9	H/100	5	360.000	5000750

- High corrosion resistance
- Zinc support 130 µm
- With peg and bore for linking together
- Round pegs with two knurls
- Conforms to the requirements according to VDE 0185-305 (IEC 62305) and DIN EN 62561-2
- Short-circuit current I_k (50 Hz), time 1 s, max. temp 300 °C: 7.9 kA (219 20 ST)



Driving spike for pipe earth rod LE

St FT

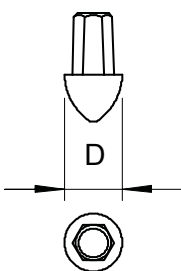


Type	For earth rods Ø mm	Dim. D mm	Pack Piece	Weight kg/100 pc.	Item no.
LE SPITZE	25	25	5	10.000	3041409

• Suitable for pipe earth rod system LE

Driving spike for OMEX earth rod

TG FT

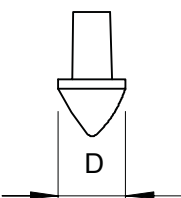
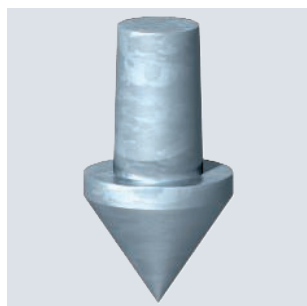


Type	For earth rods Ø mm	Dim. D mm	Pack Piece	Weight kg/100 pc.	Item no.
1819 20	20	20	5	3.378	3041204
1819 25	25	25	5	4.718	3041255

• Suitable for OMEX system
• DIN 48852, Form SP

Driving spike for ST and BP earth rod

TG FT

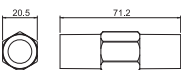


Type	For earth rods Ø mm	Dim. D mm	Pack Piece	Weight kg/100 pc.	Item no.
1819 20BP	20	20	5	3.768	3041212
1819 25BP	25	25	5	6.700	3041956

• Suitable for ST and BP system

Coupling for earth rod

Coupling for earth rod with thread



Type	For earth rods Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
2019 16	14.2	10	8.000	5001190

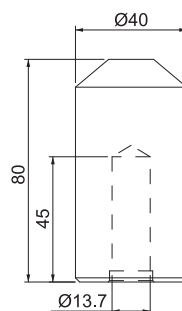
• Suitable for earth rods, type 2019 16 CU

St

Driving head for ST, BP and OMEX earth rods

Type	Material	For earth rods Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
1820 20	St	20	1	62.600	3042200
1820 25	St	25	1	70.000	3042251

- Suitable for ST, BP and OMEX systems
- Hardened
- DIN 48852, Form SP

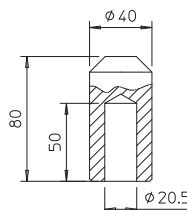


St FT

Driving head for LightEarth earth rod

Type	Material	For earth rods Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
LE KOPF	St	25	1	0.550	3042308

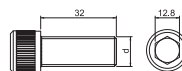
- Suitable for LightEarth system
- For driving earth rods using hand-held hammer
- Hardened



Impact head for earth rod with thread

Type	For earth rods Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
1820 16	14.2	5	5.800	3042270

- Suitable for earth rods, type 2019 16 CU



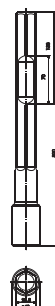
Hammer inserts

St

Hammer insert for LightEarth earth rod

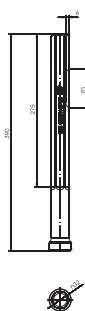
Type	Seat systems	Pack Piece	Weight kg/100 pc.	Item no.
LE HAMMER-W	Wacker	1	132.000	3043606
LE HAMMER-H	Hilti	1	76.000	3043610
LE HAMMER-B	Bosch	1	87.000	3043614
LE HAMMER-SDS-M	SDS-max	1	76.000	3043602
LE HAMMER-AC	Atlas Copco	1	76.000	3043618
LE HAMMER-B-II	Other	1	200.000	3043628

- Suitable for pipe earth rod system LE
- 3043606 for Wacker (BHF 25, BHF 30S)
- 3043610 for Hilti (TE 52/42, TE72/60, TE92)
- 3043614 for Bosch (USH 10, HSH 10)
- 3043602 for SDS-Max
- 3043618 for Atlas Copco (Hexagon seat)
- 3043628 for Bosch GSH27/UH27 (11304) / HS28 (12314) / Hitachi H65SD / Makita HM 1500B / HM1800
- Hardened



Hammer insert, type 2531, for earth rod

St

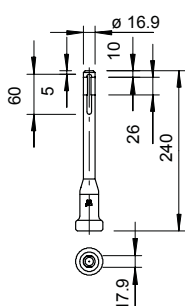


Type	For earth rods Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
2531 20	20	1	200.000	3043908

- Make: Bosch GSH 27, USH 27 (WAF 28 mm)
- Suitable for ST, BP and OMEX earth rod systems
- Hardened

Hammer insert type 2535, for earth rod

St

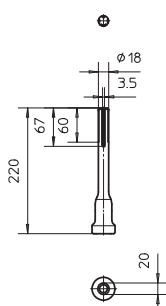


Type	For earth rods Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
2535 20	20	1	58.000	3043916
2535 25	25	1	100.000	3044912

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

Hammer insert, type 2536, for earth rod

St

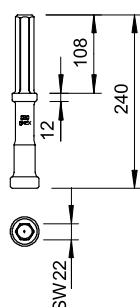


Type	For earth rods Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
2536 20	20	1	55.000	3044904
2536 25	25	1	61.000	3044831

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

Hammer insert type 2500, for earth rod

St



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

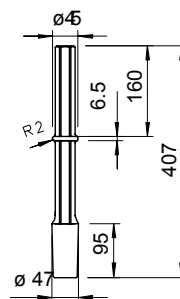
- Manufactured by Cobra BBM 47 SPA-Super, Tex11 and COBRA 248
- Fits earth rod system ST, BP and OMEX
- Hardened

St

Hammer insert, type 2510, for earth rod

Type	For earth rods Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
2510 20	20	1	300.000	3043312

- Manufactured by Atlas Copco, type FB 60 S-Super
- Fits earth rod system ST, BP and OMEX
- Hardened

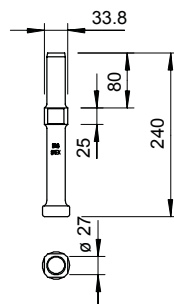


St

Hammer insert, type 2520, for earth rod

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

- Manufactured by Wacker BHF 25, BHF 30S, EHU 25/220
- Fits earth rod system ST, BP and OMEX
- Hardened

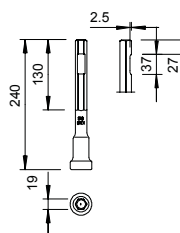


St

Hammer insert, type 2530, for earth rod

Type	For earth rods Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
2530 20	20	1	125.000	3043401
2530 25	25	1	125.000	3043452

- Manufactured by Bosch USH 10, HSH 10
- Fits earth rod system ST, BP and OMEX
- Hardened



Accessories, earthing material

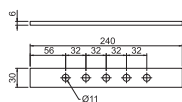
Earthing enhancing compound

Type	Dimension	Pack Piece	Weight kg/100 pc.	Item no.
OEC 25	25kg	1	2,500.000	5009200

- To improve and maintain a constant earth electrode resistance
- Highly swellable and powdery special clay
- Tested according to IEC 62561-7 (VDE 0185-561-7)



Earthing rail for UF separation point

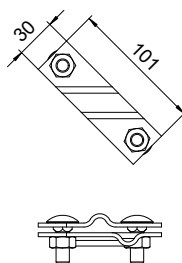
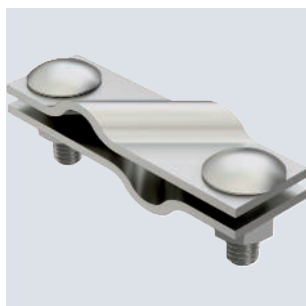


Type	Pack Piece	Weight kg/100 pc.	Item no.
5700 PIP EB	1	38.000	5106050
5700 CIP EB	1	46.000	5106071

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

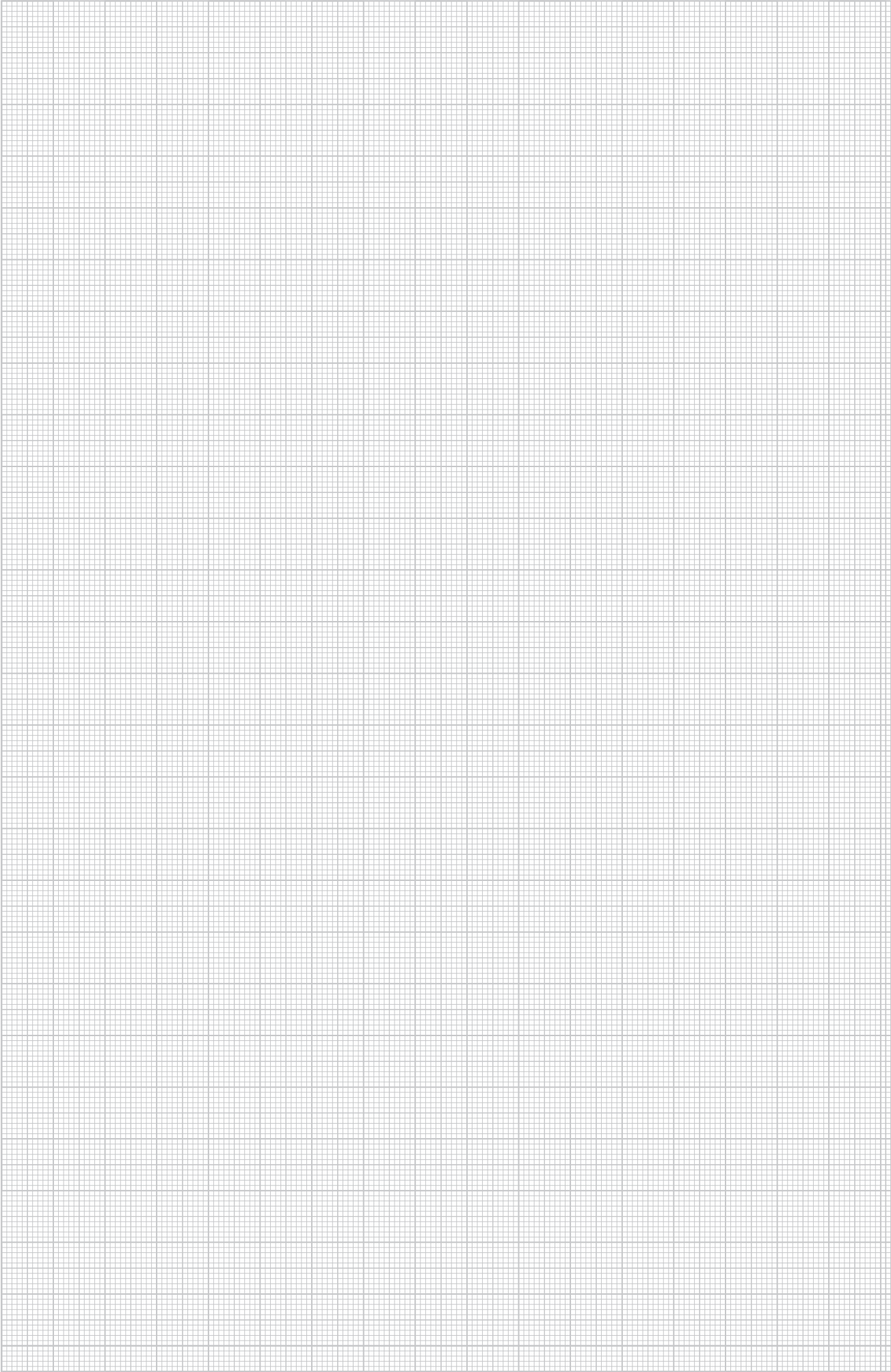
Connection material

Diagonal connector with intermediate plate, for round conductor



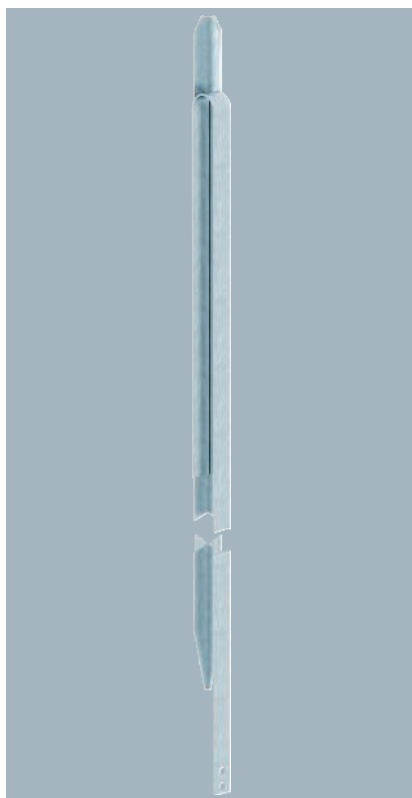
Type	Fit mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
2760 8	Rd 8-10	H/100	5	27.120	5001612

- 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



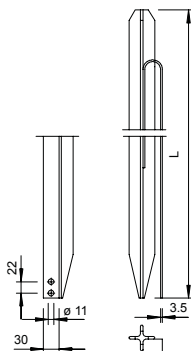
Profile earth rod connection with strip steel lug

St FT



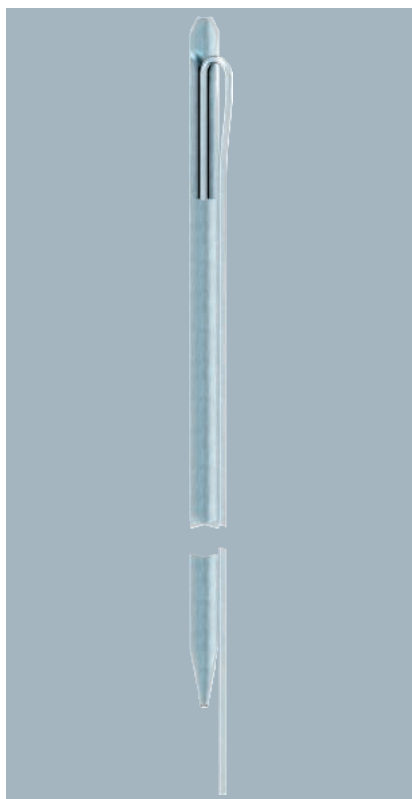
Type	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
213 1500 M	1500	1	527.600	5003261
213 2000 M	2000	1	651.600	5003288
213 2500 M	2500	1	783.800	5003296
213 3000 M	3000	1	899.500	5003318

- With 2 m strip steel section FL 30 x 3.5
- With 2 through holes Ø 11 mm
- For the construction of earthing systems, e.g. antenna or earthing of building site distribution boards



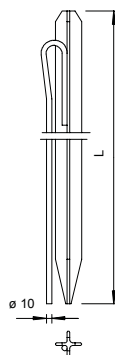
Profile earth rod connection with round conductor lug

St FT



Type	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
213 1500 F	1500	1	486.900	5003776
213 2000 F	2000	1	610.900	5003784

- With 2 m round conductor lugs Rd 10
- For the construction of earthing systems, e.g. antenna or earthing of building site distribution boards

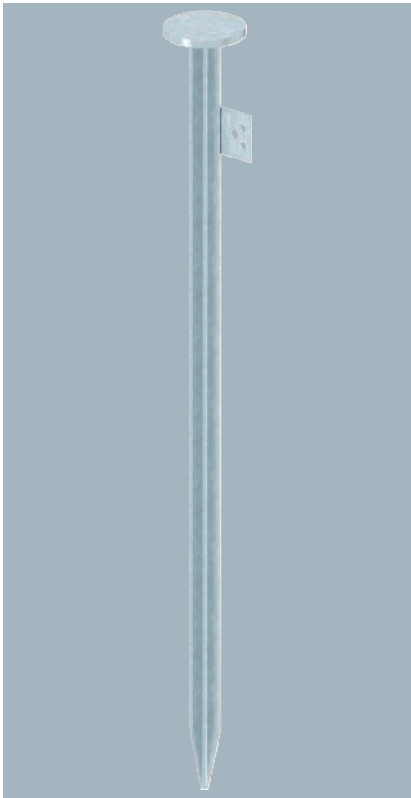
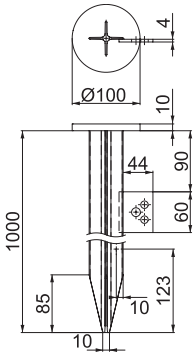


St FT

Profile earth rod with connection strap/hand protection

Type	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
213 1000 DIN HS	1000	5	300.000	5003081

- Cross-profile 50 x 50 x 3 mm
- Hand protection Ø 100 mm
- With connecting strap
- 1 gland hole Ø 13 mm
- 2 gland holes Ø 11 mm
- Round conductor fastening, e.g. with type 5001 DIN-FT possible
- For the construction of earthing systems, e.g. antennas or earthing of building site distribution boards

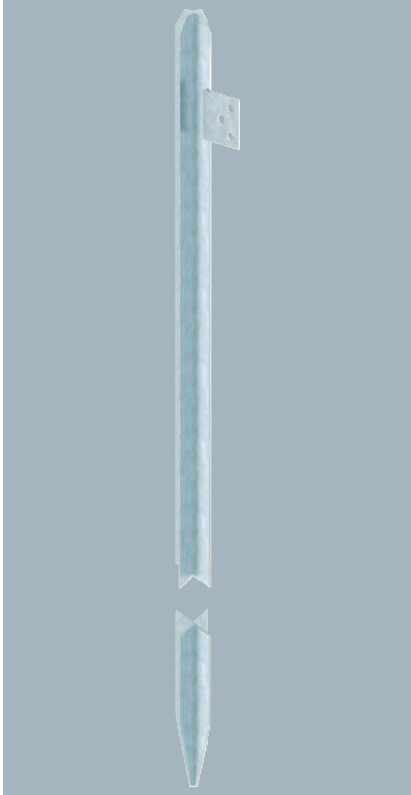
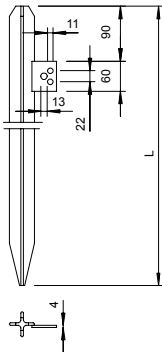


St FT

Profile earth rod with connecting lug

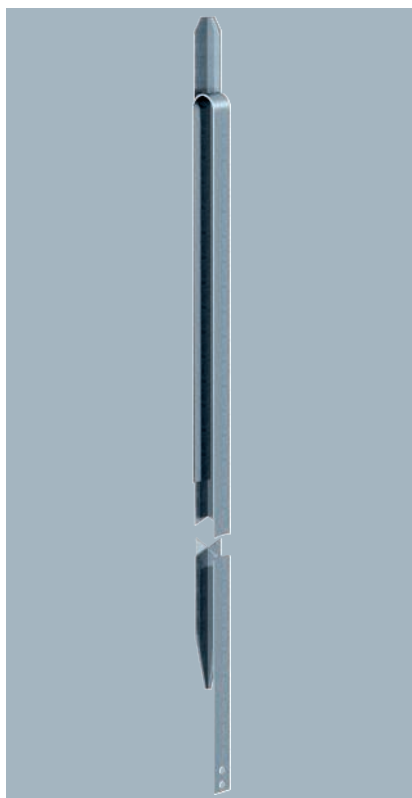
Type	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
213 1000 DIN	1000	1	240.500	5003008
213 1500 DIN	1500	1	364.500	5003016
213 2000 DIN	2000	1	488.400	5003024
213 2500 DIN	2500	1	612.400	5003032
213 3000 DIN	3000	1	736.400	5003040

- Cross-profile 50 x 50 x 3 mm
- With connecting strap
- 1 through hole Ø 13 mm
- 2 through holes Ø 11 mm
- Round conductor fastening, e.g. with type 5001 DIN-FT possible
- For the construction of earthing systems, e.g. antenna or earthing of building site distribution boards



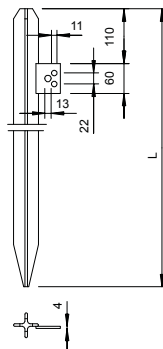
Profile earthing rod with connecting lug

St FT



Type	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
213 750 DIN	750	1	178.500	5002974

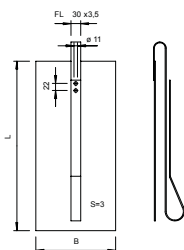
213/....: Profile earth rod connection



Earth plates

Earth plate

St FT

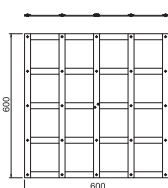
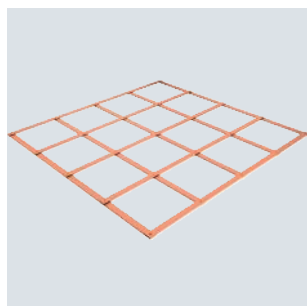


Type	Dimension B x L x S mm	Pack Piece	Weight kg/100 pc.	Item no.
1816 F-500X1000	500x1000x3	1	1,329.300	5009227
1816 F-1000X1000	1000x1000x3	1	2,700.000	5009235

- With 3 m strip steel section FL30 x 3.5
- With 2 attaching holes Ø 11 mm

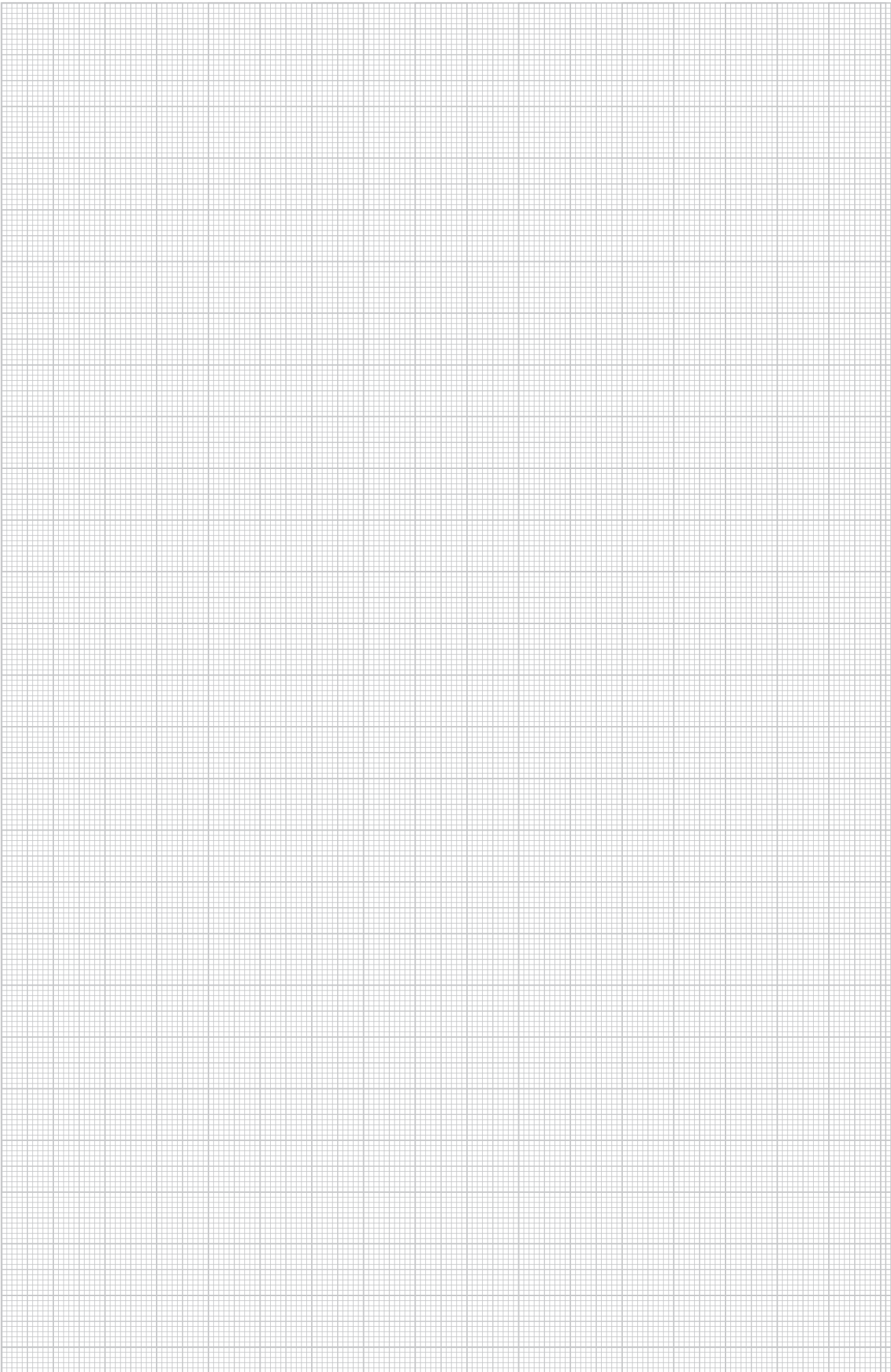
Earth mats

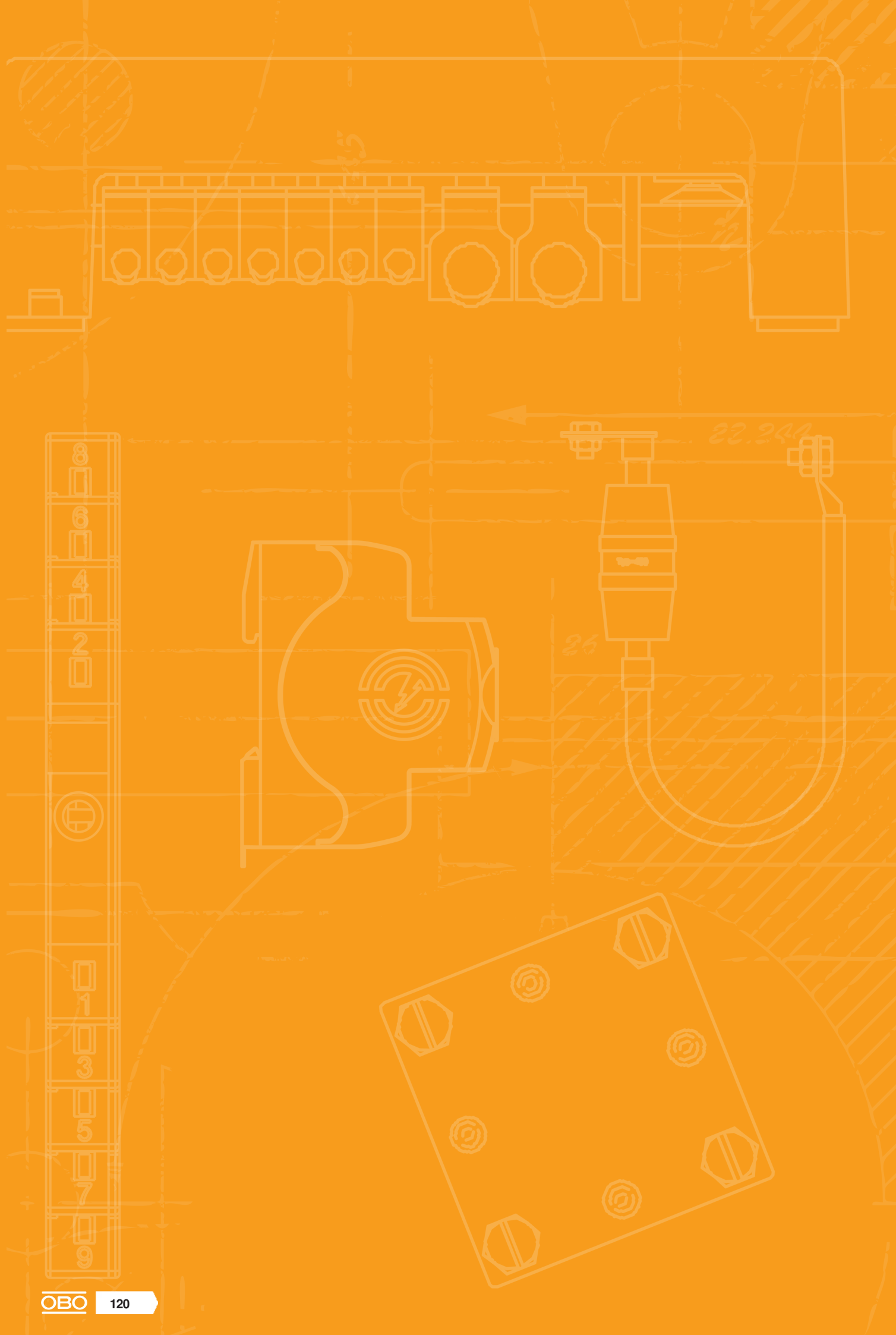
Cu



Type	Length mm	Width mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
1816 CU 6	600	600	3	1	403.000	5009250
1816 CU 9	900	900	3	1	605.000	5009256

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





Air-termination/earth entry rods

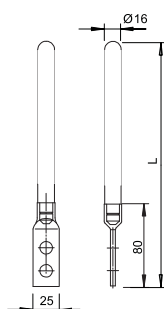
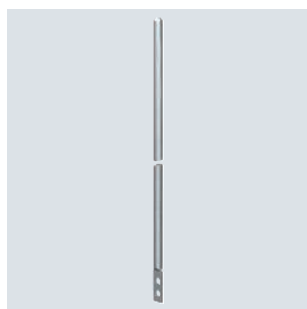


Air-termination/earth entry rods

120

Air-termination/earth entry rod with connection tabs

St FT

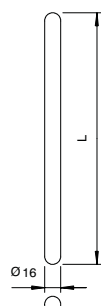
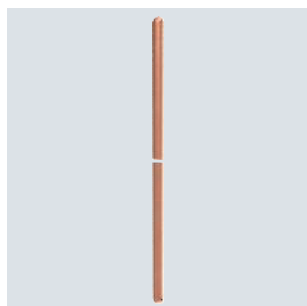


Type	Length mm	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
101 F1500	1500	16	1	240.000	5424151
101 F2000	2000	16	1	320.000	5424208

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

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

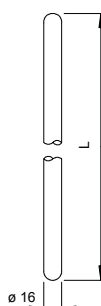
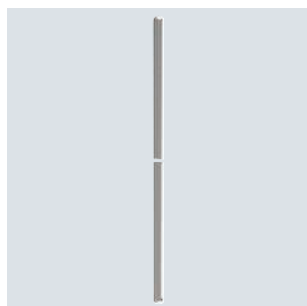
Cu



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

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

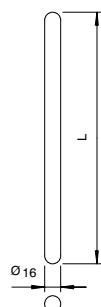
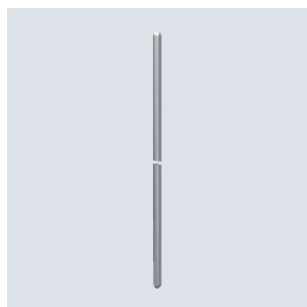


Type	Length mm	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
200 V4A-1500	1500	16	1	242.000	5420504
200 V4A-2000	2000	16	1	320.000	5420539

- Full material Ø 16 mm
- Both ends rounded

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

St FT



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

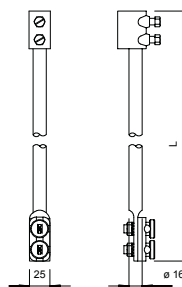
- Full material Ø 16 mm
- Rounded on both ends
- Suitable for FangFix stand system

St FT

Earth entry rod with separating piece and connector

Type	Fit mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
204 KL-1500	Rd 8-10	1500	1	260.700	5430151

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

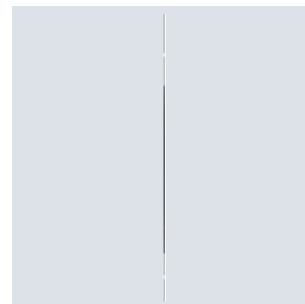


St F

Earth entry rod, tapered and partially insulated

Type	Length mm	Nominal size Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
204 KS-2000	2000	16/10	1	230.000	5430011
204 KS-2500	2500	16/10	1	310.000	5430062

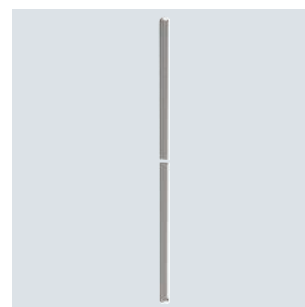
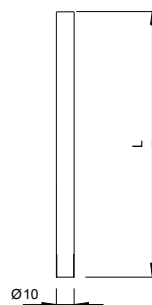
• 16 mm earth entry with 10 mm connection
• With mounted heat-shrinkable sleeve (corrosion protection)

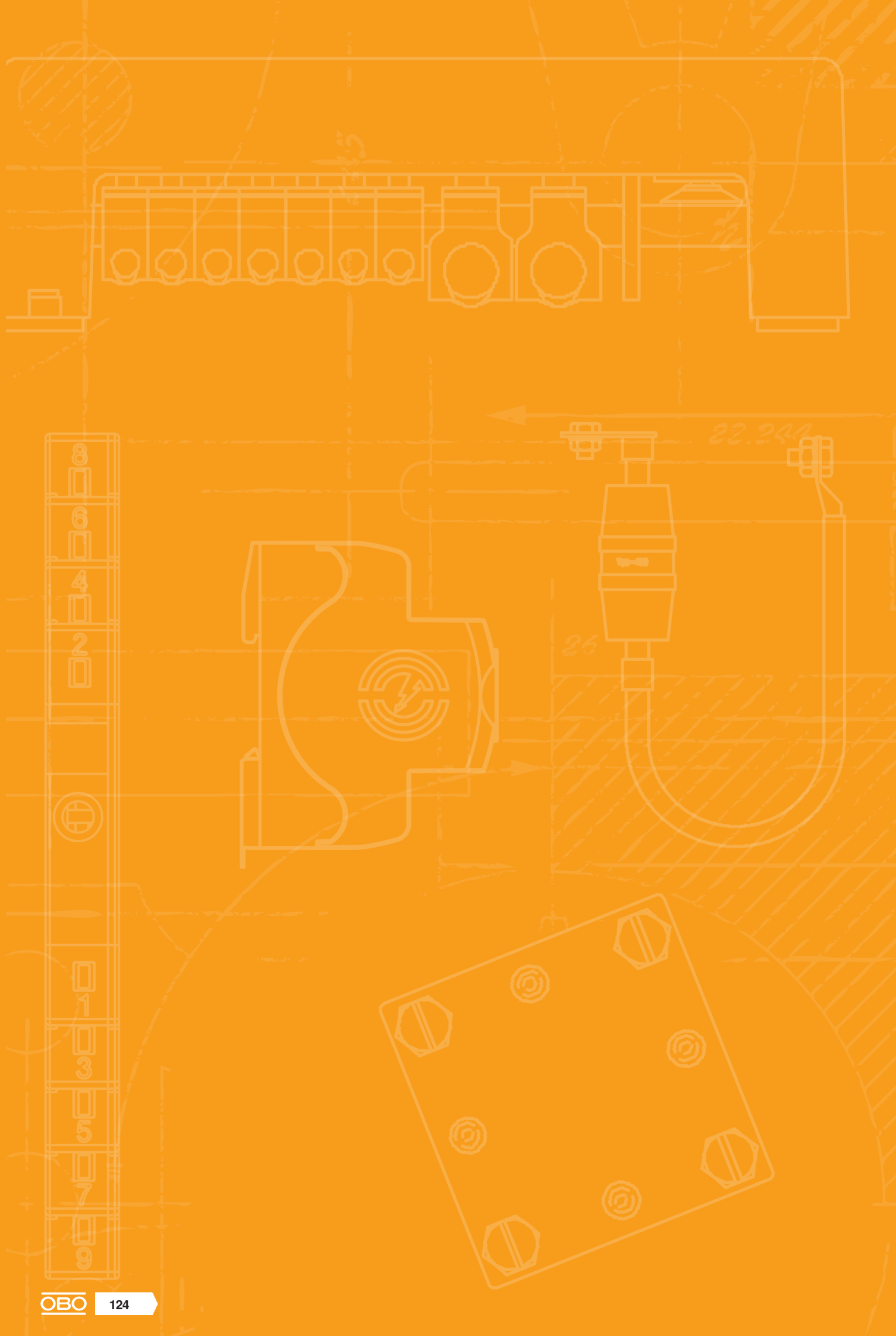


Connection lug/earth entry rod made of stainless steel

Type	Nominal size Ø mm	Cross- section mm²	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
AF RD 10 V4A	10	75	2000	5	123.600	5430720

• 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





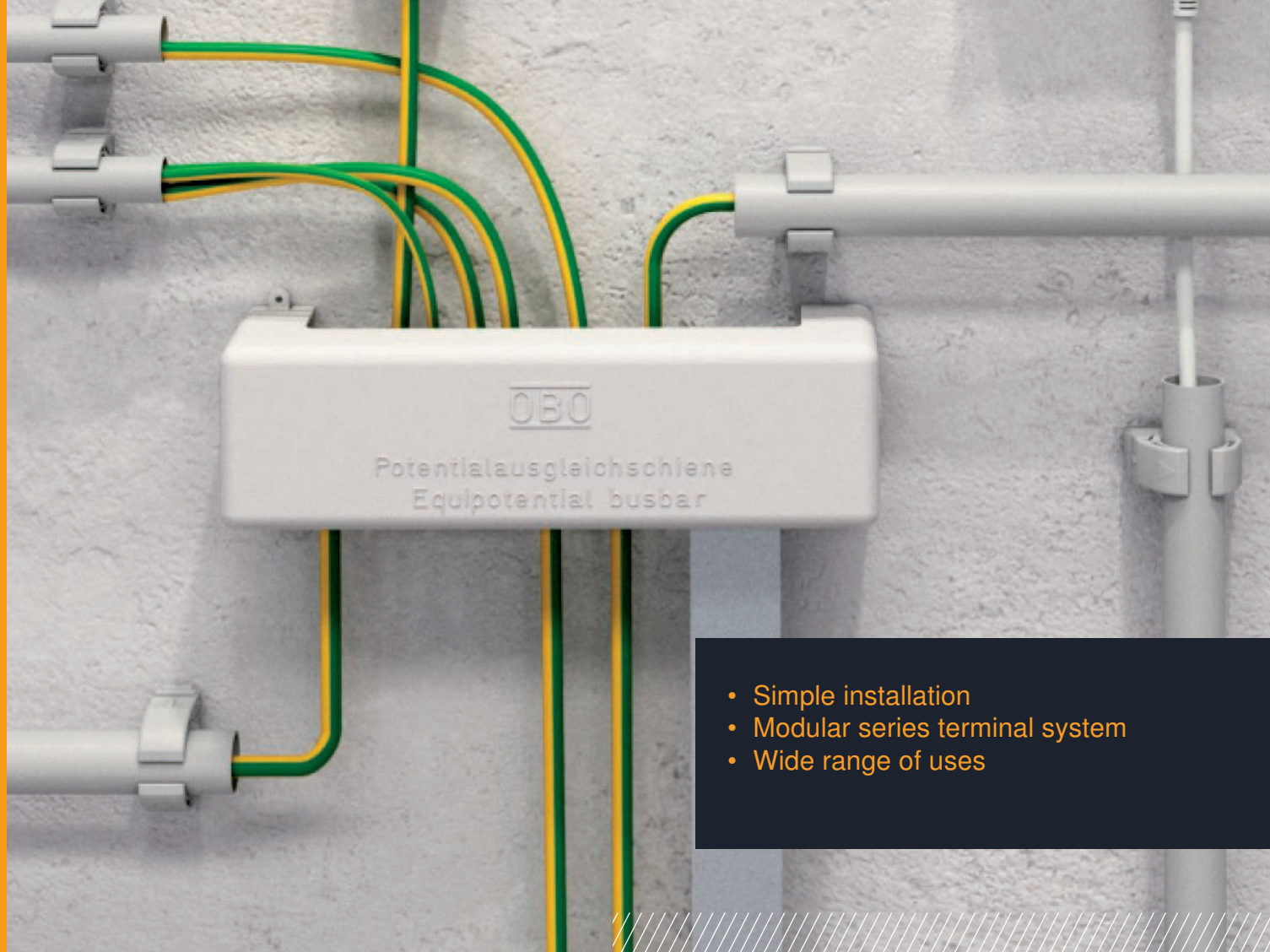
Equipotential busbars



Equipotential busbars

126

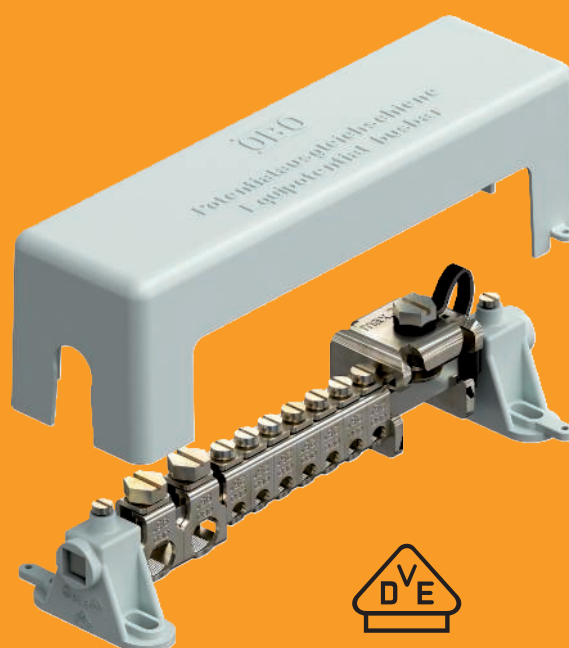




- Simple installation
- Modular series terminal system
- Wide range of uses

Equipotential busbars for indoor use

The equipotential busbars for interior areas are available as a modular, VDE-tested series terminal system 1801 or as a ready-for-installation equipotential busbar 1809 with plastic or metal footplate. The OBO Green 1809 is a solution made from renewable resources. The simple versions of the 1809 and 1804 are available as both surface-mounted and concealed versions. The equipotential busbars are used for the installation of protection and functional equipotential bonding according to DIN VDE 0100-410/540 and the lightning protection equipotential bonding according to VDE 0185-305 (IEC 62305).



Equipotential busbar for indoors, VDE-tested

CuZn
37

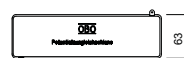
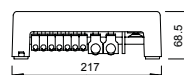
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
1801 VDE	Grey	1	55.000	5015650

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

- According to VDE 0618, Part 1
- With 10 x 10 mm clamping rail made of nickel-plated brass
- With contact-secure series terminals made of electrogalvanised steel
- Cover and rail stands made of grey polystyrene
- Sealable/labellable cover
- Lightning current carrying capacity 100 kA (10/350)
- Tension clamp with screw lock against self-loosening (e.g. required in industry)

Connection options:

- 7 single or multi-wire cables 2.5–25 mm² or fine-wire cables to 16 mm² (max. Ø 7 mm)
- 2 single or multi-wire cable 25–95 mm² or fine-wire cables to 70 mm² (max. Ø 13.5 mm)
- 1 flat conductor 30 x 3.5 mm

CuZn
37

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
1801 12x25 1x95	Grey	1	45.060	5015683

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

- According to VDE 0618, Part 1
- With 10 x 10 mm clamping rail made of nickel-plated brass
- With contact-secure series terminals made of electrogalvanised steel
- Cover and rail stands made of grey polystyrene
- Sealable/labellable cover
- Lightning current carrying capacity 100 kA (10/350)
- Tension clamp with screw lock against self-loosening (e.g. required in industry)

Connection options:

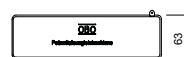
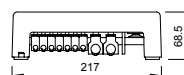
- 7 single or multi-wire cables 2.5–25 mm² or fine-wire cables to 16 mm² (max. Ø 7 mm)
- 2 single or multi-wire cable 25–95 mm² or fine-wire cables to 70 mm² (max. Ø 13.5 mm)
- 1 flat conductor 30 x 3.5 mm

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

- With 10 x 10 mm clamping rail made of nickel-plated brass
- With contact-secure series terminals made of electrogalvanised steel
- Cover and rail stands made of grey polystyrene
- Sealable/labellable cover
- Lightning current carrying capacity 100 kA (10/350)
- Tension clamp with screw lock against self-loosening (e.g. required in industry)

Connection options:

- 12 single or multi-wire cables 2.5–25 mm² or fine-wire cables to 16 mm² (max. Ø 7 mm)
- 1 single or multi-wire cable 25–95 mm² or fine-wire cable to 70 mm² (max. Ø 13.5 mm)

CuZn
37

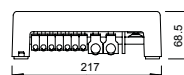
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
1801 FIN	–	1	55.000	5015680

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

- According to VDE 0618, Part 1
- With 10 x 10 mm clamping rail made of nickel-plated brass
- With contact-secure series terminals made of electrogalvanised steel
- Cover and rail stands made of grey polystyrene
- Sealable/labellable cover
- Lightning current carrying capacity 100 kA (10/350)
- Tension clamp with screw lock against self-loosening (e.g. required in industry)

Connection options:

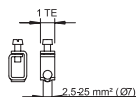
- 7 single or multi-wire cables 2.5–25 mm² or fine-wire cables to 16 mm² (max. Ø 7 mm)
- 2 single or multi-wire cable 25–95 mm² or fine-wire cables to 70 mm² (max. Ø 13.5 mm)
- 1 flat conductor 30 x 3.5 mm



Equipotential busbar for indoors

Round conductor terminal to 25 mm² for 1801 VDE

St G

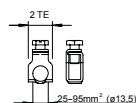


Type	Connection option	Pack Piece	Weight kg/100 pc.	Item no.
1801 RK25	2.5–25 mm ²	10	1.323	5015758

- For single or multi-wire cables 2.5–25 mm²
- For fine-wire cables to 16 mm² (max. Ø 7 mm)
- 1 division unit
- Lightning current carrying capacity 100 kA (10/350)
- Electrogalvanised steel
- Tension clamp with screw lock against self-loosening (e.g. required in industry and in explosion-protected areas)

Round conductor terminal from 25 mm² for 1801 VDE

St G

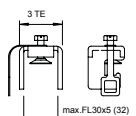


Type	Connection option	Pack Piece	Weight kg/100 pc.	Item no.
1801 RK95	25–95 mm ²	10	4.700	5015766

- For single or multi-wire cables 25–95 mm²
- For fine-wire cables to 70 mm² (max. Ø 13.5 mm)
- 2 division units
- Lightning current carrying capacity 100 kA (10/350)
- Electrogalvanised steel
- Tension clamp with screw lock against self-loosening (e.g. required in industry and in explosion-protected areas)

Flat conductor terminal to FL 30 for 1801 VDE

St G

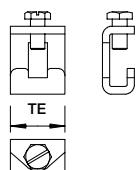


Type	Connection option	Pack Piece	Weight kg/100 pc.	Item no.
1801 RK30	FL 30 x 5	1	10.643	5015731

- For flat conductors to FL 30 and thickness to 5 mm
- Captive design with plastic safety strap
- 3 division units
- Lightning current carrying capacity 100 kA (10/350)
- Electrogalvanised steel

Flat conductor terminal from FL 30 for 1801 VDE

St G

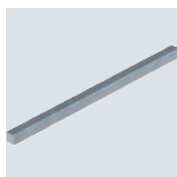


Type	Connection option	Pack Piece	Weight kg/100 pc.	Item no.
1801 RK40	FL 40 x 5	1	7.300	5015774

- For flat conductors from FL 30
- 2 terminals always required for each flat conductor connection
- Lightning current carrying capacity 100 kA (10/350)
- Electrogalvanised steel

Contact strip for 1801 VDE

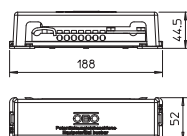
CuZn 37



Type	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
1801 KL1	212	1	18.000	5015723
1801 KL2	430	1	36.000	5015804
1801 KL3	645	1	54.000	5015812

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

Equipotential busbar OBO Green



Lightning current carrying capacity kA		Pack Piece	Weight kg/100 pc.	Item no.
Type	H/100	1	22.300	5015075

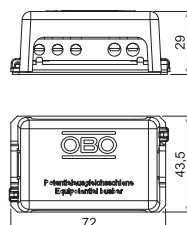
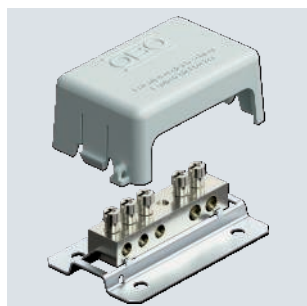
The OBO Green equipotential busbar is a solution manufactured from cellulose acetate CA for the installation of the equipotential bonding according to DIN VDE 0100-410/-540 and lightning protection equipotential bonding according to DIN VDE 0185-305. The basic material is widely used in the paper industry.

- Base plate and cover hood made of CA, white
- Sealable and labellable cover
- Contact strip made of nickel-plated brass
- Bolts and crossbar made of electrogalvanised steel
- Capable of carrying lightning current 100 kA (10/350)

Connection options:

- 7x single or multi-wire cables to 25 mm² or fine-wire cables to 16 mm²
- 1x round conductor Rd 8–10
- 1x flat strip to FL 30 or round conductor Rd 8–10

Equipotential busbar for small systems



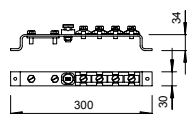
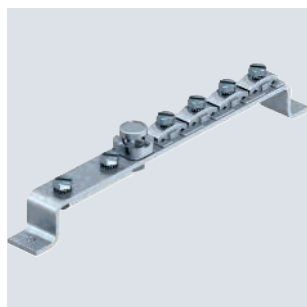
Type	Colour	Length mm	Width mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
1809 BG	Grey	72	43.5	29	1	9.000	5015502

- Cover made of polystyrene, grey
- Sealable/labellable
- Base plate made of strip galvanised steel
- Contact strip and screws made of nickel-plated brass

Connection options:

- 3 x multi-core cables to 6 mm²
- 2 x multi-core cables to 16 mm²

Equipotential busbar, simple version



Type	Pack Piece	Weight kg/100 pc.	Item no.
1808	1	67.000	5015014

- Clamp and crossbar, electrogalvanised steel
- Clamping element and contact strip, brass, screws, hot dipped galvanised steel

Connection options:

- 8 x cables to 25 mm²
- 1 x round conductor Rd 8-10
- 1 x flat conductor to FL 40

CuZn
37

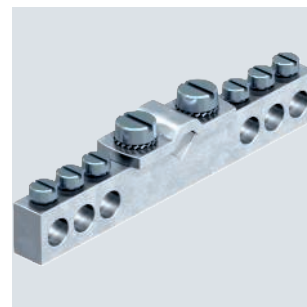
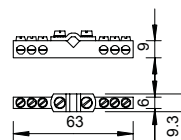
Equipotential busbar for bathrooms

Type	Pack Piece	Weight kg/100 pc.	Item no.
1804	5	2.963	5015553

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

Connection options:

- 6 cables 1.5–10 mm²
- 1 cable 6–16 mm²



PE

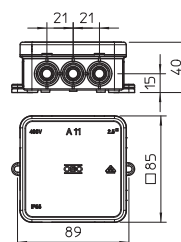
Equipotential busbar 1804 for surface mounting

Type	Pack Piece	Weight kg/100 pc.	Item no.
1804 AP	10	8.077	5015557

- Mounted equipotential busbar 1804 in junction box
- Pre-marked junction box for inserting required cables and covers

Connection options:

- 6x cables 1.5–10 mm²
- 1x cable 6–16 mm²



CuZn
37



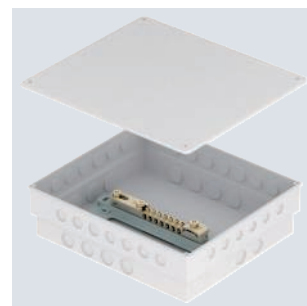
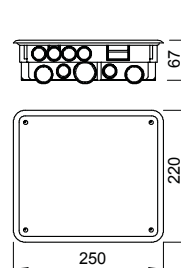
Equipotential busbar 1809 for concealed mounting

Type	Pack Piece	Weight kg/100 pc.	Item no.
1809 UP	1	74.500	5015065

- Mounted equipotential busbar 1809 (without cover hood) in concealed housing
- Pre-marked concealed housing for inserting required cables and cover

Connection options:

- 7x cables up to 25 mm²
- 1 round conductor Rd 8–10
- 1 flat conductor up to FL 30 or round conductor Rd 8–10



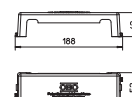
PS



Cover hood for 1809

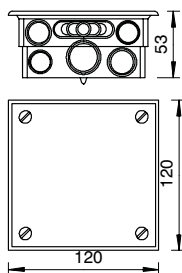
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
1809 30 AH	Grey	1	3.700	5015200

- Replacement cover hood for equipotential busbar, type 1809



Equipotential busbar 1804 for concealed mounting

CuZn
37



Type	Pack Piece	Weight kg/100 pc.	Item no.
1804 UP	5	20.700	5015545

- Mounted equipotential busbar 1804 in concealed housing
- Pre-marked concealed housing for inserting required cables and covers

Connection options:

- 6x cables 1.5–10 mm²
- 1x cable 6–16 mm²



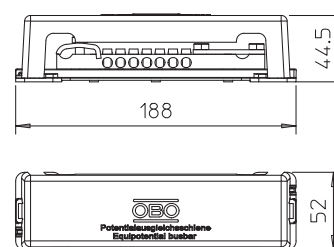
Equipotential busbars for outdoor areas

The equipotential busbar for outdoor areas, 1809 A, is used for installation of the protection and functional equipotential bonding according to DIN VDE 0100-410/540 (IEC 60364-4-41,-5-54) and the lightning protection equipotential bonding according to VDE 0185-305 (IEC 62305). Thanks to corrosion-resistant and UV-stabilised materials, the equipotential busbar is suitable for both outdoor areas and systems in aggressive environments.

- UV-stabilised
- Corrosion-resistant
- Simple installation
- Sealable
- Labelling in the cover



Equipotential busbar for outside installation



Type	Colour	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
1809 A	Black	IN/50	1	24.210	5015111

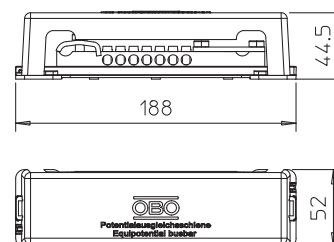
Equipotential busbar for equipotential bonding according to DIN VDE 0100-410/-540 and lightning protection equipotential bonding according to DIN VDE 0185-305

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

Connection options:

- 7 x single or multi-core cables to 25 mm² or fine-core cables to 16 mm²
- 1 x round conductor Rd 8-10
- 1 x flat strip to FL30 or round conductor Rd 8-10

Equipotential busbar for outside installation, metal base plate



Type	Colour	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
1809 AM	Black	IN/100	1	23.000	5015105

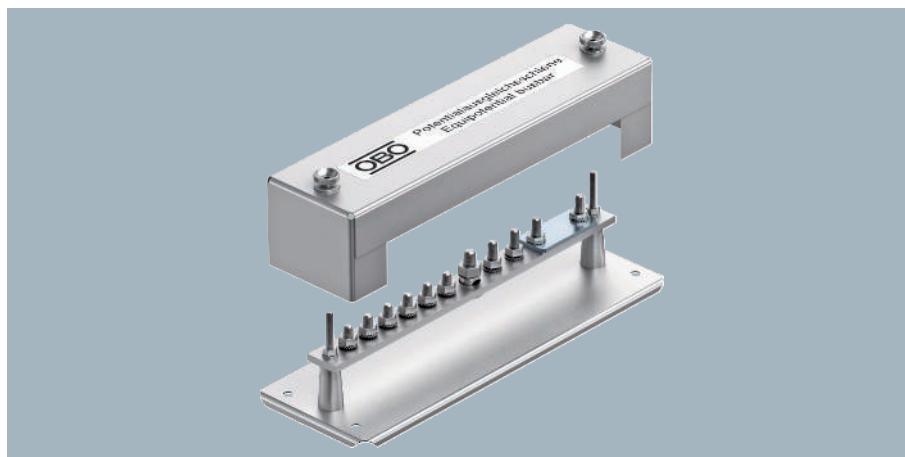
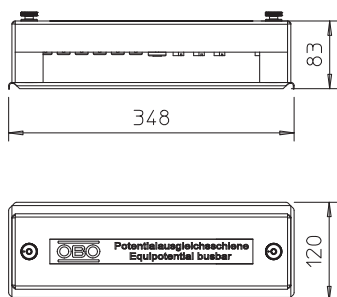
Equipotential busbar for equipotential bonding according to DIN VDE 0100-410/-540 and lightning protection equipotential bonding according to DIN VDE 0185-305

- Cover hood made of polystyrene
- Base plate made of steel, zinc-iron surface
- Colour: Black, UV-resistant
- Screws and crossbar made of VA
- Capable of carrying lightning current 100 kA (10/350)

Connection options:

- 7 single or multi-wire cables to 25 mm² or fine-wire cables to 16 mm²
- 1 round conductor Rd 8-10
- 1 flat strip to FL30 or round conductor Rd 8-10

Equipotential busbar, solid version



- Base plate and screw-on cover made of strip-galvanised steel
- Sealable / labellable cover
- Contact strip made of strip-galvanised steel
- Screws and crossbar made of steel, hot-dip galvanised or electrogalvanised

Connection options:

- 6 cables 6-16 mm²
- 1 round conductor Rd 8-10
- 1 flat conductor to FL 40
- 2 cable shoe M8

Type

1810

Pack Weight
Piece kg/100 pc.

1

170.000

Item no.

5015057

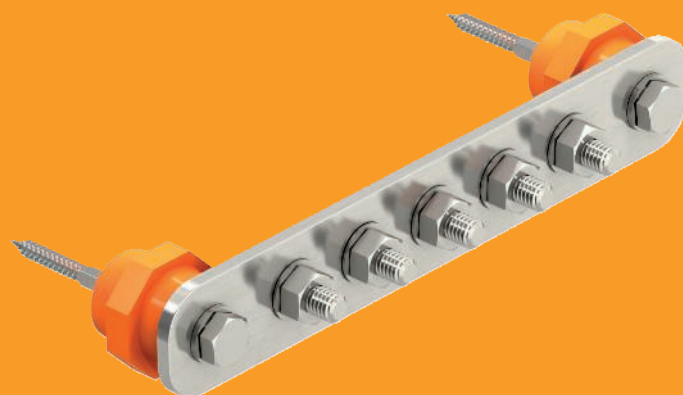




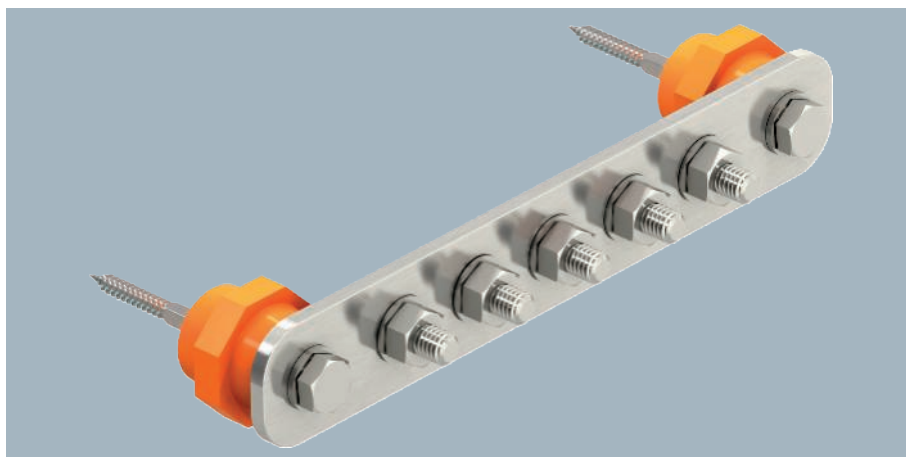
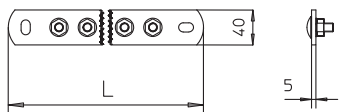
- Corrosion-resistant
- UV-stabilised
- Quick and easy mounting

Equipotential busbars for industrial use

The equipotential busbars for industry, BigBar 1802 and 1805, are used for the installation of protection and functional equipotential bonding according to DIN VDE 0100-410/540 (IEC 60364-4-41,-5-54) and the lightning protection equipotential bonding according to VDE 0185-305 (IEC 62305). Due to the combination of corrosion resistant materials and their simple installation, the equipotential busbars are especially suitable for use in the industrial sector. The stainless steel (V4A, 1.4571, 316 Ti) variants of the 1805 can be used in a wide range of applications thanks to the fastening holes with their 11 mm diameter.



Equipotential busbar BigBar for industrial application

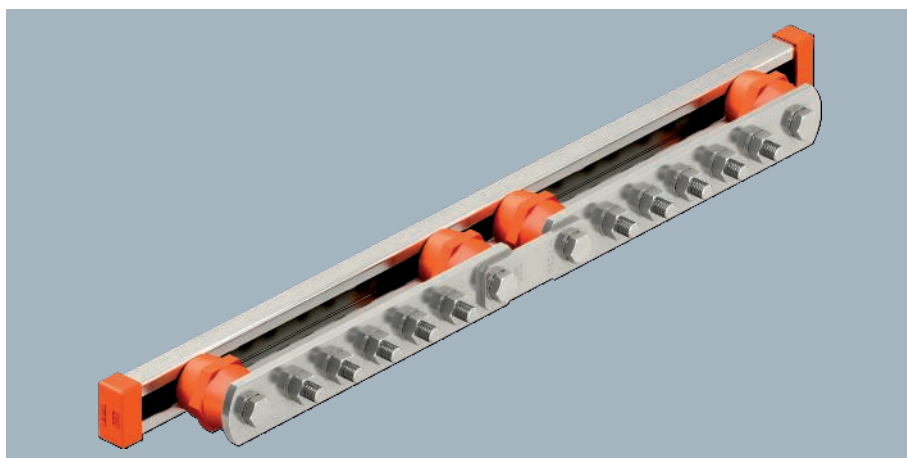
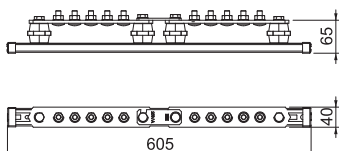


- Main potential equalisation to VDE 0100 Part 410 and Part 540, and also lightning protection potential equalisation to VDE 0185-305 (IEC 62305)
- Insulation feet
- Quick, simple assembly of connection conductors to the contact rail using lock bolts M10
- The high-grade stainless steel versions (V2A) are suitable for outdoor use
- Complete with anchors and bolts for wall mounting
- With lock washer (DIN 137) for bolt locking against loosening (e.g. required in industry and explosion-protected areas)

Type	Number of connections	Width mm	Length mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
1802 5 VA	5	40	246	5	1	90.000	5015854
1802 10 VA	10	40	408.5	5	1	138.210	5015866



Equipotential busbar for flexible wall mounting with separation point



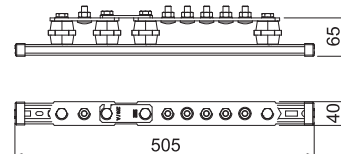
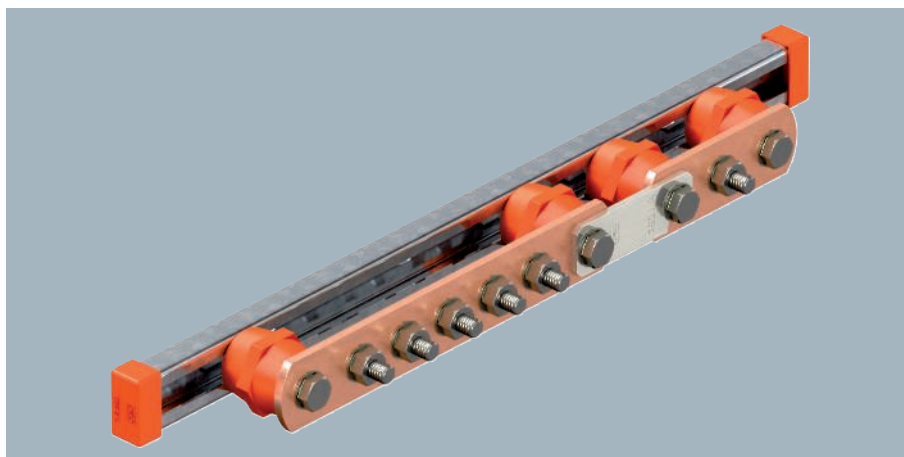
- Main potential equalisation to VDE 0100 Part 410 and Part 540, and also lightning protection potential equalisation to VDE 0185-305 (IEC 62305)
- Insulation feet
- Quick, simple assembly of connection conductors to the contact rail using lock bolts M10
- The high-grade stainless steel versions (V2A) are suitable for outdoor use
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- With lock washer (DIN 137) for bolt locking against loosening (e.g. required in industry and explosion-protected areas)

Type	Number of connections	Width mm	Length mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
1802 DC 5+5 VA	10	40	605	85	1	237.000	5015876



Equipotential busbar for flexible wall mounting with separation point

Cu



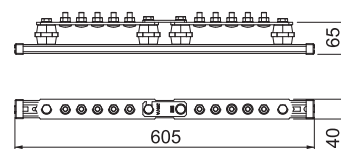
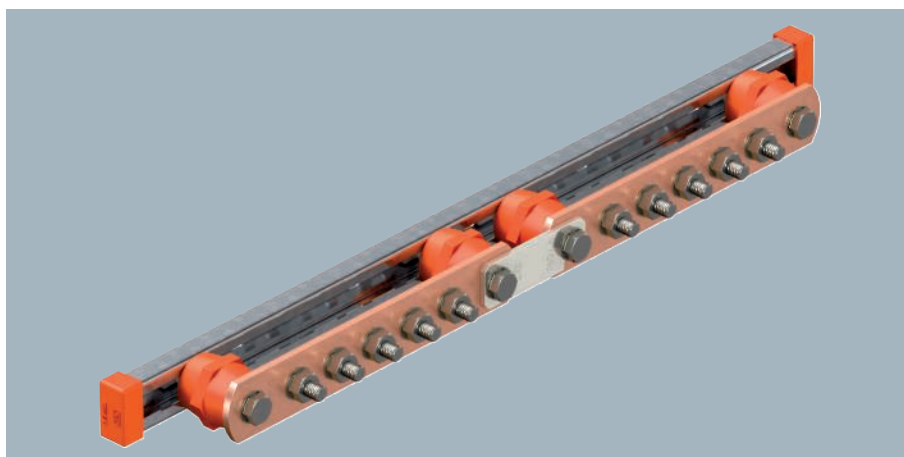
Type	Number of connections	Width mm	Length mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
1802 DC 5+1 CU	6	40	505	85	1	209.000	5015870

Main equipotential busbar to VDE 0100 Part 410 and Part 540, and also lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)

- Insulation feet
- Quick, simple mounting of connection cables using lock bolts M10
- Complete with anchors and bolts for wall mounting
- With lock washer (DIN 137) for bolt locking against loosening (e.g. required in industry and explosion-protected areas)

Equipotential busbar for flexible wall mounting with separation point

Cu



Type	Number of connections	Width mm	Length mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
1802 DC 5+5 CU	10	40	605	85	1	251.000	5015874

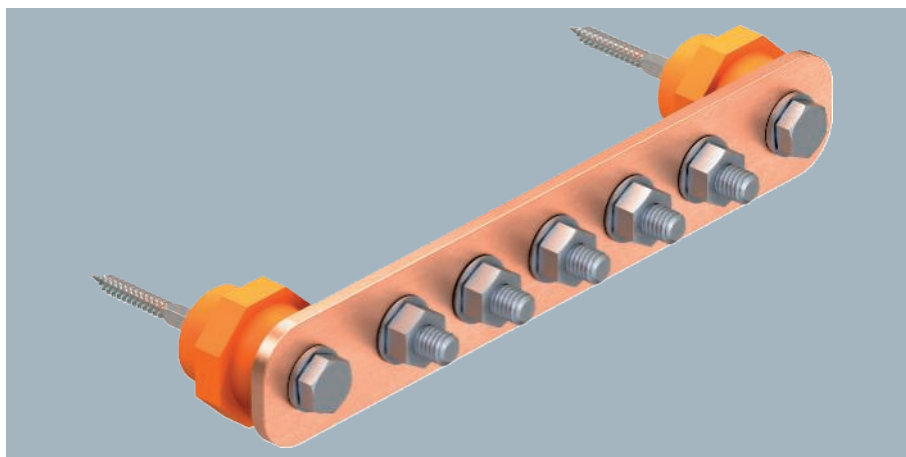
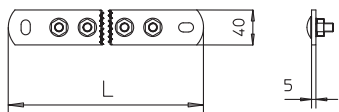
Main equipotential busbar to VDE 0100 Part 410 and Part 540, and also lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)

- Insulation feet
- Quick, simple mounting of connection cables using lock bolts M10
- Complete with anchors and bolts for wall mounting
- With lock washer (DIN 137) for bolt locking against loosening (e.g. required in industry and explosion-protected areas)

Cu



Equipotential busbar BigBar for industrial applications



Main equipotential busbar to VDE 0100 Part 410 and Part 540, and also lightning protection equipotential bonding to VDE 0185-305 (IEC 62305)

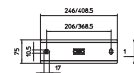
- Insulation feet
- Quick, simple mounting of connection cables using lock bolts M10
- Complete with anchors and bolts for wall mounting
- With lock washer (DIN 137) for bolt locking against loosening (e.g. required in industry and explosion-protected areas)

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

Cover for BigBar equipotential busbar

Type	Number of connections	Pack Piece	Weight kg/100 pc.	Item no.
1802 AH 5	5	1	25.800	5015880
1802 AH 10	10	1	34.299	5015884

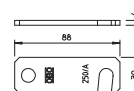
- Complete with all mounting components
- Labellable



Crossbar for equipotential busbar

Type	Pack Piece	Weight kg/100 pc.	Item no.
1802 KL	1	7.000	5015890

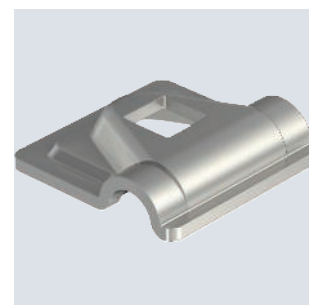
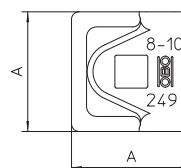
- To clamp the flat conductors 30 x 3.5 and 40 x 5
- Suitable for equipotential busbar BigBar, type 1802



Quick connector, upper part Rd 8–10 mm

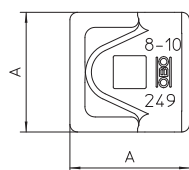
Type	Fit mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 VA-OT	Rd 8-10	40	100	3.130	5311554

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



Quick connector, upper part Rd 8–10 mm

Cu

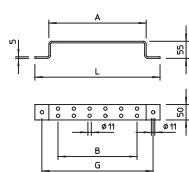
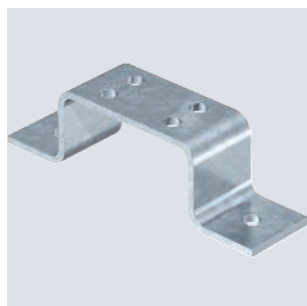


Type	Fit mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 CU-OT	Rd 8-10	40	100	3.580	5311530

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

Earthing connection bar

St FT

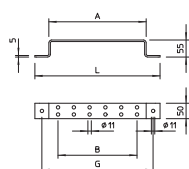


Type	Dim. L mm	Dim. A mm	Dim. B mm	Dim. G mm	Pack Piece	Weight kg/100 pc.	Item no.
1805 2 FT	200	110	51	155	1	54.800	5016029
1805 4 FT	302	212	153	257	1	77.000	5016037
1805 6 FT	404	314	255	359	1	97.100	5016045

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

Earthing connection bar

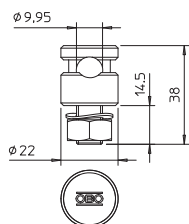


Type	Dim. L mm	Dim. A mm	Dim. B mm	Dim. G mm	Pack Piece	Weight kg/100 pc.	Item no.
1805 2 VA	200	110	51	155	1	54.800	5016096
1805 4 VA	302	212	153	257	1	77.000	5016118
1805 6 VA	404	314	255	359	1	97.100	5016126

1805/...: For connecting different earthing systems

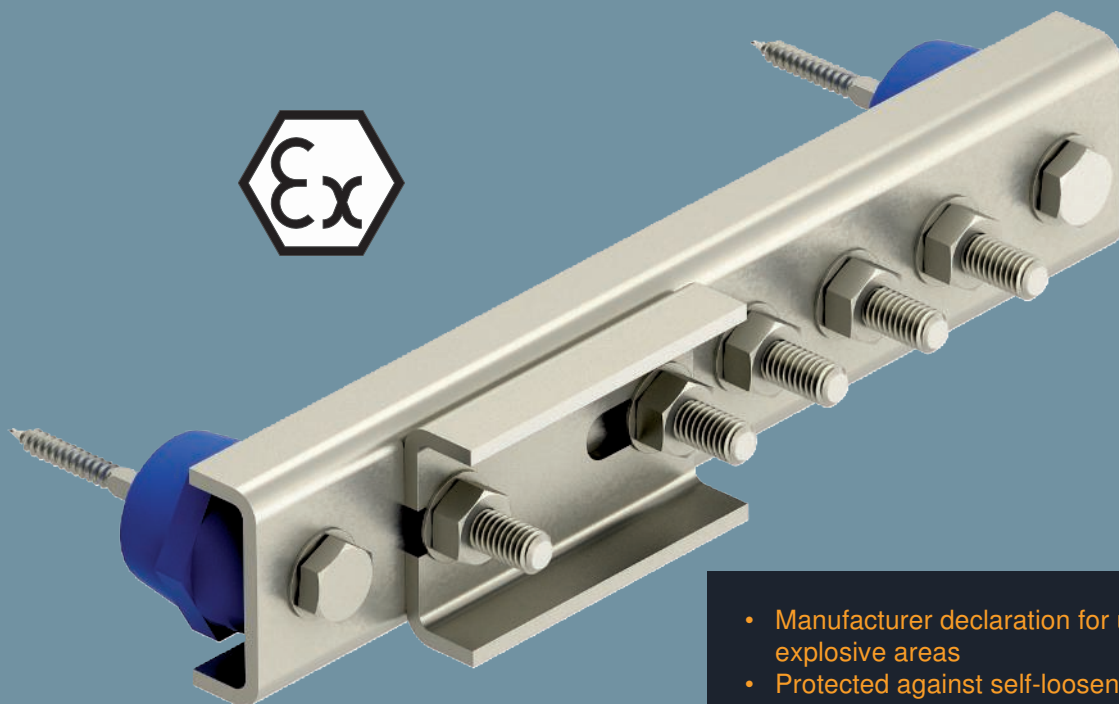
- With 2 mounting holes Ø 11 mm
- 1805/2: With 4 attaching holes
- 1805/4: With 8 attaching holes
- 1805/6: With 12 attaching holes

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-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)



- Manufacturer declaration for use in potentially explosive areas
- Protected against self-loosening
- UV-stabilised and halogen-free insulation feet
- For single, multi and fine-wire connection cables and flat conductors
- Suitable for FT, VA, CU and AL material
- Corrosion-resistant

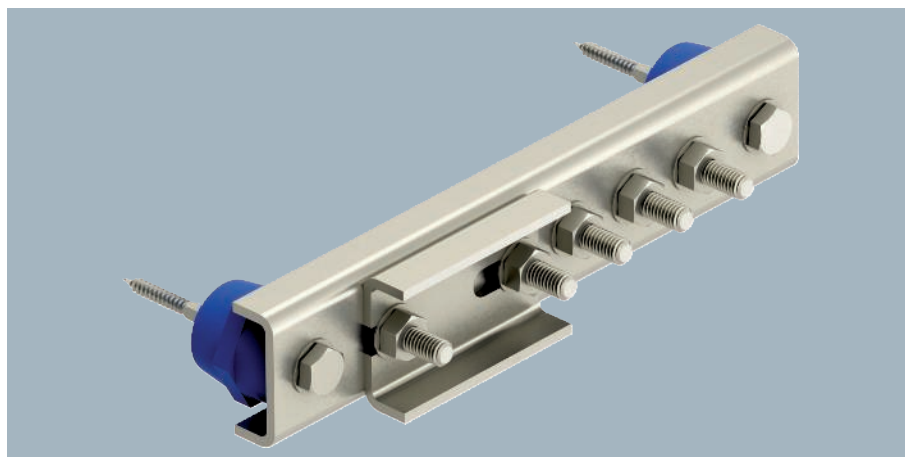
Equipotential busbars for Ex areas

The lightning protection components for equipotential bonding in Ex areas can be used as part of the erection according to VDE 0165 Part 1 (IEC 60079-14) and VDE 0185-305-3 (IEC 62305-3). They are secured against self-loosening in accordance with VDE 0185-305-3 Supplementary sheet 2 (DIN EN 62305-3 Supplementary sheet 2). The equipotential busbars are used for lightning protection equipotential bonding according to VDE 0185-305-3 (IEC 62305-3) and protective/functional equipotential bonding according to DIN VDE 0100 Part 410/540 (IEC 60364-4-41,-5-54). The Vario quick connectors and the connectors with pressure

trough are connected with lightning current carrying capacity according to VDE 0185-305-3 (IEC 62305-3) and VDE 0185-561-1 (IEC 62561-1). The components are suitable for use in potentially explosive areas of Zone 2 (gases, vapours, mist) as well as Zone 22 (dusts). They do not possess their own potential source of ignition and thus cannot be evaluated according to the European Directive 2014/34/EU. This means that an approval according to the European Directive 2014/34/EU is not legally possible and also not required in the context of explosion protection.



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

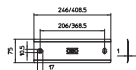


Type	Number of connections	Length mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
EX PAS 5	5	279	H/100	1	152.000	5015265
EX PAS 10	10	441	H/100	1	214.000	5015270

For ignition spark-free protection/functional equipotential bonding to DIN VDE 0100-410/-540 as well as ignition spark-free lightning protection equipotential bonding to VDE 0185-305 (IEC 62305) in systems to VDE 0165-1 (IEC/ EN 60079-14)

- Use in potentially explosive areas, Ex zone 1 and 2/21 and 22
- Tested according to explosion group IIC
- Lightning current carrying capacity class H (100 kA) to VDE 0185-561-1 (IEC/EN 62561-1)
- UV-stabilised and halogen-free insulation feet
- With spring washer for locking screws against self-loosening to VDE 0185-305-3 Supplementary sheet 2
- Suitable for indoor and outdoor applications

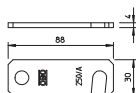
Cover for BigBar equipotential busbar



Type	Number of connections	Pack Piece	Weight kg/100 pc.	Item no.
1802 AH 5	5	1	25.800	5015880
1802 AH 10	10	1	34.299	5015884

- Complete with all mounting components
- Labellable

Crossbar for equipotential busbar



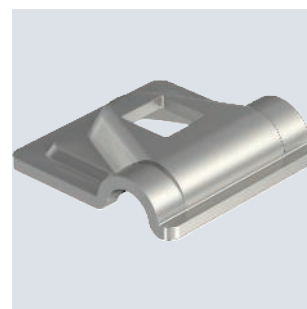
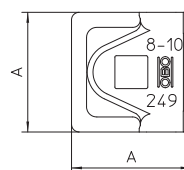
Type	Pack Piece	Weight kg/100 pc.	Item no.
1802 KL	1	7.000	5015890

- To clamp the flat conductors 30 x 3.5 and 40 x 5
- Suitable for equipotential busbar BigBar, type 1802

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 VA-OT	Rd 8-10	40	100	3.130	5311554

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

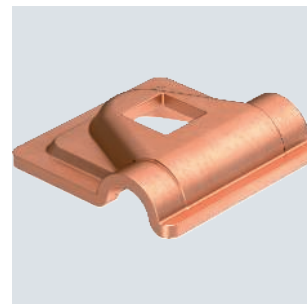
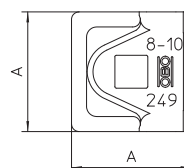


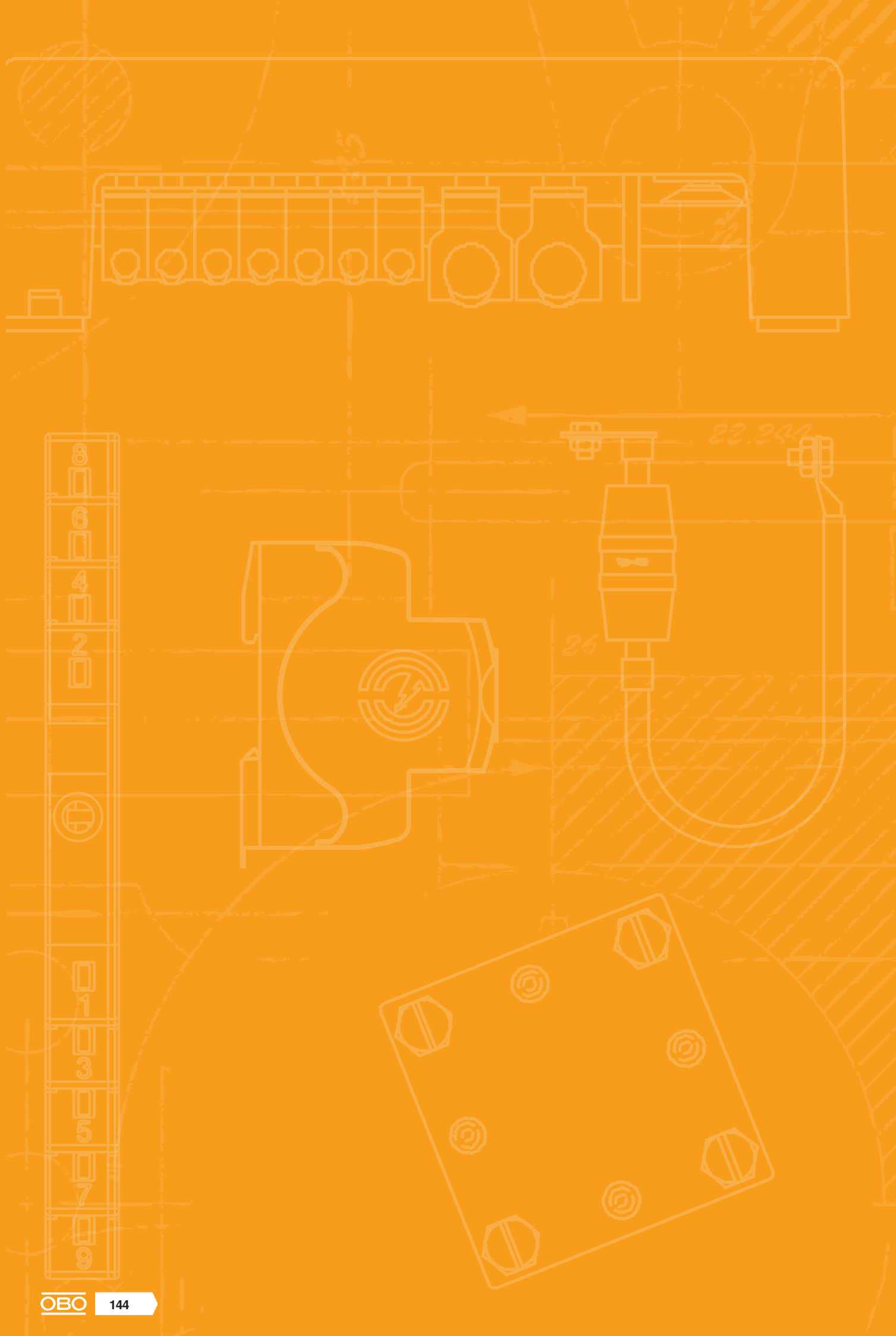
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Quick connector, upper part Rd 8–10 mm

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





Earthing clamps and earthing terminals



Earthing clamps

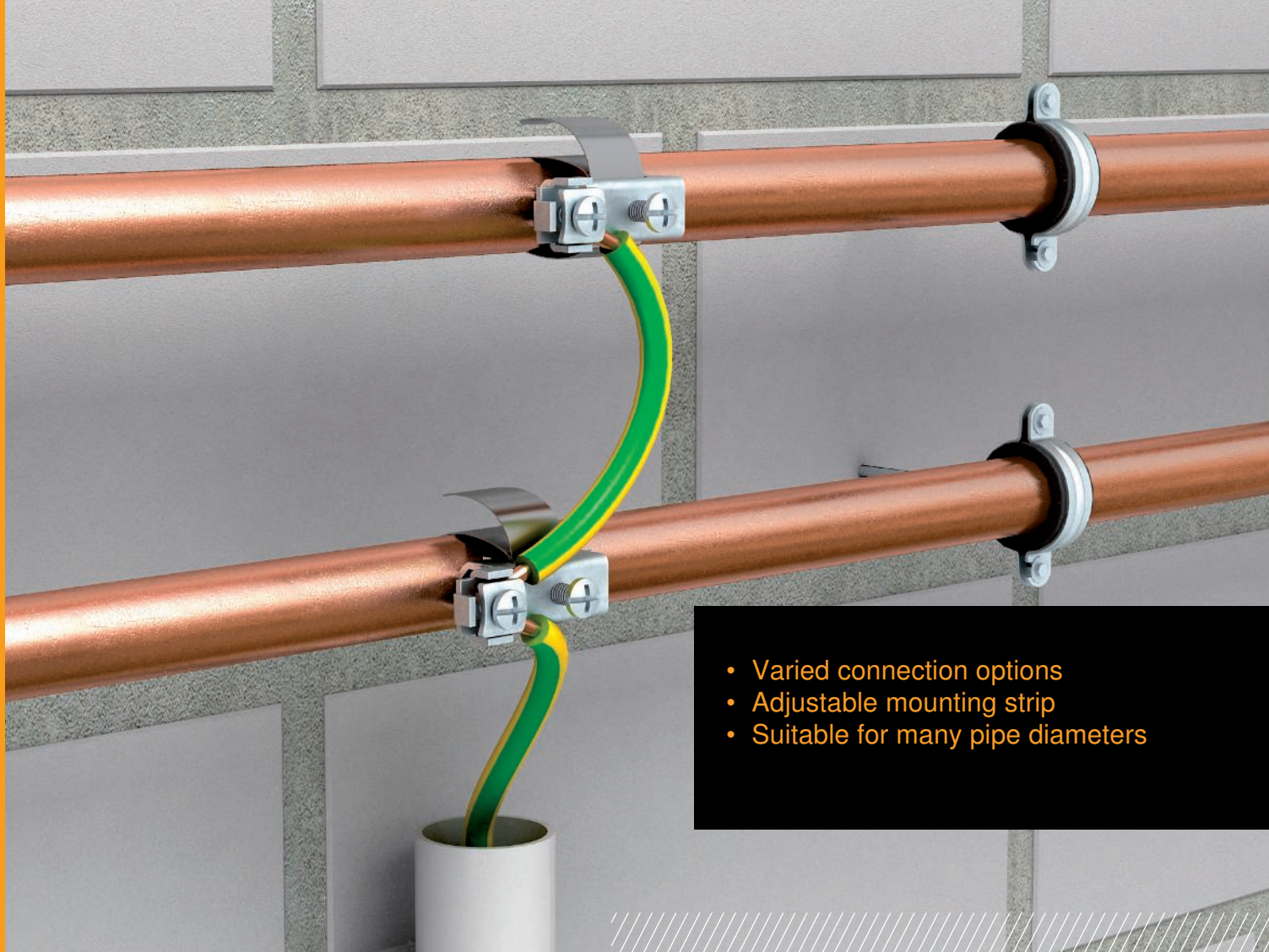
146



Earthing terminals

152

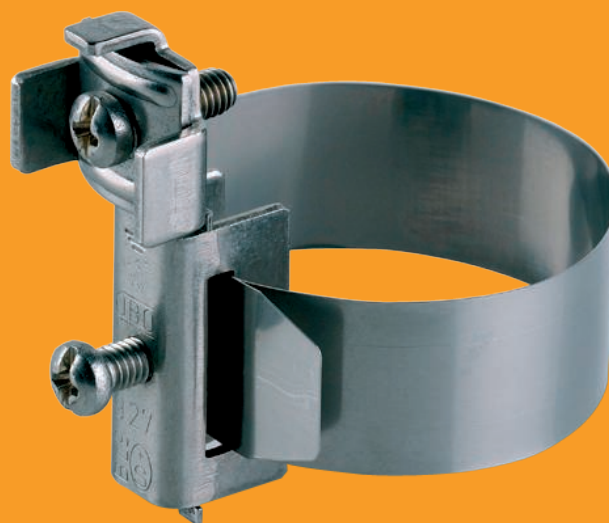




- Varied connection options
- Adjustable mounting strip
- Suitable for many pipe diameters

Earthing pipe clamps

Each system has different environmental and normative requirements relating to equipotential bonding. To implement equipotential bonding correctly, it is therefore necessary to select the right components to use. Equipotential busbars and earthing pipe clamps are key components of this kind of installation. In the context of lightning protection equipotential bonding, these must fulfil the requirements and undergo tests as defined in VDE 0185-561-1 (IEC 62561-1). When connecting metallic pipes to the equipotential bonding, earthing pipe clamps such as OBO type 927 are generally used. These offer a wide range of advantages over pipe clamps during assembly. With their rustproof stainless steel tightening strap, they are suitable for a wide range of pipe diameters and materials.

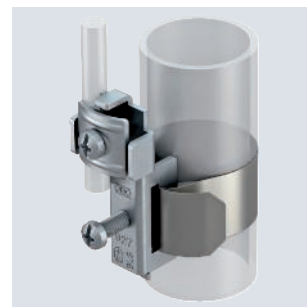




Earthing pipe clamp VA

Type	For pipe Ø inch	Dim. L mm	For pipe Ø mm	Pack Piece	Weight kg/100 pc.	Item no.
927 1	3/8-1 1/2	200	17.2-48	10	7.780	5057515
927 2	3/8-4	395	17.2-114	10	8.550	5057523
927 4	3/8-6	555	17.2-165	10	8.022	5057558
927 S 1	3/8-1 1/2	200	2.5-25	30	6.000	5057582
927 1 6-K	3/8-1 1/2	200	2.5-25	10	6.000	5057595

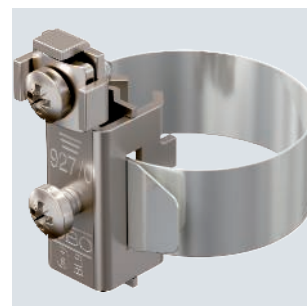
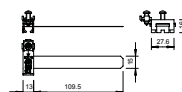
- For pipes of Ø 3/8 - 6"
- Connection options: Max. 2 cables 2.5-25 mm²
- Round conductor Rd 8
- Clamp element, bolts and tightening strap made of rustproof stainless steel (VA)



Earthing pipe clamp, nickel-plated

Type	For pipe Ø mm	Dim. L mm	Pack Piece	Weight kg/100 pc.	Item no.
927 0	8-22	109.5	10	5.000	5057507

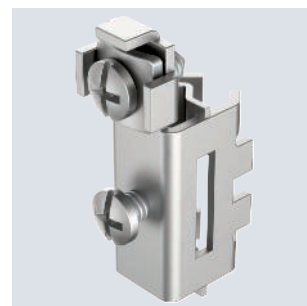
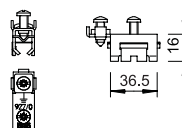
- For pipe Ø 8-22 mm
- Connection options: max. 2 conductors 2.5-10 mm²
- Clamp elements and screws from nickel-plated brass
- Tightening strap from high-grade stainless steel (V2A)



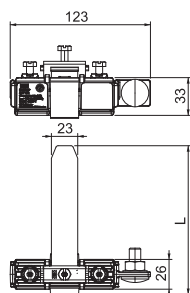
Clamp lock for earthing pipe clamp

Type	Pack Piece	Weight kg/100 pc.	Item no.
927 SCH-K-VA	20	4.700	5057930

- Connection option: max. 2 conductors 2.5-25 mm²
- Possible to connect round conductor Rd 8



Earthing pipe clamp for EX Zone 1/21, 2/22



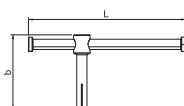
Type	For pipe Ø mm	Dim. L mm	Lightning current carrying capacity kA	Pack Piece	Weight kg/100 pc.	Item no.
EX BES 28	6-28	215	H/100	1	30.580	5057630
EX BES 300	28-300	1170	H/100	1	35.800	5057640
EX BES 500	300-500	1800	H/100	1	39.430	5057645

For ignition spark-free protection/functional equipotential bonding according to DIN VDE 0100-410/-540 and ignition spark-free lightning protection equipotential bonding according to VDE 0185-305 (IEC 62305) in systems according to VDE 0165-1 (IEC/EN 60079-14).

- For pipes of 6–500 mm external diameter
- Use in potentially explosive areas, Ex zone 1 and 2/21 and 22
- Tested according to explosion group IIC
- Lightning current carrying capacity class H (100 kA) to VDE 0185-561-1 (IEC/EN 62561-1)
- UV-stabilised and halogen-free plastic hood
- Secured with bolts against self-loosening to VDE 0185-305-3, Supplementary Sheet 2
- Suitable for indoor and outdoor applications

Tool

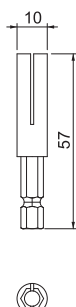
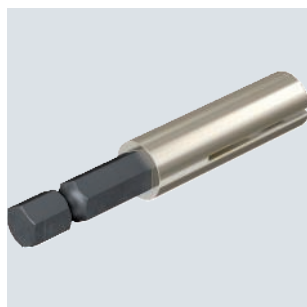
Pre-tensioning tool



Type	Dim. L mm	Dim. b mm	Pack Piece	Weight kg/100 pc.	Item no.
927 BES VSW 25	153	73	1	14.700	5057690

To tension earthing pipes and earthing pipe clamps.

Pre-tensioner bit for earthing pipe clamps



Type	Dim. L mm	Dim. b mm	Pack Piece	Weight kg/100 pc.	Item no.
927 BES VSW 25 A	153	73	1	2.000	5057694

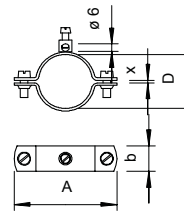
Tensioner to tension earthing pipe clamps with electric screwdriver. Suitable for all common cordless screwdriver types.

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Earthing clamp, type 925

Type	Dim. A mm	Clamping range D mm	Dim. X mm	For pipe Ø inch	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
925 1/4	48	11.5-13.5	2	1/4	300	25	4.100	5040035
925 3/8	52	15.2-17.2	2	3/8	300	25	4.360	5040051
925 1/2	56	19.3-21.3	2	1/2	300	25	4.788	5040078
925 3/4	62	24.9-26.9	2	3/4	250	25	5.316	5040094
925 1	70	31.7-33.7	2	1	250	25	5.956	5040116
925 1 1/4	81	40.4-42.4	2	1 1/4	300	25	7.744	5040132
925 1 1/2	88	46.3-48.3	2	1 1/2	240	20	9.615	5040159

- For pipes 1/4"-1 1/2" or Ø 11.5-48.3 mm
- Connection options: conductors to 16 mm² with connecting terminal, riveted with brass and 1 cylinder bolt M5 x 12
- To 1 1/2" with 2 cylinder bolts M6 x 16 (G)

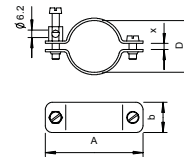


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Earthing clamp, type 942

Type	Dim. A mm	Clamping range D mm	Dim. X mm	For pipe Ø inch	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
942 11	44	8-11	3.5	1/8	420	10	4.480	5038014
942 15	50	13-15	3	1/4	320	10	4.800	5038030
942 18	52	16-18	2	3/8	200	10	5.170	5038057
942 22	55	19-22	3	1/2	180	10	5.550	5038073
942 28	63	24-28	3	3/4	180	10	6.170	5038081
942 35	71	30-35	5	1	120	10	8.570	5038111
942 43	81	39-43	5	1 1/4	100	10	9.740	5038138
942 49	86	44-49	5	1 1/2	100	10	10.540	5038154

- For pipes 1/8-1 1/2" or Ø 8-49 mm
- Connection options: Cables up to 25 mm²
- With connection clip and cylinder bolt M6 x 16 made of brass, nickel-plated
- Clamp cover and base made of copper, nickel-plated

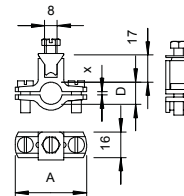


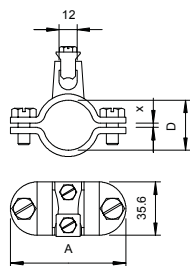
Zn G

Earthing clamp, type 950

Type	Dim. A mm	Clamping range D mm	Dim. X mm	For pipe Ø inch	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
950 Z 1/4	45	12-14	2	1/4	300	10	5.830	5050030
950 Z 3/8	50	15.5-17.5	2	3/8	180	10	6.020	5050057
950 Z 1/2	54	20-22.5	2.5	1/2	120	10	7.000	5050073
950 Z 3/4	61	25-28	3	3/4	120	10	7.620	5050081
950 Z 1	66	31.5-34.5	3	1	150	10	8.410	5050111
950 Z 1 1/4	78	40.5-43.5	3	1 1/4	160	10	10.030	5050138
950 Z 1 1/2	84	46.5-49.5	3	1 1/2	150	10	10.410	5050154
950 Z 1 3/4	88	51-54	3	1 3/4	100	10	10.251	5050170
950 Z 2	96	58.5-61.5	3	2	80	10	12.150	5050197

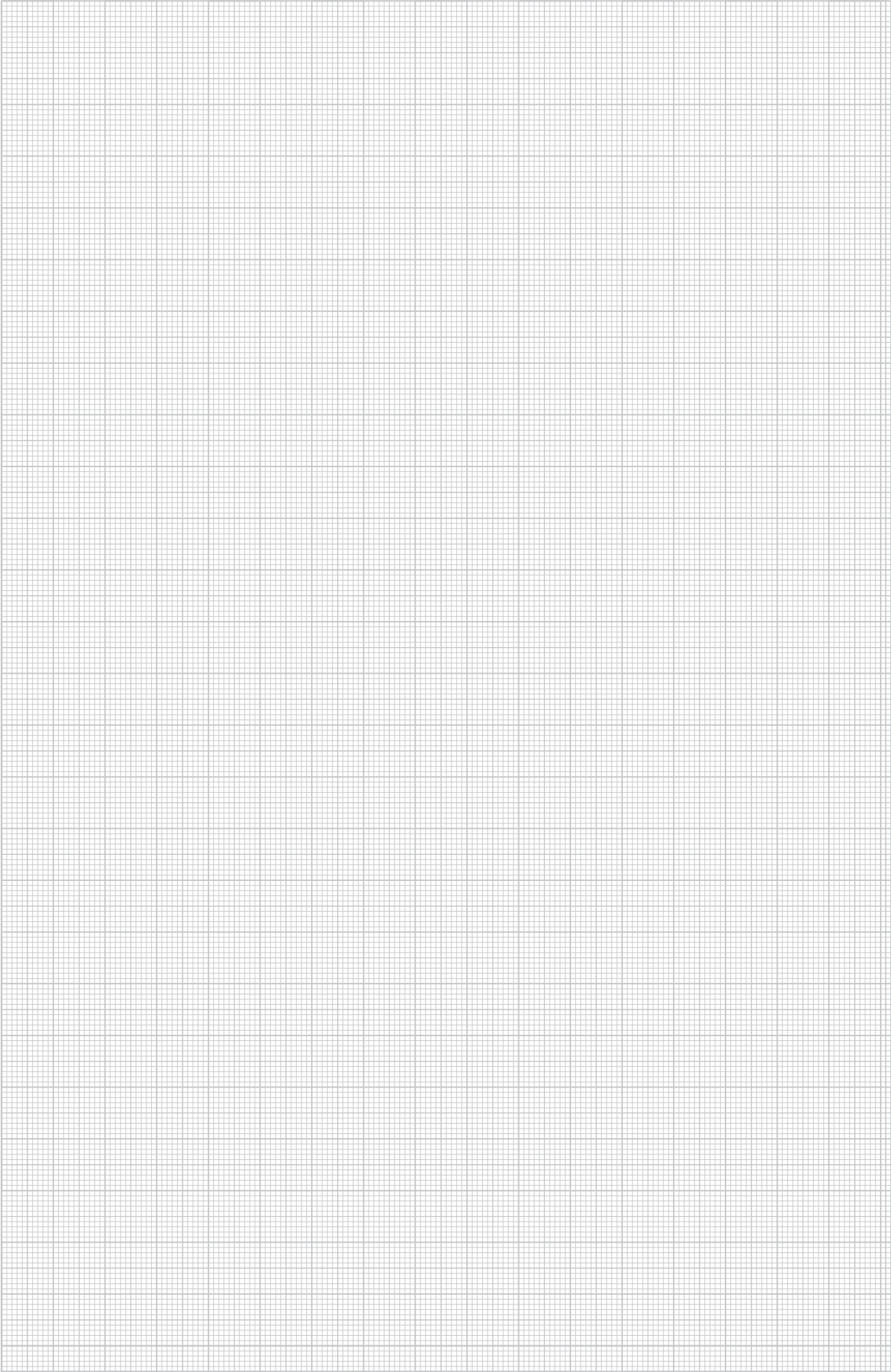
- For pipes Ø 1/4"-2"
- Connection options: conductors to 35 mm² or round conductors to Ø 6 mm
- With captive pressure strip, 2 cylinder bolts M6 x 16 and 1 hex-head screw M6 x 16 from galvanised steel, top and bottom part of clamp from die-cast zinc



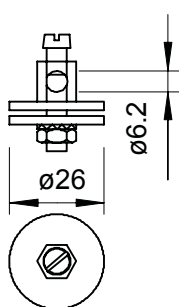
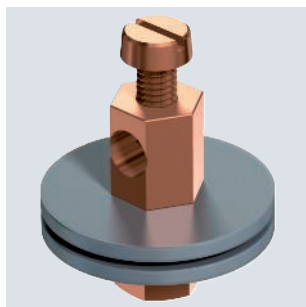


Type	Dim. A mm	Clamping range D mm	Dim. X mm	For		Shipping box Piece		Pack Piece	Weight kg/100 pc.	Item no.
				pipe Ø inch						
952 Z 1/2	65	18.5-21.5	3	1/2	50			5	24.880	5052076
952 Z 3/4	71	24-27	3	3/4	50			5	26.780	5052092
952 Z 1	77	30.5-33.5	3	1	50			5	28.560	5052114
952 Z 1 1/4	87	39.5-42.5	3	1 1/4	50			5	32.200	5052130
952 Z 1 1/2	94	45.5-48.5	3	1 1/2	20			5	34.720	5052157
952 Z 2	105	57-60	3	2	30			5	38.520	5052181

- For pipes 1/2-2" or Ø 11.5-60 mm
- Connection options: conductors 16-70 mm² and/or round conductors to Rd 10 with captive pressure strip from stainless steel
- With 2 hexagonal bolts M6 x 16 and 2 hexagonal bolts M6 x 20 from hot-dip galvanised steel
- Top section of clamp with cast contact point from die-cast zinc, bottom section of clamp from hot-dip galvanised steel



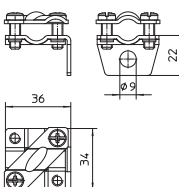
Earthing terminal for fastening on earthing strap



Type	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
928	240	10	5.700	5040507

- For use in bathtubs or shower tubs etc.
- Connection option: conductors to 16 mm²
- Clamping element with threaded connection M6, 1 hexagonal nut M6, 1 serrated dimension washer and 1 cylinder bolt M5 x 8
- Clamping element, nut and screws from copper-plated brass
- Serrated washer from stainless steel; 2 washers from galvanised steel

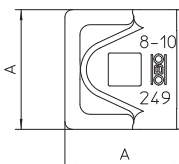
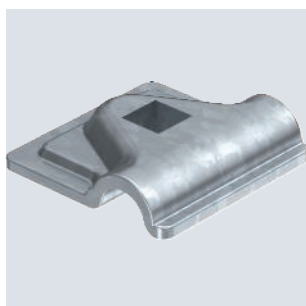
Earthing terminal type 951



Type	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
951	120	10	5.400	5051509

- Longitudinal and transverse conductor routing
- With 1 attaching hole Ø 9 mm
- With 2 cylinder bolts M6 x 16

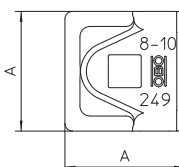
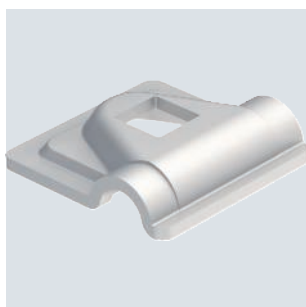
Quick connector, upper part Rd 8–10 mm



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

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

Quick connector, upper part Rd 8–10 mm



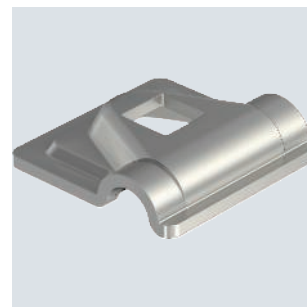
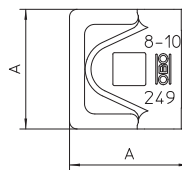
Type	Fit mm	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
249 8-10 ALU-OT	Rd 8-10	44	100	2.100	5311585

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

Quick connector, upper part Rd 8–10 mm

Type	Fit mm	Dim. 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

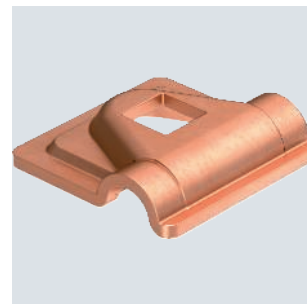
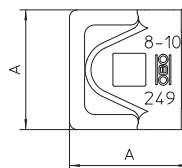


Cu

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

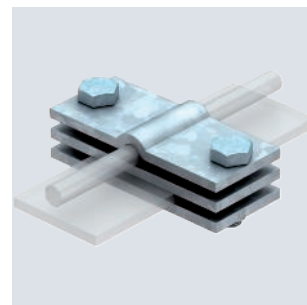
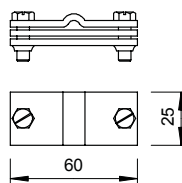


St FT

Earth connection terminal for round conductor and flat conductor

Type	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
937 50	100	10	11.750	5043018

- For round and flat conductors
- Fit: cable 50 mm² x max. FL 40
- Rd 8 x max. FL 40
- With 2 hexagonal bolts M6 x 20 (F)

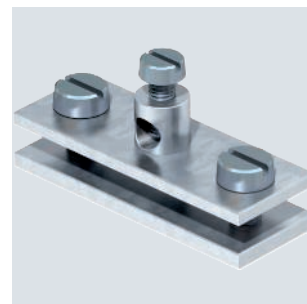
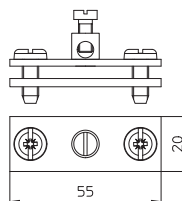


St G

Earthing terminal for cables and flat conductors

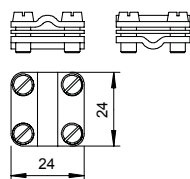
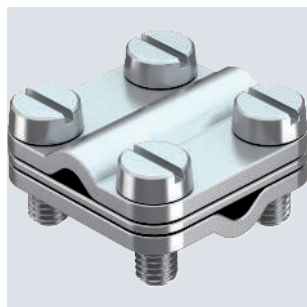
Type	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
939	150	25	5.932	5043107

- For cables to 16 mm² and flat conductors
- Fit: cable to 16 mm² x max. FL 30
- With riveted brass connection terminal and one cylinder bolt, M5 x 12, with two cylinder bolts, M6 x 16



Clip branch terminal

CuZn 37 N

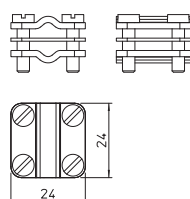
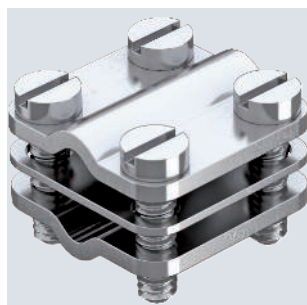


Type	Pack Piece	Weight kg/100 pc.	Item no.
471 4-16	50	2.856	5064015

- Seat: 4 - 16 mm² x 4 - 16 mm²
- With 4 cylinder bolts M4 x 16

Clip branch terminal, parallel

CuZn 37 N

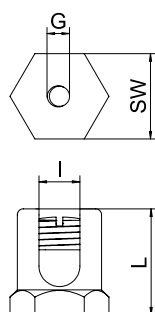


Type	Pack Piece	Weight kg/100 pc.	Item no.
471 4-16 P	50	2.900	5064017

- Seat: 4-16 mm² x 4-16 mm²
- With 4 cylinder bolts M4 x 16

Earthing terminal with fastening thread

CuZn 37

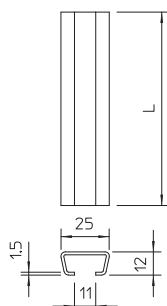


Type	Dim. L mm	Dim. I mm	Cross-section mm ²	Thread	Pack Piece	Weight kg/100 pc.	Item no.
EKL 25 M6	22	8	50	M6	50	3.100	6404006
EKL 35 M6	26	10	70	M6	50	4.800	6404014

Earthing terminal for fastening the equipotential bonding wire to the cable support system. Suitable for conductor cross sections of 4-50 mm².

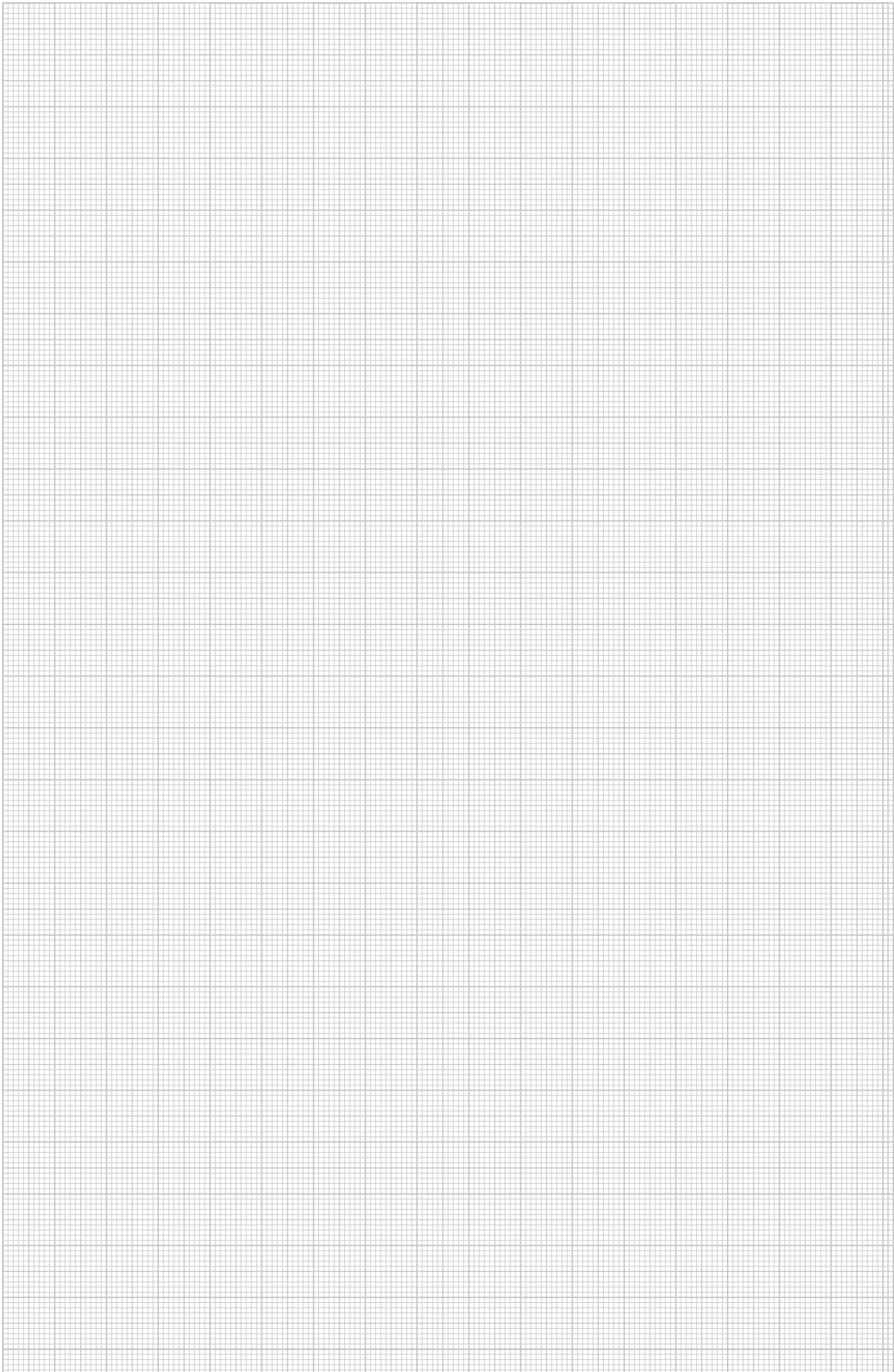
Profile rail CL2512, slot 11 mm, unperforated

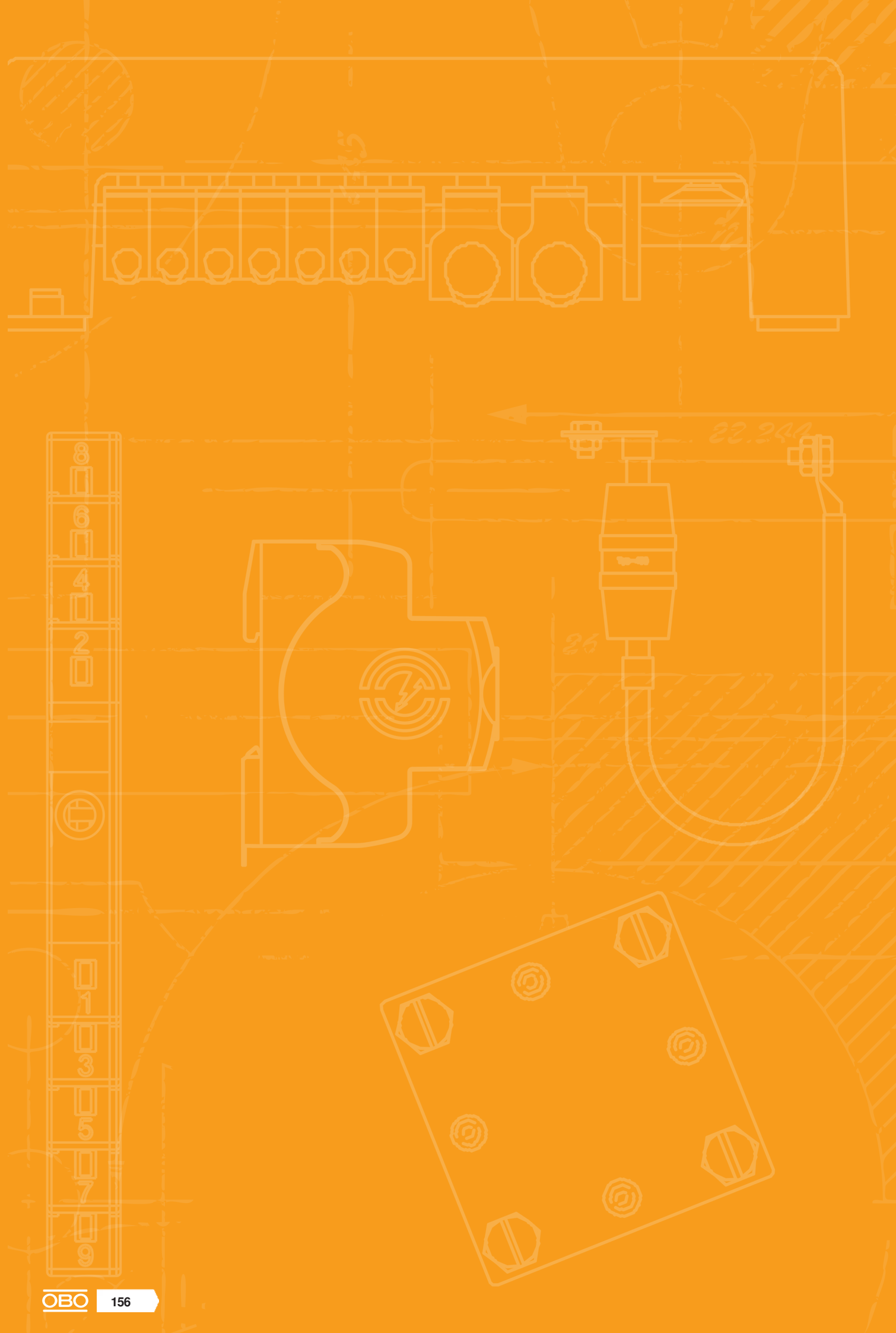
St FS FT



Type	Length mm	Material thickness mm	Pack m	Weight kg/100 m	Item no.
CL2512UP2000FT	2000	1.5	2	65.000	1117025
CL2512UP2000FS	2000	1.5	2	58.300	1117033

Light-duty C profile rail for cable routing, in conjunction with series clips or clamp clips with N foot. Can also be used in building of control cabinets.





Protection and spark gaps



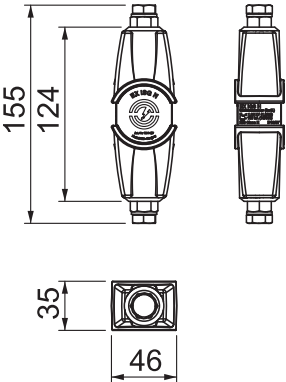
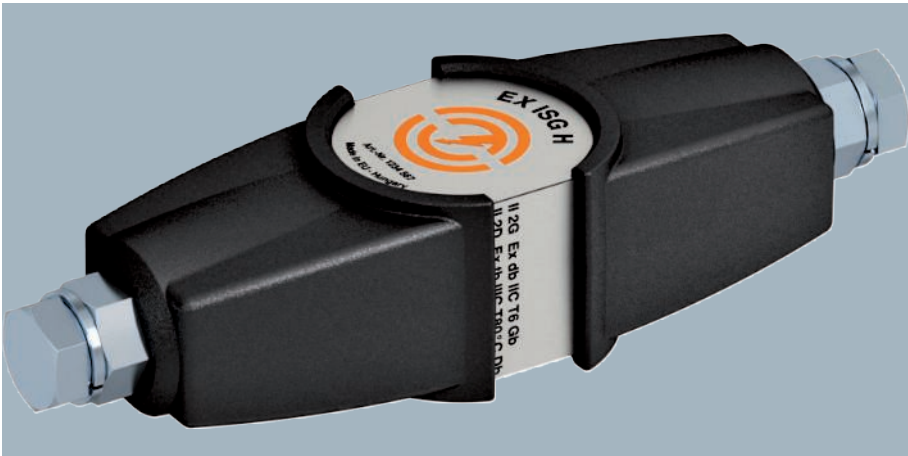
Protection and spark gaps

158



Spark gaps

EX ISG H spark gap, with 2 cables

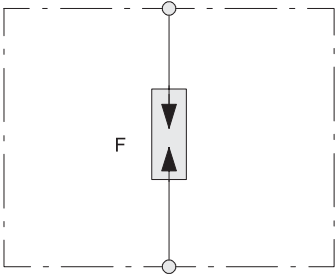


Type	Pack Piece	Weight kg/100 pc.	Item no.
EX ISG H 350 2L	1	74.155	5240033

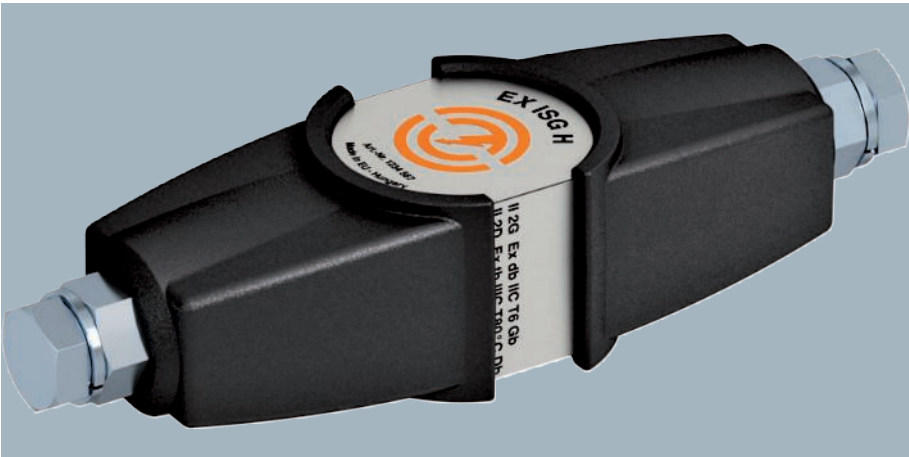
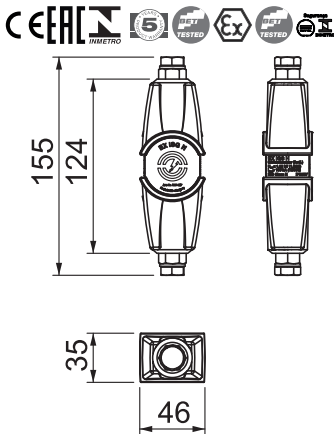
- Spark gap to VDE 0185-561-3 (IEC 62561-3)
- Ex certificate to ATEX
- Labelling to EN 60079-0/-1: II 2 G Ex db IIC T6 Gb
- Labelling to EN 60079-0/-31: II 2 D Ex td IIIC T80 °C Db IP67
- Ex certificate to IECEx
- Labelling to IEC 60079-0/-1: Ex db IIC T6 Gb
- Labelling to IEC 60079-0/-31: Ex td IIIC T80 °C Db IP67
- Ex certificate to INMETRO
- 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.

Connection options



EX ISG H spark gap

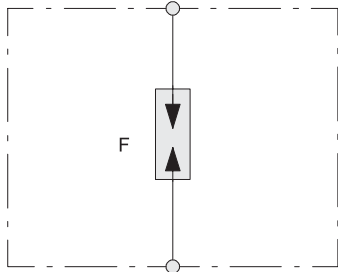


- Spark gap to VDE 0185-561-3 (IEC 62561-3)
- Ex certificate to ATEX
- Labelling to EN 60079-0/-1: II 2 G Ex db IIC T6 Gb
- Labelling to EN 60079-0/-31: II 2 D Ex td IIIC T80 °C Db IP67
- Ex certificate to IECEx
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- Labelling to IEC 60079-0/-31: Ex td IIIC T80 °C Db IP67
- Ex certificate to INMETRO
- 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.

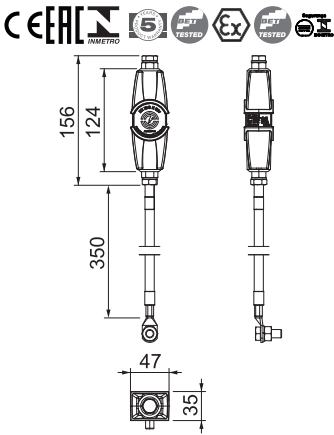
Type	Pack Piece	Weight kg/100 pc.	Item no.
EX ISG H	1	41.360	5240030

Connection options



EX ISG H		
Connecting cable length		0 m
Rated impulse sparkover voltage	$U_{r\ imp}$	1.25 kV
Rated DC withstand voltage	U_{wDC}	354 V
Rated power frequency withstand voltage	U_{wAC}	250 V
Power frequency spark-over voltage	U_{AS}	0.56 kV
Impulse discharge current (10/350)	I_{imp}	100 kA
Nominal discharge current (8/20)	I_n	100 kA
Lightning current carrying capacity		H/100 kA
Temperature range	ϑ	-20 - +60 °C

EX ISG H spark gap, with one cable



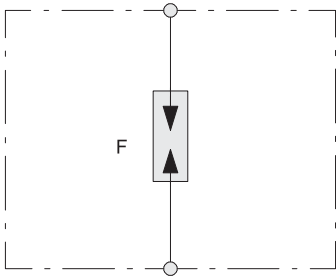
Type	Pack Piece	Weight kg/100 pc.	Item no.
EX ISG H 350	1	57.260	5240031

- 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 IECEx
- 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 INMETRO
- 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

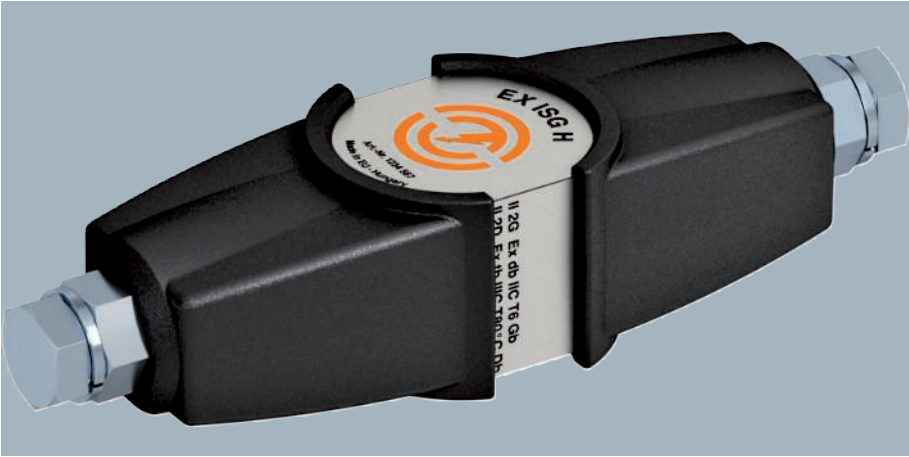
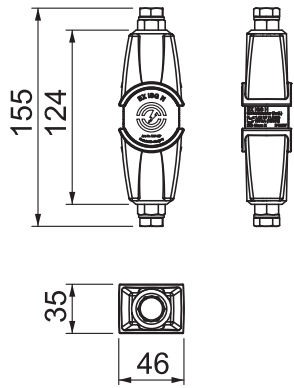
Application: In potentially explosive areas zones 1/21 and 2/22, indirect bridging of insulating flanges and insulating glands, e.g. in cathodic, corrosion-protected (KKS) systems.

EX ISG H 350		
Connecting cable length		0.35 m
Rated impulse sparkover voltage	$U_{r\,imp}$	1.25 kV
Rated DC withstand voltage	U_{wDC}	354 V
Rated power frequency withstand voltage	U_{wAC}	250 V
Power frequency spark-over voltage	U_{AS}	0.56 kV
Impulse discharge current (10/350)	I_{imp}	100 kA
Nominal discharge current (8/20)	I_n	100 kA
Lightning current carrying capacity		H/100 kA
Temperature range	ϑ	-20 - +60 °C

Connection options



EX ISG H spark gap, jacketed

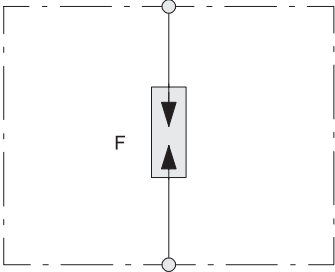


- Spark gap to VDE 0185-561-3 (IEC 62561-3)
- Ex certificate to ATEX
- Labelling to EN 60079-0/-1: II 2 G Ex db IIC T6 Gb
- Labelling to EN 60079-0/-31: II 2 D Ex td IIIC T80 °C Db IP67
- Ex certificate to IECEx
- Labelling to IEC 60079-0/-1: Ex db IIC T6 Gb
- Labelling to IEC 60079-0/-31: Ex td IIIC T80 °C Db IP67
- Ex certificate to INMETRO
- 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

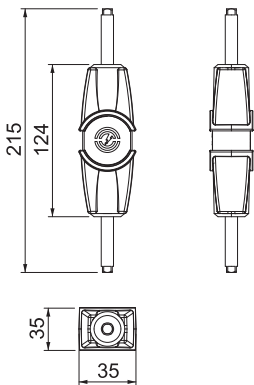
Application: In potentially explosive areas zones 1/21 and 2/22, indirect bridging of insulating flanges and insulating glands, e.g. in cathodic, corrosion-protected (KKS) systems.

Type	Pack Piece	Weight kg/100 pc.	Item no.
EX ISG H KU	1	210.300	5240032

Connection options



ISG N spark gap

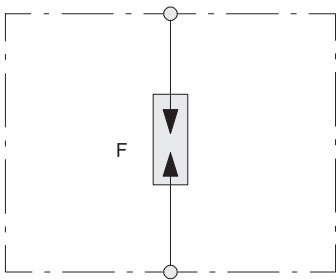


Type	Pack Piece	Weight kg/100 pc.	Item no.
ISG N	1	41.300	5240089

- For indirect connection of operatively separated system parts in case of lightning impact
- Use according to lightning protection equipotential bonding according to DIN EN 62305/VDE 0185
- With corrosion-resistant stainless steel connections
- Suitable for installation in indoor and outdoor areas and in wet rooms
- Low maintenance thanks to long-life graphite technology
- Particularly low rated contact surge voltage

ISG N		
Connecting cable length		0 m
Rated impulse sparkover voltage	$U_{f,imp}$	1.5 kV
Rated DC withstand voltage	U_{wDC}	354 V
Rated power frequency withstand voltage	U_{wAC}	250 V
Power frequency spark-over voltage	U_{AS}	640 kV
Impulse discharge current (10/350)	I_{imp}	50 kA
Nominal discharge current (8/20)	I_n	100 kA
Lightning current carrying capacity		N/50 kA
Temperature range	ϑ	-20 - +80 °C

Connection options

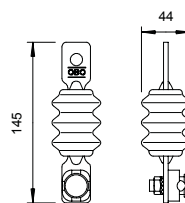


Protective spark gap

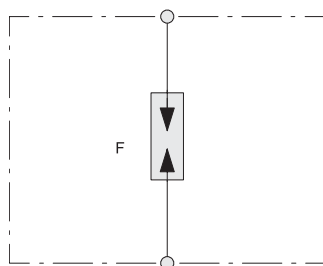
Type	Protection level kV	Nominal discharge current (8/20) kA	Power frequency spark-over voltage kV	Pack Piece	Weight kg/100 pc.	Item no.
482	<10	25	10	1	56.000	5240050

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



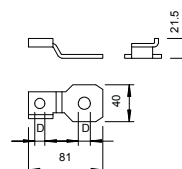
Accessories

St F

Connection bracket for Parex spark gap

Type	Drill hole Ø mm	Version	Pack Piece	Weight kg/100 pc.	Item no.
484 M12	13	For M12 bolt	2	8.100	5240220
484 M16	17	For M16 bolt	2	7.700	5240239
484 M20	21	For M20 bolt	2	7.300	5240247
484 M24	25	For M24 bolt	2	6.800	5240255

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

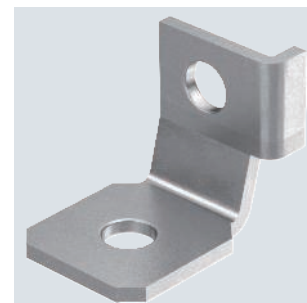
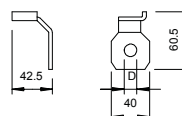


St F

Connection bracket for Parex spark gap

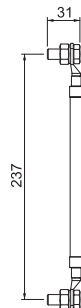
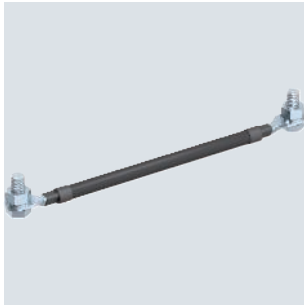
Type	Drill hole Ø mm	Version	Pack Piece	Weight kg/100 pc.	Item no.
485 M12	13	For M12 bolt	2	8.100	5240328
485 M10	11	For M10 bolt	2	8.300	5240301
485 M16	17	For M16 bolt	2	7.700	5240336

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



Connection cable – AL EX ISG

Cu

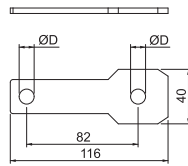


Type	Dimension mm	Pack Piece	Weight kg/100 pc.	Item no.
AL EX ISG 100	100	1	9.600	5240102
AL EX ISG 200	200	1	12.300	5240104
AL EX ISG 300	300	1	15.200	5240106

UV-resistant connection cable (copper 25 mm²) 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 clamp AB EX ISG, straight

St FT

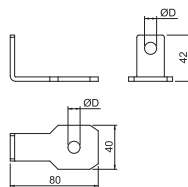


Type	Drill hole Ø mm	Version	Pack Piece	Weight kg/100 pc.	Item no.
AB EX ISG S M10	11	For M10 bolt	2	9.000	5240360
AB EX ISG S M12	14	For M12 bolt	2	8.900	5240362
AB EX ISG S M16	18	For M16 bolt	2	8.600	5240366
AB EX ISG S M20	22	For M20 bolt	2	8.200	5240370
AB EX ISG S M24	26	For M24 bolt	2	7.800	5240374

Connection clamp for mounting the OBO Ex spark gap, type EX ISG, on insulating flanges and insulating pieces.

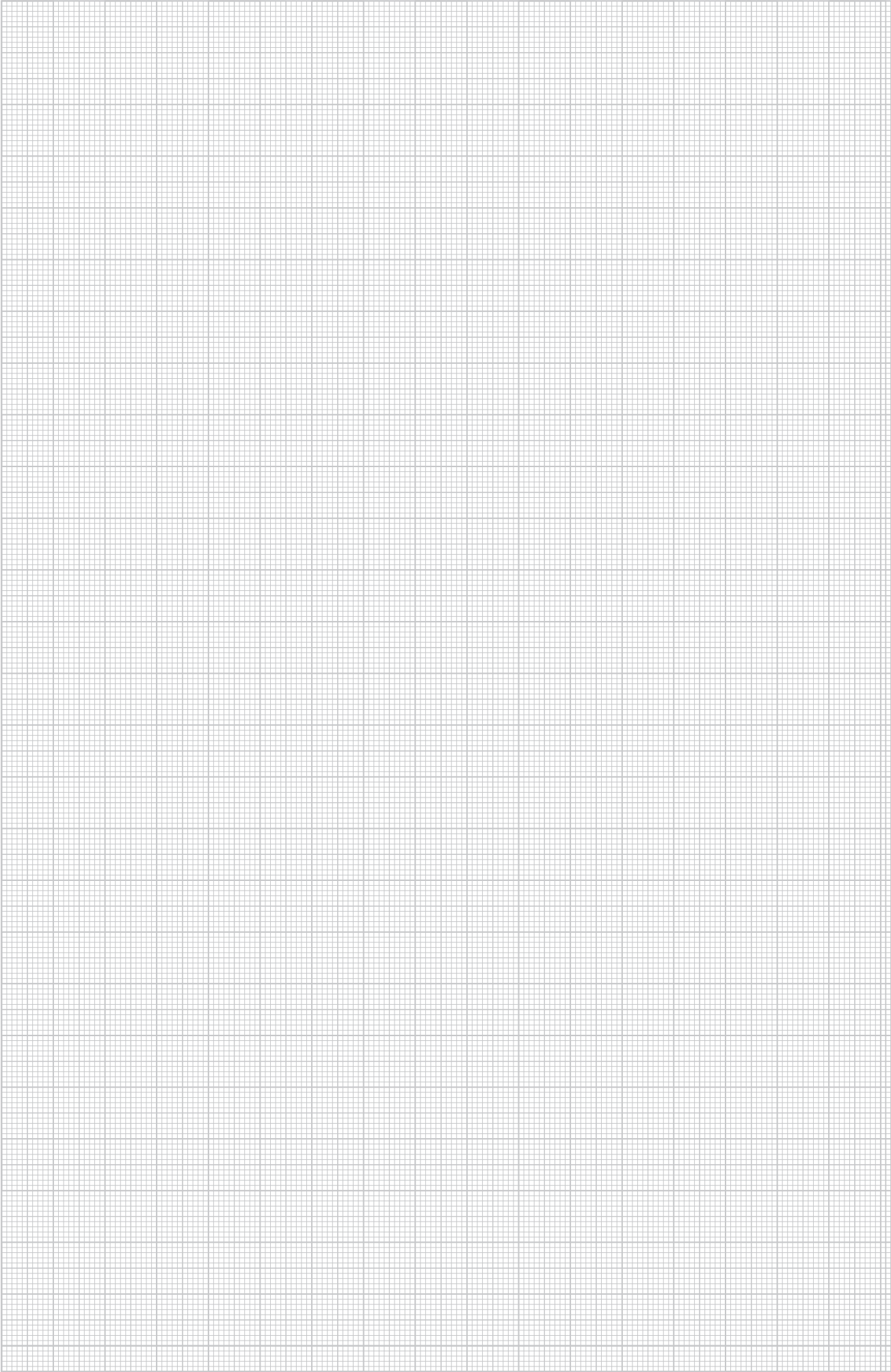
Connection clamp AB EX ISG, angled

St FT



Type	Drill hole Ø mm	Version	Pack Piece	Weight kg/100 pc.	Item no.
AB EX ISG SW M10	11	For M10 bolt	2	10.900	5240380
AB EX ISG SW M12	14	For M12 bolt	2	10.800	5240382
AB EX ISG SW M16	18	For M16 bolt	2	10.500	5240386
AB EX ISG SW M20	22	For M20 bolt	2	10.100	5240390
AB EX ISG SW M24	26	For M24 bolt	2	9.700	5240394

Connection clamp for mounting the OBO Ex spark gap, type EX ISG, on insulating flanges and insulating pieces.



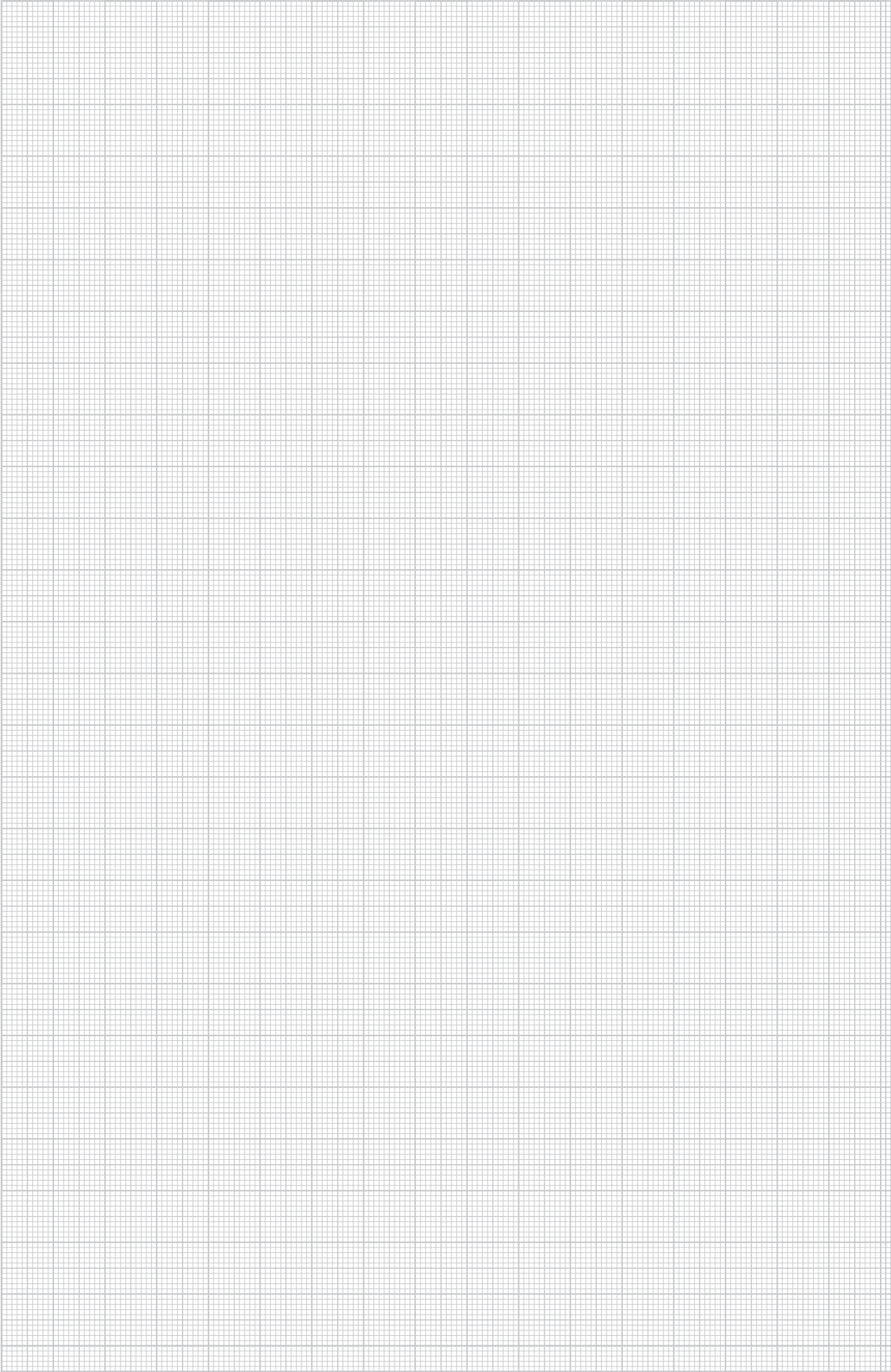


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Test marks

	American Bureau of Shipping, USA		Underwriters Laboratories Inc., USA + CSA, Canada
	AENOR, Producto Certificado, Spain		Österreichischer Verband für Elektrotechnik, Austria
	STOWARZYSZENIE ELEKTRYKÓW POLSKICH, Poland		ISTITUTO 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 Starkstrominspektorat, 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 Elinspektionscentralen 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-chromatised
	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

	Protection device to DIN EN 61643-11 or IEC 61643-11
	Protection device to DIN EN 61643-11 or IEC 61643-11

Lightning protection zone

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

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

	Maintenance of electrical function class E30
	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

	Nominal cross-section 1.5 mm²
	Nominal cross-section 1.5–2.5 mm²
	Nominal cross-section 2.5 mm²
	Nominal cross-section 2.5–4 mm²
	Nominal cross-section 4 mm²
	Nominal cross-section 4–6 mm²
	Nominal cross-section 6 mm²
	Nominal cross-section 10 mm²
	Nominal cross-section 16 mm²

Nominal voltage

	Nominal voltage 400 V
	Nominal voltage 500 V
	Nominal voltage 660 V

Polarity

	3-pole
	5-pole
	7-pole
	8-pole
	10-pole
	12-pole

Slot widths

	Slot width 7.5 mm
	Slot width 11 mm
	Slot width 11–12 mm
	Slot width 12 mm
	Slot width 15 mm
	Slot width 16 mm
	Slot width 16.5 mm
	Slot width 16–17 mm
	Slot width 17 mm
	Slot width 18 mm
	Slot width 22 mm
	Slot width 35 mm

Screw heads

	Philips screw
	Torx screw
	Phillips screw
	Pozidriv

Firing devices

	Bolt-firing tool
	Nail device

Protection rating

	Protection rating IP 20
	Protection rating IP 30
	Protection rating IP 31
	Protection rating IP 44
	Protection rating IP 54
	Protection rating IP 55
	Protection rating IP 65
	Protection rating IP 66
	Protection rating IP 67
	Protection rating IP 68

Metals

	Aluminium
	Aluminium/steel
	Stainless steel, rustproof
	Stainless steel, rustproof
	Stainless steel, rustproof
	Copper
	Brass
	Steel
	Malleable iron
	Die-cast zinc

Plastics

	Acrylonitrile butadiene styrene
	Duroplast, Aminoplast, type 131.5
	Duroplast, melamine resin, type 150
	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, fibreglass reinforced
PS	Polystyrene
PVC	Polyvinylchloride
ZELL PE	Cellular polyethylene



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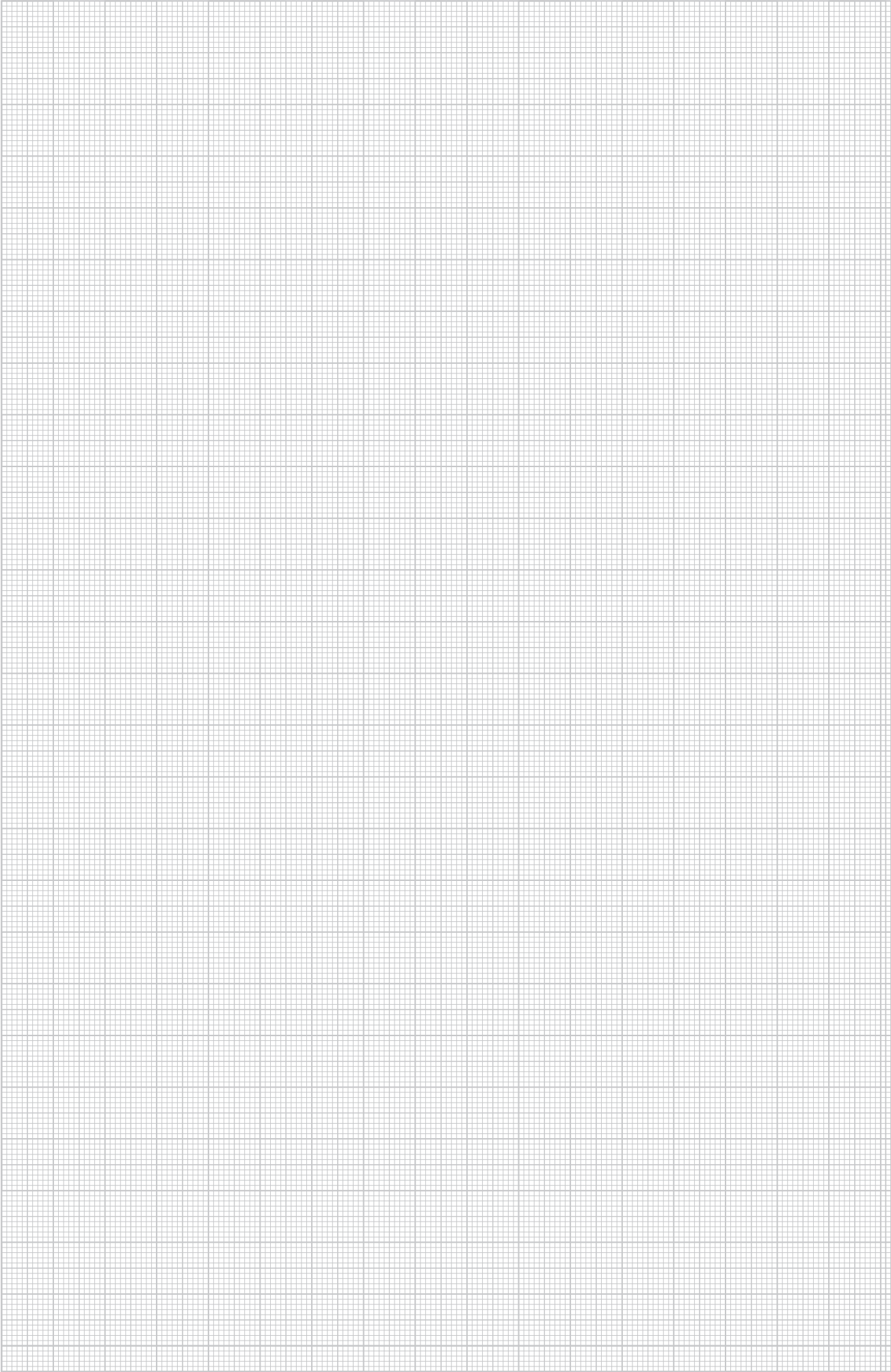
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5642978	3044831	112	6431304	5009256	118	5680482	5019347	30	5386650	5051509	152	5409519	5223105	37
5643036	3044904	112				5680499	5019350	30				5409939	5223601	36
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5631637	3049221	77		/pc.		5381556	5021081	28	5387077	5052157	150	5410652	5227100	36
5631576	3049256	77	5377894	5014018	92	5381617	5021103	28	5387190	5052181	150	5410713	5227151	36
5631453	3049329	77	5377955	5014026	92	5381730	5021162	29						
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247 8-10 CU	5417552	5311268	53	252 S1 FT	6428038	5312292	56
247 8-10 FT	5417491	5311209	53	252 S1 V4A	6428045	5312294	56
249 6-10 CU	5816591	5311417	46	252 S4 FT	6428106	5312302	58
249 6-10 ST	5816584	5311410	46	252 S4 V4A	6428113	5312308	58
249 8-10 ALU	5417736	5311519	47	2520 20	5243793	/pc. 3043703	113
249 8-10 ALU-OT	5466192	5311585	39	2520 25	5243854	3043754	113
249 8-10 ALU-OT	5466192	5311585	66	253 10X16	5418573	/100 pc. 5312809	55
249 8-10 ALU-OT	5466192	5311585	152	253 10X16	5418573	5312809	82
249 8-10 CU	5417798	5311527	47	253 8-10 V4A	6466306	5312582	83
249 8-10 CU-OT	5835394	5311530	39	253 8X8	5418337	5312604	57
249 8-10 CU-OT	5835394	5311530	65	253 8X8	5418337	5312604	83
				253 S3 V4A	6428090	5312594	59
				2530 20	5243557	/pc. 3043401	113

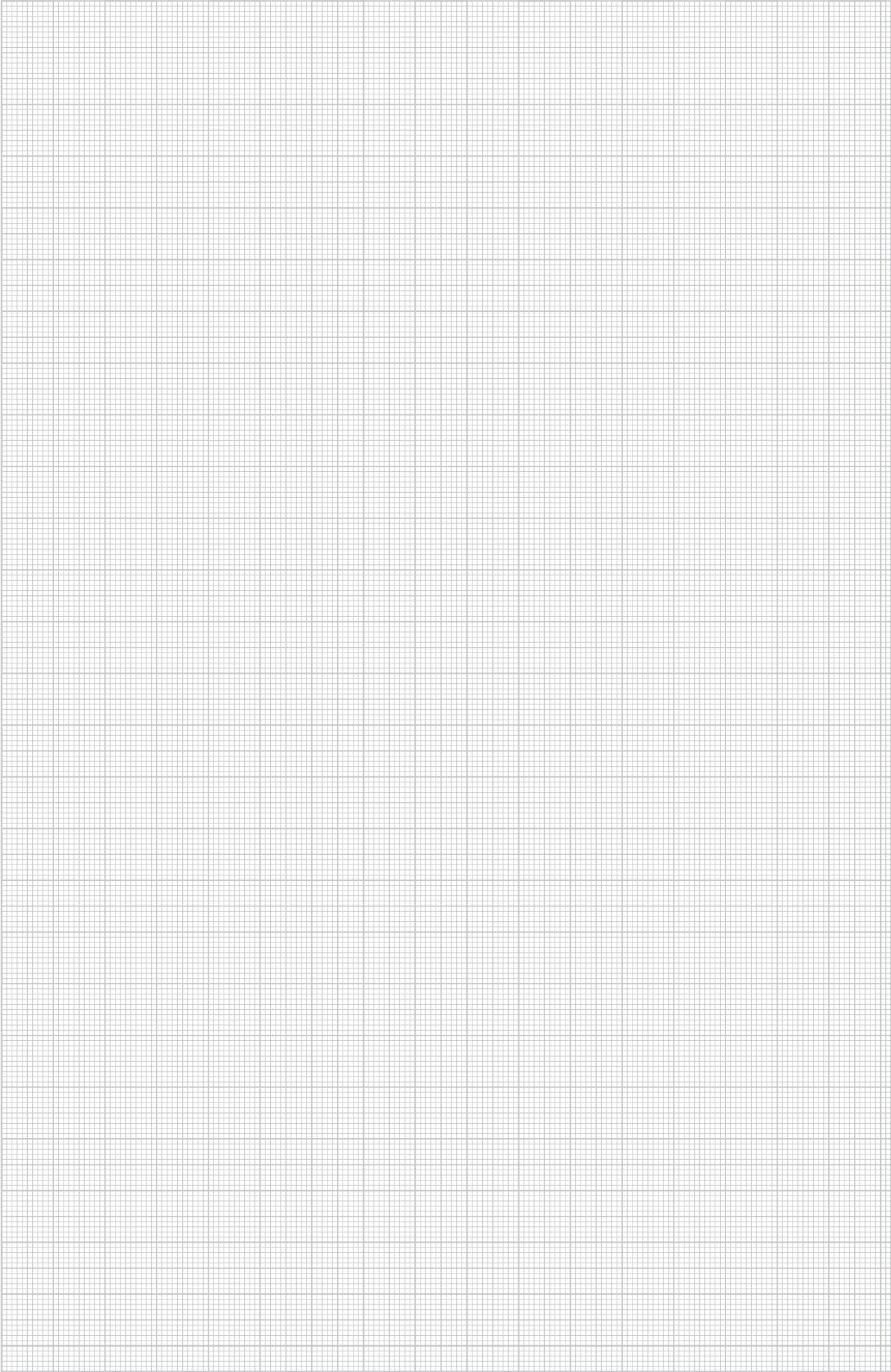
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2535 20	5453796	3043916	112	2745 20 MS	5372851	5001560	86
2535 25	5453970	3044912	112	2760 16	6431274	5001601	87
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2536 25	5642978	3044831	112	2760 20 V4A	5862697	5001633	86
254 DIN 8-10 CU	5419112	/100 pc. 5314135	56	2760 20 VA	5635239	5001617	86
254 DIN 8-10 FT	5418993	5314038	57	2760 25 FT	5372974	5001668	86
255 30	5419174	5314518	85	2760 25 V4A	5901259	5001672	86
255 A-FL30 FT	5419235	5314534	85	2760 8	5721123	5001612	114
256 A-DIN 30 FT	5419471	5314658	84	2760 8-10 V4A	6466290	/100 pc. 5313013	87
256 A-DIN 30 V4A	5893080	5314659	84	2760 B-20 FT	5754879	/pc. 5001749	86
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256 DIN 40 FT	5419358	5314623	84	287	5421573	5320704	68
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259 A FT	5740414	5315514	91	287 DCT	6127504	5320707	69
259 A ST	5237198	5315557	91	288 DIN	5421634	5320712	68
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260 8	5419839	5315700	52	301 CU-80	5426257	5350689	69
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262	5419891	5316014	64	301 DIN-110	5425779	5350115	69
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262 CU	5419952	5316154	64	301 DIN-80	5425595	5350085	69
262 ZM	5818359	5316170	65	301 DIN-90	5425656	5350093	69
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264 CU	5420378	5316553	65	301 S-120	5427032	5351073	70
267	5420132	5316308	63	301 S-AL-100	5890652	5351359	70
267 VA	5420194	5316324	63	301 S-AL-120	5890713	5351375	70
269 8-10	5420439	5317010	62	301 S-CU-100	5427216	5351456	70
269 MS	5420491	5317053	61	301 S-CU-120	5427278	5351472	70
270 8-10 CU	5420675	5317258	61	301 S-VA-100	5427094	5351251	70
270 8-10 FT	5420552	5317207	61	301 S-VA-120	5427155	5351286	70
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271 8-10	5420798	5317401	60	301 V-CU	5426851	5350883	71
271 8-10 VA	5850861	5317481	60	301 V-VA	5426912	5350905	71
271 CU	5420910	5317452	60	303 DIN-1	5399971	5102111	73
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