



Connection and routing systems

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.



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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.



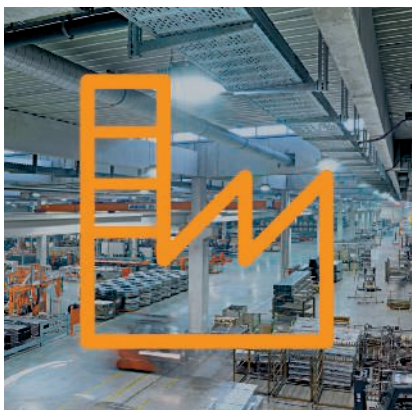
Improved structure, sharpened profile



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



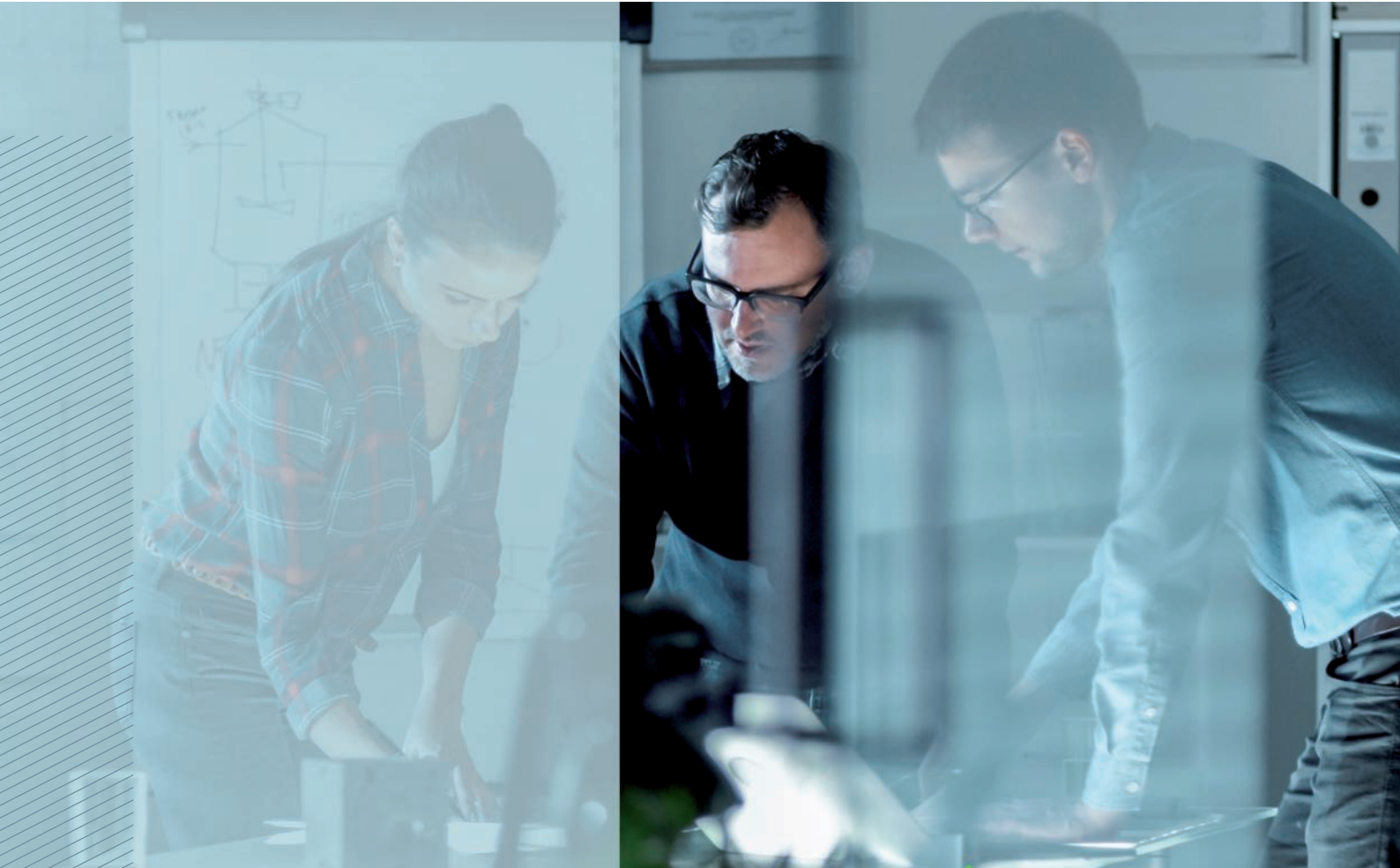
Safety and protection installations

- 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 Support & *contact*



***You have a
problem?
We have the
solution!***

OBO Bettermann is more than the sum of its products. In any situation, we are the reliable partner right by your side. You have a problem? We have the solution!

It doesn't matter in which area of industry our support is needed – from industrial and plant engineering to private, public and administrative buildings, as well as in the areas of mobility and renewable energies – we have everything that you need.

OBO can not only provide the entire electro-technical infrastructure with the best possible products. We can also support you with sound expert knowledge and more than 100 years of experience, right from the planning phase through to the realisation of your projects. OBO – solutions you can rely on.

You can contact our Customer Service department on:

Customer Service

Tel.:+49 23 73 89 - 17 00

Monday–Thursday
07.30–17.00

Friday
07.30–15.00

export@obo.de

What is OBO Support?

Every OBO product carries a plus inside it, which only a branded product can offer. It is developed, manufactured and tested with a high level of competence, from the idea right through to the final check. In addition, our specialists are available for consultation and can offer you assistance and training courses for products at any time.

Together with you, we plan your project and help you choose the right products, and are also available to you at any time should you need us. From flawless logistics through to practical information – we can provide support at every level. We can offer security through certificates on the conformity of our products with the most important standards and directives.

We are as flexible as you are – because we know how practical people work and what is important to them. Each step is a plus – that is the OBO Support concept.



Service



Training



Handling



Certification

Service – OBO can help

Everywhere and in every project phase:

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

Training courses from OBO

- Seminars and workshops
- Local consultation and training courses
- Planner days

Handling – OBO delivers reliably

With optimised delivery processes:

- Reliable logistics
- Practical transport systems and packaging
- Loading gear handling and disposal concepts

Certification and guarantee

OBO offers safety. Our products fulfil the most important country-specific regulations:

- Conformity (e.g. IEC, VDE, CE, KEMA, KEUR, UL)
- Certification (e.g. DIN EN, DGNB)
- 5-year guarantee for surge protection products
- Guarantee management



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Planning aids

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Basic values for the calculation of the cable volume
Fastening clips
Cable glands and the DIN EN 50262 standard
Information on cable fastening
Classification of installation pipes (according to DIN EN 61386-1)
Definition of electromagnetic compatibility (EMC)
Guaranteeing EMC
Standards, certifications and test marks
First-hand support and knowledge



Metal: corrosion and corrosion protection



Corrosion

(from the Latin *corrodere*, “to eat or gnaw to pieces”) in a technical context is a reaction between a material (generally a metal) and its surroundings, leading to a measurable change in the material and potentially impairing the functionality of a component or system.

A large number of products used in industrial installations are made of metal. Metals are much tougher than many other materials and are less sensitive to mechanical loading. The OBO metal products are made of aluminium, die-cast zinc, stainless steel or steel.

Steel (St), the most commonly used material, is very strong and has good elasticity and chemical resistance. However, steel is susceptible to corrosion and must therefore be protected accordingly.

Stainless steels consist mainly of alloyed, very hard and rustproof steels. The stainless steels are divided into quality classes according to the percentage of alloys. These are indicated by the material number according to DIN EN 10027.

Aluminium (Al), as a light metal, has comparatively low strength but good electrical conductivity and high corrosion resistance.

Die-cast zinc components (Zn) are very strong and hard. The manufacturing process enables the production of very precise components with good corrosion resistance.

Corrosion protection

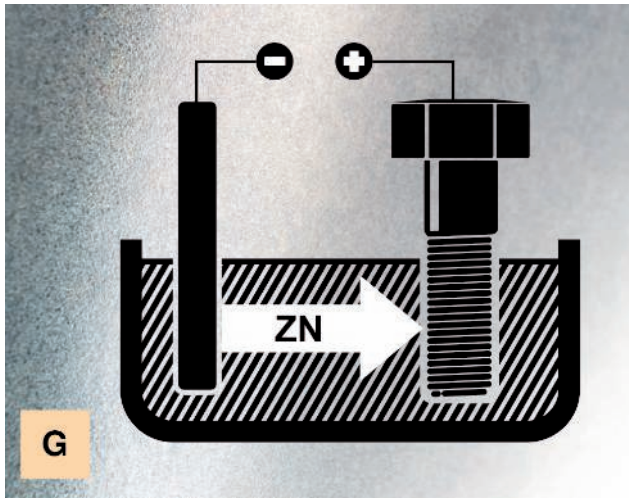
Corrosion protection means all steps taken to prevent corrosion damage to metallic components. It is impossible to prevent corrosion permanently, so corrosion protection measures generally aim to reduce the speed of corrosion so that the component is not damaged by corrosion for the duration of its service life. The term “passive corrosion protection” refers to all measures designed to shield products from corrosive media. Coatings are one way of achieving passive corrosion protection. At OBO, most steel products are protected from corrosion by a layer of zinc. Zinc coatings can be applied to components using a variety of methods.

Zinc slat covering

Zinc slat coverings are coatings applied in a non-electrolytic manner. They offer cathodic protection and thus have excellent corrosion protection, while at the same time, there is no risk of hydrogen-induced breakage. Due to these properties, this coating type is used for connection components with a high strength classification or structural parts with high tensile strength. The low layer thickness of the zinc slat covering allows a thin, homogeneous coating, which is particularly important for maintaining the accuracy of screw threads. This coating achieves a resistance of 480 hours in the salt spray test for the connection elements.

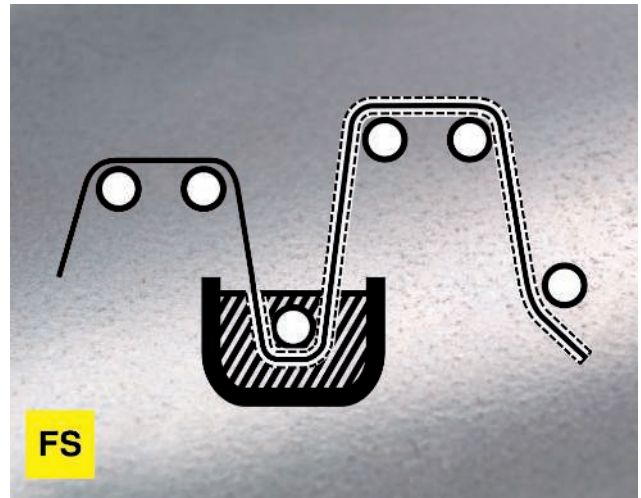


Galvanisation types



Electrogalvanisation – electrolytic galvanisation in accordance with DIN EN ISO 2081

In electrogalvanisation or electrolytic galvanisation, the component is coated by dipping it not in molten zinc, but in a zinc electrolyte, through which a direct electric current is passed.



Strip galvanising – hot galvanised according to the strip-galvanising method in accordance with DIN EN 10346 (formerly DIN EN 10147 and DIN EN 10142)

Strip galvanisation or Sendzimir galvanisation is where a continuous ribbon of steel is galvanized in a continuous line.



Hot-dip galvanisation – hot galvanisation using the dipping method according to DIN EN ISO 1461

Batch galvanisation is mainly used for galvanising prefabricated steel parts, by dipping them in molten zinc at a temperature of around 450 °C.



Hot-dip coating – zinc-aluminium coating in accordance with DIN EN 10346

In contrast to conventional coating systems, the material being galvanised in the double-dip process passes through two baths in succession: the first contains pure zinc, the second a zinc-aluminium alloy.

Surface testing and corrosion categories



Classification of corrosion resistance

All the system components must show sufficient resistance against corrosion in agreement with the standard DIN EN 61537. The minimum zinc layer thicknesses are determined through a measurement. The grouping into the appropriate class is detailed in the table "Classification of corrosion resistance". The table "Corrosion categories according to DIN EN ISO 12944" shows the area of application and the zinc loss to be expected.

Classification of corrosion resistance

All components, depending on the environment, must show sufficient resistance against corrosion in agreement with the standard DIN EN 61537. This is how corrosion categories are determined, e.g. with a salt spray test. In this procedure, components are sprayed with salt for a certain time period. The resulting level of red rust is the basis for allocation to a corrosion category, i.e. in which environment the component is resistant to corrosion.



Classification of corrosion resistance according to EN 61537

Class	Reference material and surface treatment
0*	None
1	Electroplated to a minimum thickness of 5 µm
2	Electroplated to a minimum thickness of 12 µm
3	Pre-galvanised to grade 275 to EN 10327 and EN 10326
4	Pre-galvanised to grade 350 to EN 10327 and EN 10326
5	Post-galvanised to a zinc mean coating thickness (minimum) of 45 µm according to ISO 1461
6	Post-galvanised to a zinc mean coating thickness (minimum) of 55 µm according to ISO 1461
7	Post-galvanised to a zinc mean coating thickness (minimum) of 70 µm according to ISO 1461
8	Post-galvanised to a zinc mean coating thickness (minimum) of 85 µm according to ISO 1461 (usually high-silicon steel)
9A	Stainless steel manufactured to ASTM: A 240/A 240M – 95a designation S30400 or EN 10088 grade 1-4301 without a post-treatment *
9B	Stainless steel manufactured to ASTM: A 240/A 240M – 95a designation S31603 or EN 10088 grade 1-4404 without a post-treatment *
9C	Stainless steel manufactured to ASTM: A 240/A 240M – 95a designation S30400 or EN 10088 grade 1-4301 with a post-treatment **
9D	Stainless steel manufactured to ASTM: A 240/A 240M – 95a designation S31603 or EN 10088 grade 1-4404 with a post-treatment **

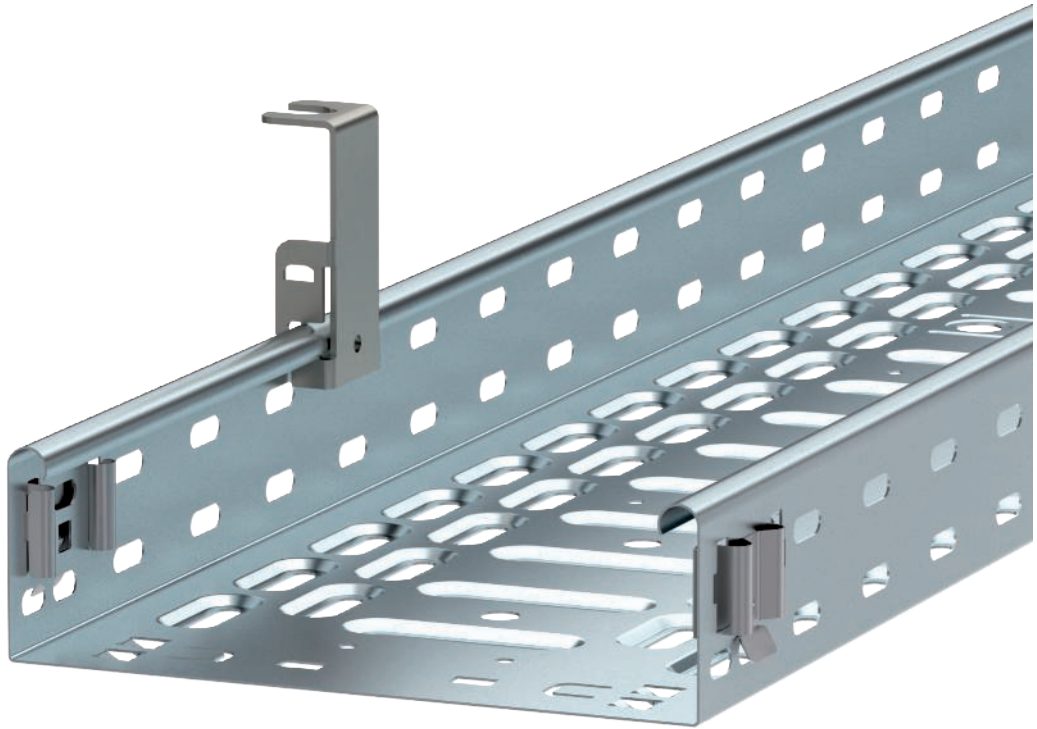
* For materials which do not have a declared corrosion resistance classification

** The end treatment process is used to improve the protection against crack corrosion and the contamination of other steels

Corrosion categories to DIN EN ISO 12944

Corrosion category	Typical environment, inside	Typical environment, outside	Corrosion load	Average zinc removal
C 1	Heated buildings with neutral atmospheres, e.g. offices, shops, schools, hotels	-	Insignificant	<0.1 µm/a
C 2	Unheated buildings in which condensation can occur, e.g. warehouse, sports halls	Atmosphere with low level of impurities, often rural areas	Low	0.1 to 0.7 µm/a
C 3	Production facilities with a high level of humidity and some air impurities, e.g. plants for food production, laundries, breweries, dairies	City and industrial atmosphere, considerable impurities through sulphur dioxide, coastal areas with low salt load	Medium	0.7 to 2.1 µm/a
C 4	Chemical plants, swimming pools, boat sheds over seawater	Industrial areas and coastal areas with low salt load	Strong	2.1 to 4.2 µm/a
C 5-I	Buildings or areas with almost constant condensation and with high levels of impurities	Industrial areas with high levels of humidity and aggressive atmosphere	Very strong (industry)	4.2 to 8.4 µm/a
C 5-M	Buildings or areas with almost continuous condensation and with high levels of impurities	Coastal or offshore areas with salt load	Very strong (sea)	>4.2 to 8.4 µm/a

Contact corrosion



If two different metals are conductively connected with each other, contact corrosion can occur. This poses a considerable risk to the load capacity and lifespan of the components used.

The level of contact corrosion is determined primarily by the level of the potential difference between the contact partners. Contact corrosion occurs at potential differences of 100 mV or greater and the anodic (electrically negative) partner is at risk of corrosion. Therefore, strongly non-precious metals should never be brought into contact with precious metals.

Additional contact corrosion criteria:




- Level of electrical resistance between the contact partners. The higher the resistance, the lower the contact corrosion. Positive on Al and Ti.
- Occurrence of an electrolyte. An electrolyte, such as perspiration or condensation, attacks the protective layers, increasing conductivity. Dirt increases this effect through released ions.
- Length of the impact of the electrolyte. The longer the electrolyte is active, the greater the corrosion will be.
- The surface ratios of the contact partners influence the current density. The best thing to have is a small surface ratio of the "precious" to the "less precious" contact partner.
- Different environments or atmospheres can increase or influence the risk of contact corrosion to varying degrees.

Installation locations



Whether indoors or outdoors, in aggressive atmospheres or under special hygienic conditions, OBO can offer the perfect surface and materials for your installation, no matter what the requirements may be. OBO metal products are machined from high-quality sheet steel or

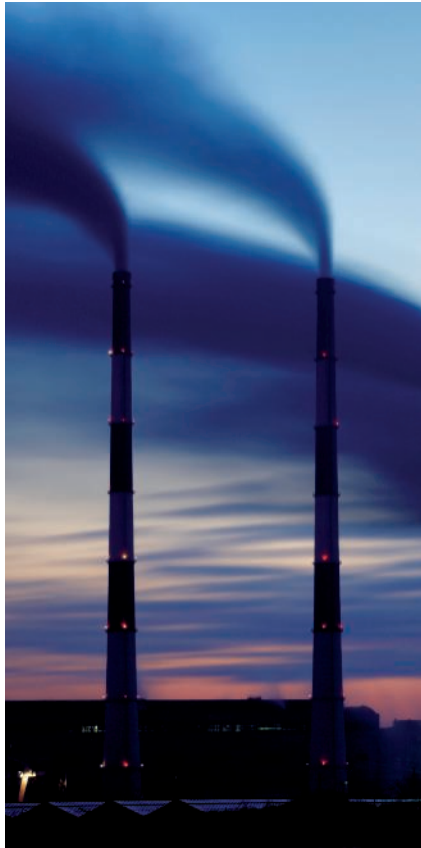
steel wire and are available with various surfaces. Different hardening and coating methods ensure tailor-made corrosion protection, specially tailored to the appropriate application:

Application	Material	Surface protection
Indoors 	St Steel	L Painted/powder-coated
	St Steel	FS Strip galvanised DIN EN 10346
	St Steel	G Electrogalvanised DIN EN ISO 2081
Outdoors 	St Steel	FT Hot galvanised DIN EN ISO 1461
	St Steel	DD Hot galvanised DIN EN ISO 1461
	VA Stainless steel A2	
	VA Stainless steel A4	
Especially corrosive areas 	VA Stainless steel A2	
	VA Stainless steel A4	

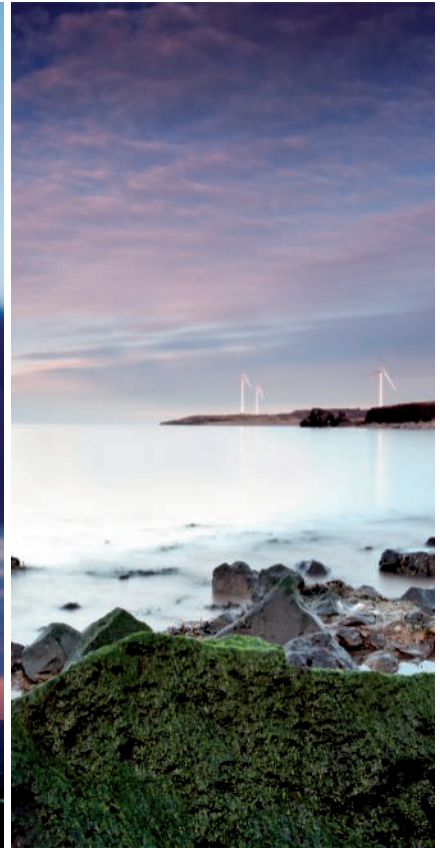
Contact corrosion in different environments



Land climate



Industrial atmosphere



Sea climate

Small/large	Zn	FT	Al	Cu	VA	CuZn
Zn		✓	○	✗	✗	○
FT	✓		○	✗	✗	○
Al	✓	✓		✗	✗	○
Cu	✓	✓	✓		✓	✓
VA	✓	✓	✓	✓		✓
CuZn	✓	✓	✓	✓	✓	

✓ Little to no corrosion

○ Moderate corrosion

✗ Heavy corrosion

The precondition for corrosion is a conductive medium that connects the metal combination. The more damp and contaminated the atmosphere is, the more pronounced the contact corrosion.

Surfaces for special visual requirements or special environmental loads



Applications with specific optical requirements or special environmental conditions

Colour-coated products are becoming ever more popular. The coating may be required for optical reasons or for reasons of corrosion protection.

Colour coatings for reasons of corrosion protection

- Products in FT (hot-dip galvanised version)
- All RAL colours available
- Coating of the visible surfaces or the complete system
- Suitable for the colour of the structure when routed openly
- Separation of different voltages/functions (e.g. blue 230/400 V power supply; red weak current such as telephone cables and IT)

Colour-coated systems are not specifically indicated in this Industrial installation product catalogue. You can obtain details of these systems by contacting our telephone hotline on +49 23 73 89 - 17 00.

Plastic: materials and properties

Essentially plastics can be of one of three types: thermoplastics, elastomers and Duroplast.

Thermoplastics

are plastics that can be shaped within a specific temperature range. This process is reversible, in other words, thermoplastics can theoretically be cooled and then melted down again any number of times. Another unique advantage of thermoplastics is that they can be welded.

Elastomers

have a fixed shape, but can be elastically deformed. They can elastically deform under tensile and compressive stresses, but afterwards will return to their original shape. Elastomers are used for producing seals and membrane entries.

Duroplast

or thermosetting polymers/plastics, are plastics that can no longer be deformed following curing. Duroplasts produce hard, glass-like (brittle) polymeric materials with a high thermo-mechanical strength.

Properties

The area of application for which plastic OBO products are suitable depends mainly on the properties of the material being used. The most important material properties are:

- Temperature resistance
- Risk of stress cracks
- Chemical resistance
- Halogen freedom
- UV resistance
- Flame resistance

		Material	Max. temperature resistance Permanent	Max. temperature resistance Short-time	Min. temperature resistance Static
Thermoplast	ABS AVA	Acrylonitrile butadiene styrene	70 °C	85 °C	-25 °C
	EVA	Ethylene vinyl acetate	55 °C	70 °C	-15 °C
	PA	Polyamide	120 °C	150 °C	-25 °C
	PA GF	Polyamide, fibreglass reinforced	120 °C	160 °C	-25 °C
	PBPT	Polybutylene terephthalate	120 °C	140 °C	-25 °C
	PC	Polycarbonate	110 °C	125 °C	-25 °C
	PE	Polyethylene	70 °C	90 °C	-25 °C
	PP	Polypropylene	90 °C	110 °C	-25 °C
	PS	Polystyrene	70 °C	80 °C	-15 °C
	PVC	Polyvinyl chloride	65 °C	80 °C	-25 °C
Elastomers	NBR SBR	Rubber mixture	100 °C	110 °C	-25 °C
	NBR	Nitrile rubber	100 °C	110 °C	-25 °C
Duroplast	UF	Duroplast, aminoplast, type 131.5	65 °C	90 °C	-25 °C
	MF	Duroplast, melamine resin, type 150	80 °C	110 °C	-25 °C



Plastic: stress crack risk and chemical resistance

Risk of stress cracks

Medium	ABS/ASA	UF	MF	EVA	NBR SBR	NBR	PA	PA/GF	PBPT	PC	PE	PP	PS	PVC
Risk of stress cracks	✗	✓	✓	✓	✓	✓	✓	○	○	✓	!	✓	✗	○

Danger of tension cracks: ✓ Virtually negligible ○ Low ! High ✗ Very high

Chemical resistance

Medium	ABS/ASA	UF	MF	EVA	NBR SBR	NBR	PA	PA/GF	PBPT	PC	PE	PP	PS	PVC
Petroleum	✓	✓	✓	○	✓	○	✓	✓	✓		○	○	○	✓
Fat	✓	✓	✓	✓	✓	○	✓	✓	✓				○	✓
Benzole	!	✓	✓	○	✓	!	✓	✓	○	!	!	○	!	!
Solvents	!						✓	✓	○				!	!
Formic acid	✓	!									!	○		
Citric acid	✓	!		○							!			
Lactic acid	✓	!		○							!	○	!	!
Hydrochloric acid	○	!									✓			!
Sulphuric acid	○	!									✓			!
Acetone	!	✓					✓	✓	○	!	!	○	!	!
Petrol	!	✓	✓	○	○	!	✓	✓	✓	✓	!	○	!	✓
Butyric acid	!	!		○							!	○		!
Chlorine	!						!	!	!	!	!	!	!	
Acetic acid	!	!		○							!		!	
Nitric acid	!	!									✓		!	
Ester		✓	✓	○	!	!								
Alcohol		✓	✓	○			✓						✓	
Mild alkalis		✓	✓	✓	✓	✓	○	○	!		✓	✓		✓
Mild acids		○	○	✓	✓	✓	!	!	✓	✓	✓			✓
Ether		✓	✓	○									!	
Water		✓	✓	✓	✓	✓								
Strong acids		!	!	○					!	!	!			!
Strong alkalis		!	!	✓					!		✓	✓		✓
Hydrofluoric acid				○							✓			
Paraffin hydrocarbon				○								○		
Haloalkanes				!										
Ketones				!	!								!	
Aldehyde				✓										
Organic acids				○							!	○		
Seawater					✓	✓								
Diesel fuel							✓	✓	✓		○	○	!	
Ammoniac									○				!	

Resistance: ✓ Resistant ○ Limited resistance ! Not resistant

Plastic: material properties



Halogen freedom

Estimates suggest that around 95% of fire victims die not due to the immediate effects of the fire, but of poisoning from the smoke. In addition, the corrosive fire gases created during fires cause immense damage to property and can permanently damage the structure of a building. Therefore, halogen-free installation systems must, or should, always be used in public areas (emergency routes, lifts, etc.). The chemical composition of these halogen-free systems is designed in such a way that, in the event of fire, they produce less hazardous

(toxic/corrosive) gases, which could combine with extinguishing agents to form hydrochloric acid. In the sense of the standard DIN VDE 0472, this means that materials are considered halogen-free when "the proportions of the halogens chlorine, bromine and iodine are $\leq 0.2\%$ for chlorine and $\leq 0.1\%$ for fluorine". OBO Bettermann offers a wide range of halogen-free products that reduce the risk of harm to people and property to a minimum in case of fire.



UV resistance

Outdoor installations should always be viewed particularly critically with regard to the mounting locations and the selection of the installation materials.

UV radiation is damaging to many plastics, causing them to turn yellow and/or brittle or lose their elasticity. However, plastics can be protected against UV damage through the addition of UV stabilisers. Products made

from UV-resistant materials are specially marked. In general, besides UV radiation, installations outdoors must also take other environmental influences into account. Factors such as maximum temperatures, regularity of (extreme) temperature changes, humidity and the location of use/mounting (housing, industry, town, region, continent) all have an important role to play here.



Flame resistance/fire resistance

Materials are described as flame-resistant if they prevent the spread of fire or are sufficiently fire-resistant. According to DIN EN 60695-2-11 (VDE 0471 Part 2-11), electrical connection materials must be subjected to a glow wire test in order to evaluate the fire risk of the end product. When the glow wire test is being carried out, a

glowing wire (for temperature see table below) is inserted into the component to be tested for a period of 30 seconds and then removed. After a further 30 seconds at the latest, the object, if it has caught light, must have extinguished again, in order to specify the flame resistance.



Types of installation systems

Types of samples Test temperatures in °C	Surface-mounted	Flush-mounted	In-plaster	Cavity wal- l/furniture	Concrete structure	Installation duct
Connection sockets	650	650	750	850	650	750
Device sockets and device connection sockets	750	650	-	850	650	750
Ceiling lights, connection sockets	750	650	-	850	650	750
Wall luminaire connection boxes	750	650	-	850	650	750
Device connection sockets	750	650	-	850	650	750
Connection sleeves	750	-	-	-	-	750
Insulation sections, which support active parts	960	-	-	-	-	-
Lid for installation sockets	750	-	-	-	-	-

Protection ratings



IP protection rating

The IP protection rating specifies how far a component is protected against contact and foreign bodies and the ingress of water. The IP protection ratings are controlled by the standard DIN EN 60529 (VDE 0470 Part 1). The IP is always made up of two digits.

The first digit designates the contact and foreign body protection. On the one hand, it specifies how far a housing prevents access to dangerous parts, by preventing or limiting the ingress of body parts or objects held by a person. On the other hand, it specifies how far the housing protects the installed resources against the ingress of solid foreign bodies.

Protection rating

First code digit	...against access to the hazardous parts	...against solid foreign bodies
0	Protected against access to hazardous parts with the back of the hand	Non-protected
1	Protected against access to hazardous parts with a finger	Protected against solid foreign bodies of 50 mm diameter and larger
2	Protected against access to hazardous parts with a tool	Protected against solid foreign bodies of 12.5 mm diameter and larger
3	Protected against access to hazardous parts with a wire	Protected against solid foreign bodies of 2.5 mm diameter and larger
4	Protected against access to hazardous parts with a wire	Protected against solid foreign bodies of 1.0 mm diameter and larger
5	Protected against access to hazardous parts with a wire	Dust-protected
6	Protected against access to hazardous parts with a wire	Dust-proof



The second digit specifies the protection against water. It specifies how far the resource is protected against incoming water and the resulting damage.

Protection rating against the entry of water with a damaging impact

Second code digit	Short description	Definition
0	Non-protected	-
1	Protected against water droplets	Droplets falling vertically must not have a damaging impact.
2	Protected against drip water when enclosure tilted up to 15°	Vertically falling drops must not have harmful effects when the enclosure is tilted at any angle up to 15° on either side of the vertical.
3	Protected against spray water	Water being sprayed at an angle of 60° on both sides of the vertical must not have any damaging impact.
4	Protected against spray water	Water spraying the housing from any direction must not have any damaging impact.
5	Protected against water jets	Jets of water pointing at the housing from any direction must not have any damaging impact.
6	Protected against strong water jets	Strong jets of water pointing at the housing from any direction must not have any damaging impact.
7	Protected against the effects of being temporarily immersed in water	If the housing is sometimes underwater under standard pressure and time conditions, then water may not enter in such volumes as would have a damaging impact.
8	Protected against the effects of being continuously immersed in water	Ingress of water in quantities causing harmful effects must not be possible when the housing is continuously immersed in water under conditions which shall be agreed between manufacturer and user. However, the conditions are more difficult to fulfil than for number 7.



IK code

The IK code to DIN EN 50102 indicates the protection rating of housings against external mechanical loads. It is made up of the code letters IK and a two-digit number from 00 to 10. Each group of numbers stands for a load energy value in joules (J). The IK code always applies to

the complete housing, which guarantees the protection of resources against the damaging effects of mechanical loads. The housings are tested by knocking them with different testing hammers.

IK code	00	01	02	03	04	05	06	07	08	09	10
Stress energy value [J]	-	0.15	0.20	0.35	0.50	0.70	1	2	5	10	20

Nominal values of electrical equipment



When using junction boxes, connection sockets and connection terminals, the resources are assigned nominal values. In the designation, a distinction is made between the maximum approved voltage (nominal voltage), the

maximum approved current (nominal current) and the maximum approved cross-section (nominal cross-section of the cables to be connected).

**2,5
mm²**

Nominal cross-section

Largest tested-approved cross-section of the cables to be connected.

**16
A**

Nominal current

The nominal current is the highest permissible operating current that can be continuously passed through connections (e.g. terminals) marked with that value.

**660
V**

Nominal voltage

Greatest approved voltage at the connection point.

In addition to the nominal values, the number of entries for junction boxes and the number of poles of clamp connectors are also possible labels.

12

No. of poles

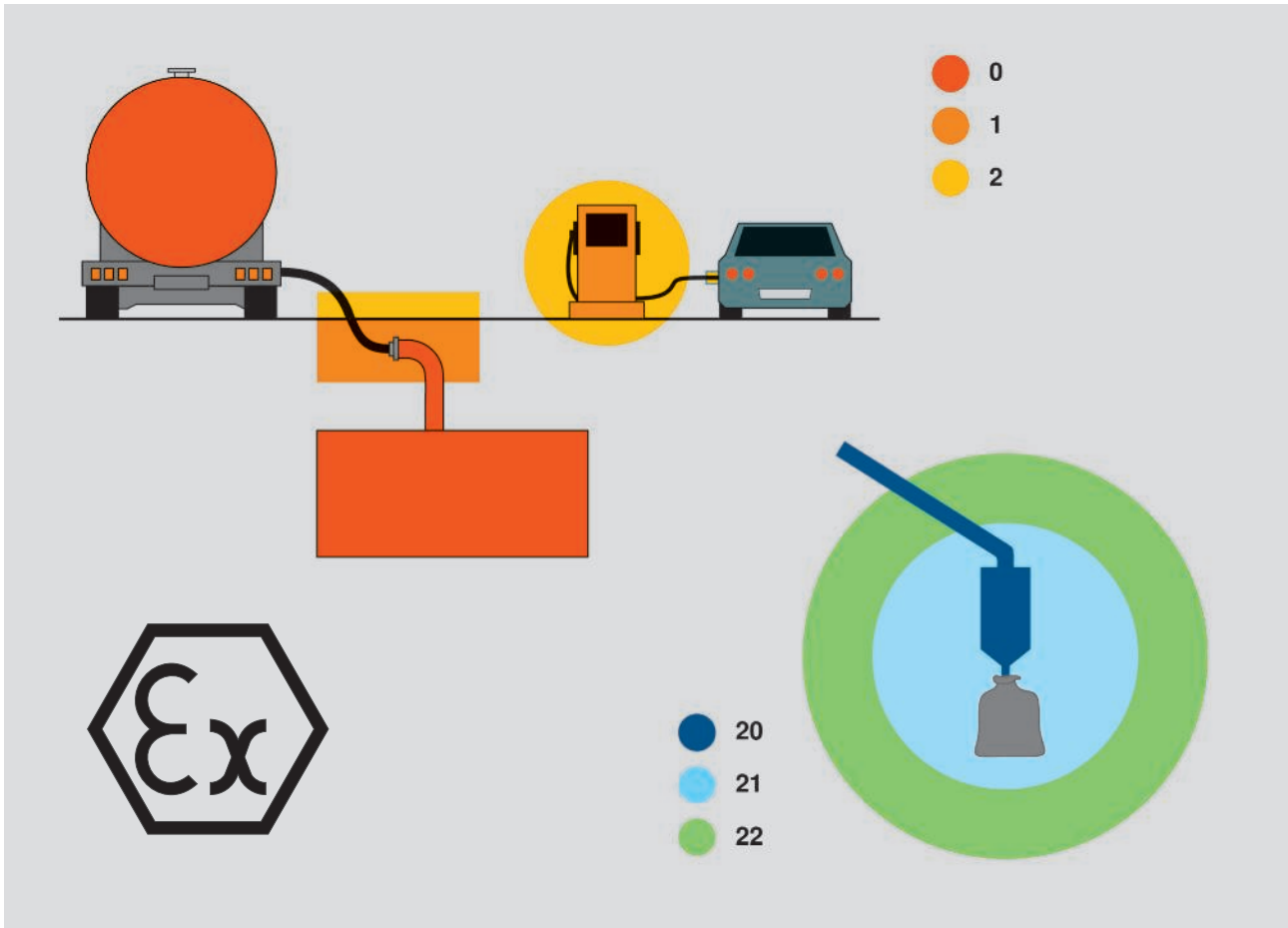
Number of connection points of the clamp connector.

7

Number of entries

Number of entries in an electrical connection box or connection socket.

Zone division for explosive areas



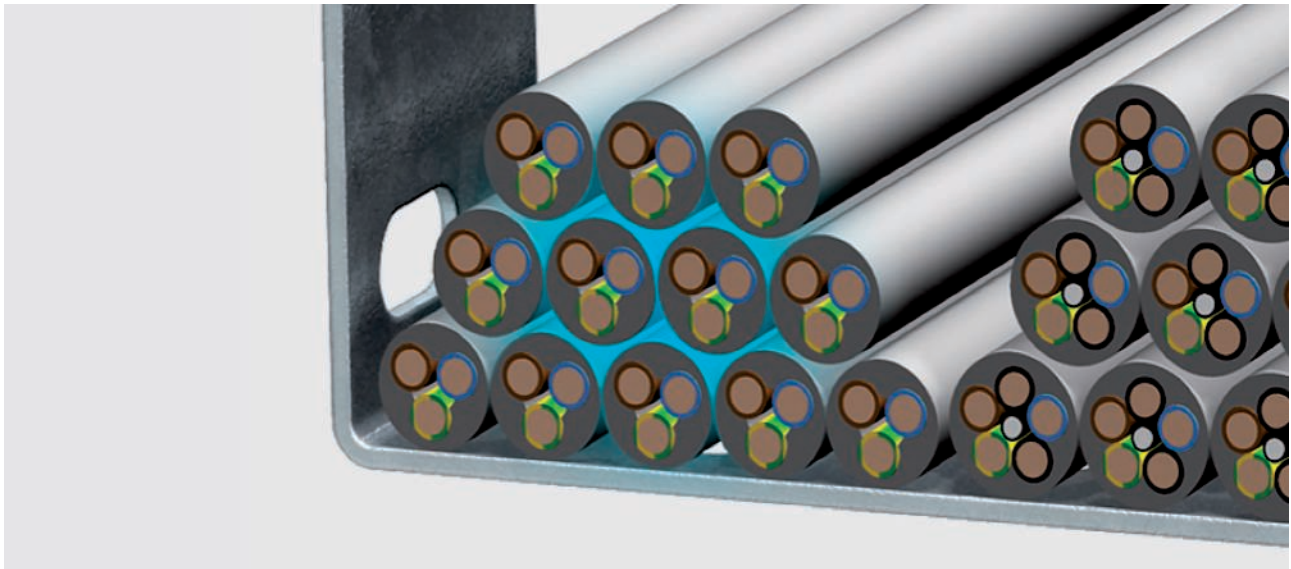
Products used in potentially explosive areas must comply with the ATEX directives. The ATEX workplace directive 1999/92/EC sets out the minimum requirements for improving the safety and health protection of workers at risk from potentially explosive atmospheres. The directive

divides areas with dangerous, potentially explosive atmospheres into zones. Ex-tested products may be used in the respective zones in accordance with their approval.

Zone allocation of device group II (applied)

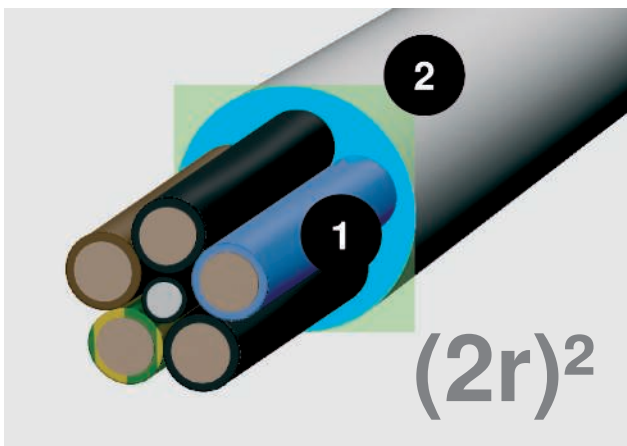
Gas	Dust
Explosive gas atmosphere, zone division to DIN EN 60079-10	Explosive dust/air mixtures, zone division to DIN EN 61214-10
Zone 0	Zone 20
An area in which it can be expected that, under normal conditions, an explosive atmosphere of gas occurs continuously or for long periods of time.	An area in which it can be expected that, under normal conditions, an explosive atmosphere of dust/air occurs continuously or for long periods of time.
Zone 1	Zone 21
An area in which it can be expected that, under normal conditions, an explosive atmosphere of gas occasionally occurs.	An area in which it can be expected that, under normal conditions, an explosive atmosphere of dust/air occasionally occurs.
Zone 2	Zone 22
Area, in which it can be expected that, under normal conditions, an explosive atmosphere of gas seldom or only briefly occurs.	Area, in which it can be expected that, under normal conditions, an explosive atmosphere of dust/air seldom or only briefly occurs.

Cable sizes



The term “cable” means a jacketed electrical cable for the transmission of electrical energy and data. Cables are given according to their nominal cross-section. The external diameter and usable cross-section depend on their nominal cross-section and the number of individual wires contained in the cable. When fastening clips or

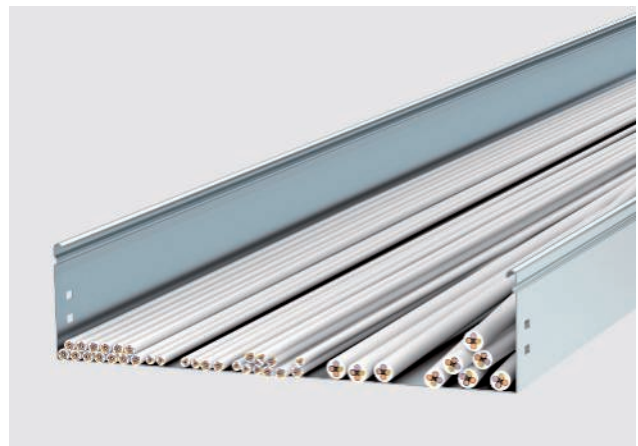
cable support systems are used, it is important to know the actual space requirements of the individual cables. It is not sufficient to take only the diameter as a basis for the calculation of the cable volume.



Circular area (1) and space required (2)

Calculation with the formula $(2r)^2$

The diameter says little about the actual space required by a cable. Calculate: $(2r)^2$. This value reflects the realistic space requirements, including the compartments.



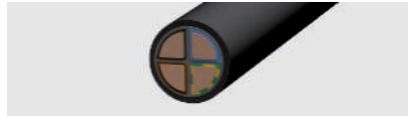
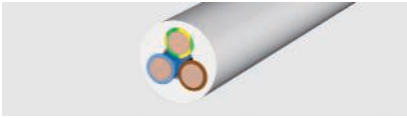
To save you work, we have listed the diameter and usable cross-section of the most important cable types below.

Important:

These values are average values, which may vary from manufacturer to manufacturer. Please refer to the manufacturer's specifications for the exact values.



Basic values for the calculation of the cable volume



Insulated power cables

Type	Diameter mm	Usable cross-section cm ²
1 x 4	6.5	0.42
1 x 6	7	0.49
1 x 10	8	0.64
1 x 16	9.5	0.9
1 x 25	12.5	1.56
3 x 1.5	8.5	0.72
3 x 2.5	9.5	0.9
3 x 4	11	1.21
4 x 1.5	9	0.81
4 x 2.5	10.5	1.1
4 x 4	12.5	1.56
4 x 6	13.5	1.82
4 x 10	16.5	2.72
4 x 16	19	3.61
4 x 25	23.5	5.52
4 x 35	26	6.76
5 x 1.5	9.5	0.9
5 x 2.5	11	1.21
5 x 4	13.5	1.82
5 x 6	14.5	2.1
5 x 10	18	3.24
5 x 16	21.5	4.62
5 x 25	26	6.76
7 x 1.5	10.5	1.1
7 x 2.5	13	1.69

Insulated power cables

Type	Diameter mm	Usable cross-section cm ²
1 x 10	10.5	1.1
1 x 16	11.5	1.32
1 x 25	12.5	1.56
1 x 35	13.5	1.82
1 x 50	15.5	2.4
1 x 70	16.5	2.72
1 x 95	18.5	3.42
1 x 120	20.5	4.2
1 x 150	22.5	5.06
1 x 185	25	6.25
1 x 240	28	7.84
1 x 300	30	9
3 x 1.5	11.5	1.32
3 x 2.5	12.5	1.56
3 x 10	17.5	3.06
3 x 16	19.5	3.8
3 x 50	26	6.76
3 x 70	30	9
3 x 120	36	12.96
4 x 1.5	12.5	1.56
4 x 2.5	13.5	1.82
4 x 6	16.5	2.72
4 x 10	18.5	3.42
4 x 16	21.5	4.62
4 x 25	25.5	6.5
4 x 35	28	7.84
4 x 50	30	9
4 x 70	34	11.56
4 x 95	39	15.21
4 x 120	42	17.64
4 x 150	47	22
4 x 185	52	27
4 x 240	58	33.6
5 x 1.5	13.5	1.82
5 x 2.5	14.5	2.1
5 x 6	18.5	3.42
5 x 10	20.5	4.2
5 x 16	22.5	5.06
5 x 25	27.5	7.56
5 x 35	34	11.56
5 x 50	40	16

Telecommunications cables

Type	Diameter mm	Usable cross-section cm ²
2 x 2 x 0.6	5	0.25
4 x 2 x 0.6	5.5	0.3
6 x 2 x 0.6	6.5	0.42
10 x 2 x 0.6	7.5	0.56
20 x 2 x 0.6	9	0.81
40 x 2 x 0.6	11	1.12
60 x 2 x 0.6	13	1.69
100 x 2 x 0.6	17	2.89
200 x 2 x 0.6	23	5.29
2 x 2 x 0.8	6	0.36
4 x 2 x 0.8	7	0.49
6 x 2 x 0.8	8.5	0.72
10 x 2 x 0.8	9.5	0.9
20 x 2 x 0.8	13	1.69
40 x 2 x 0.8	16.5	2.72
60 x 2 x 0.8	20	4
100 x 2 x 0.8	25.5	6.5
200 x 2 x 0.8	32	10.24



IT cables type Cat...

Type	Diameter mm	Usable cross-section cm ²
Cat. 5	8	0.64
Cat. 6	8	0.64



Coax cable (Standard)

Type	Diameter mm	Usable cross-section cm ²
SAT/BK cable	6.8	0.48

Selection of the correct fastening clip



Fastening clips are given with their maximum span distance as a nominal size in mm. This makes it easy to determine the appropriate clip for the planned cable volume. If the necessary clamping range is between two nominal sizes, e.g. 16 mm, we recommend using the smaller nominal size.

If cables are not fastened directly in the clip, but routed through an installation pipe for example, the relationship between the external diameter and metric or PG sizes must be observed when selecting the correct fastening clip. You will find more information on this in the table below.

Overview of external diameters, metric and PG sizes

External diameter in mm	Metric size	PG size
Up to 12	M12	PG 7
Up to 16	M16	PG 9/PG 11
Up to 20	M20	PG 13.5/PG 16
Up to 25	M25	PG 21
Up to 32	M32	PG 21
Up to 40	M40	PG 36
Up to 50	M50	PG 42/PG 48
Up to 63	M63	-



Cable glands and the DIN EN 62444 standard

Cable glands are manufactured and tested according to DIN EN 62444. Amongst other things, this standard controls the retaining ability and strain relief of cables. The V-TEC cable glands from OBO Bettermann correspond to version "A". Table 2A indicates the extraction forces that these cable glands must withstand according to the standard. The V-TEC cable glands also fulfil the requirements of DIN EN 62444 with regard to the

twist protection of cables (see Table 3). To ensure the tested dust and moisture protection of the cable glands, continuous perforations should correspond to the mounting openings specified in the standard DIN EN 62444 according to Table 1. The on-site specialist must ensure that these parameters are complied with in order to hand over a functioning system.

Table 1

Size of the penetration hole	mm	6	8	10	12	16	20	25	32	40	50	63	75
Thread of the cable gland	M	M6	M8	M10	M12	M16	M20	M25	M32	M40	M50	M63	M75
Diameter of the mounting hole (+0.2/-0.4)	mm	6.5	8.5	10.5	12.5	16.5	20.5	25.5	32.5	40.5	50.5	63.5	75.5

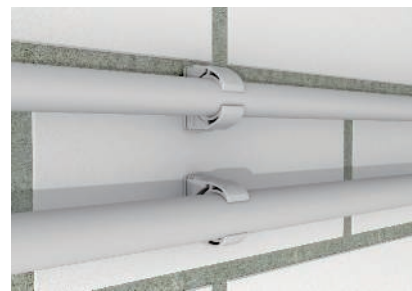
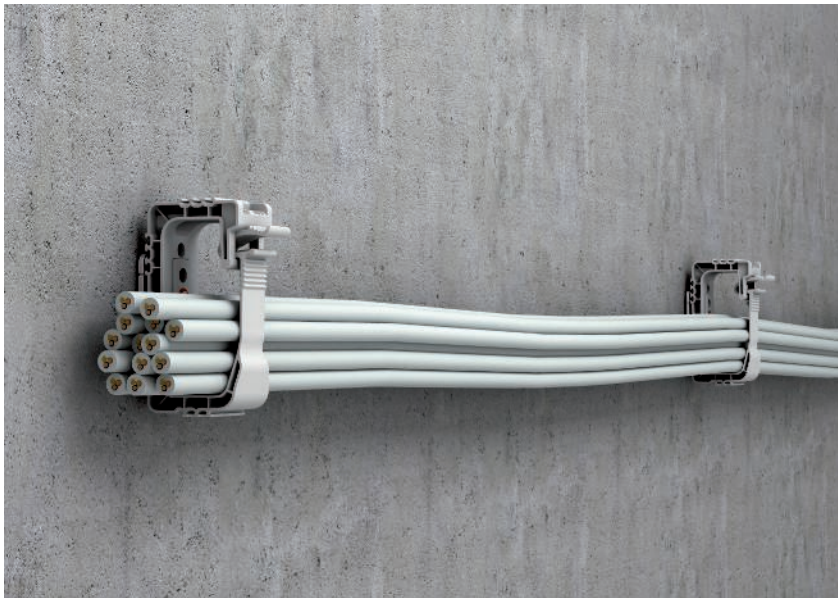
Table 2 A

Cable diameter	Retaining capacity	Strain relief, version A
mm	N	N
to 4	5	–
>4 to 8	10	30
>8 to 11	15	42
>11 to 16	20	55
>16 to 23	25	70
>23 to 31	30	80
>31 to 43	45	90
>43 to 55	55	100
>55	70	115

Table 3

Cable diameter	Torque Version A and B
mm	Nm
>4 to 8	0.10
>8 to 11	0.15
>11 to 16	0.35
>16 to 23	0.60
>23 to 31	0.80
>31 to 43	0.90
>43 to 55	1.00
>55	1.20

Information on cable fastenings



Cable fastening

The standard DIN EN 61914 "Cable holders for electrical installations" specifies that cable holders "must be able to accept cables or cable bundles of the diameter specified by the manufacturer or responsible retailer, without tearing or breaking or shearing off the threads of bolts".

During the installation of cables, the current national and international standard must be taken into account, such as DIN VDE 0100 520. "Suitable tools and methods, which prevent damage or changes to the shape" must be used for fastening.

In addition, with masses of cables, DIN VDE 0298 requires the appropriate "load capacities of cables for fixed laying in and on buildings..." to be taken into account when selecting the fastening systems.

Besides these standardising aspects, the end customer's or client's particular laying specifications can/must be taken into account.

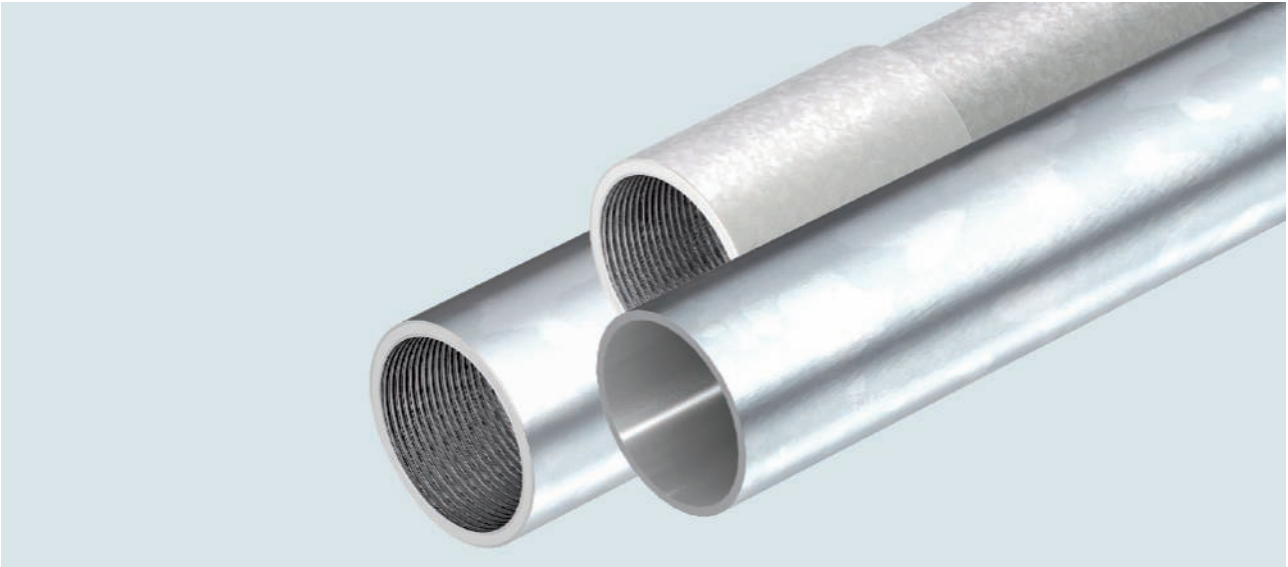
The fastening spacing for cables is given in DIN VDE 0100-520, June 2013. For example, cables laid horizontally require a spacing of 20x the cable diameter. However, a spacing of 80 cm should not be exceeded. With vertical routing, the clip spacings may be increased but should not exceed 1.5 m.

The table below shows the maximum fastening spacings for cables according to the cable diameter. The laying spacings given in the Industrial installation product catalogue, e.g. for bus holders or Quick clips, are guide values and can only be treated as such.

External diameter of the cables	Maximum spacing for horizontal fastening	Maximum spacing for vertical fastening
mm	mm	mm
$D \leq 9$	250	400
$9 < D \leq 15$	300	400
$15 < D \leq 20$	350	450
$20 < D \leq 40$	400	550



IEC classification in accordance with DIN EN 61386-1

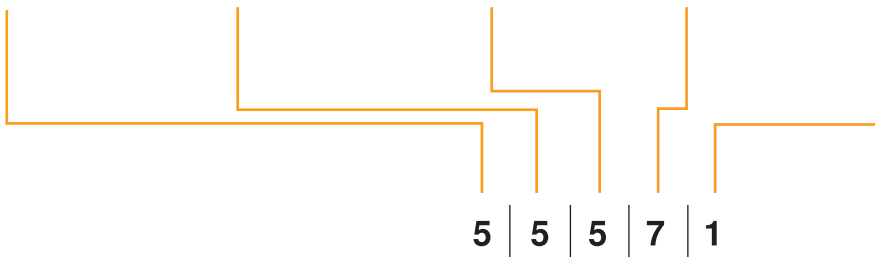


The OBO Bettermann pipe systems are machined and tested according to DIN EN 61386 (Electrical installation pipe systems for electrical energy and information) and DIN EN 60423 (External diameters of electrical installation pipes and thread for electrical installation pipes and their accessories).

Numeric code

DIN EN 61386-1 classifies installation pipes using a 12-digit numeric code, which provides information on the pressure resistance, impact resistance or use temperatures. You can find the first five digits in the product descriptions of the pipe systems.

	First digit		Second digit		Third digit		Fourth digit		Fifth digit
	Pressure resistance		Impact resistance		Lower temperature range		Upper temperature range		Bending behaviour
1	Very light (125 N)	1	Very light (0.5 kg/100 mm)	1	+5 °C	1	+60 °C	1	Rigid
2	Light (320 N)	2	Light (1.0 kg/100 mm)	2	-5 °C	2	+90 °C	2	Bendable
3	Medium (750 N)	3	Medium (2.0 kg/100 mm)	3	-15 °C	3	+105 °C	3	Pliable, self-recovering
4	Heavy (1,250 N)	4	Heavy (2.0 kg/300 mm)	4	-25 °C	4	+120 °C	4	Flexible
5	Very heavy (4,000 N)	5	Very heavy (6.8 kg/300 mm)	5	-45 °C	5	+150 °C		
						6	+250 °C		
						7	+400 °C		



Classification according to IEC EN 61386-1: Composition of the IP code

7th digit		8th digit	
	Ingress of solid bodies		Ingress of water
0		0	None declared
1		1	Protected against vertically falling water drops
2		2	Protected against vertically falling water drops, when the pipe system is tilted up to an angle of 15°
3	Protected against solid foreign objects of 2.5 mm Ø and greater	3	Protected against spraying water
4	Protected against solid foreign bodies of 1.0 mm Ø and larger	4	Protected against splashing water
5	Dust-protected	5	Protected against water jets
6	Dust-proof	6	Protection against powerful water jets
7		7	Protected against the effects of temporary immersion in water

Classification according to IEC EN 61386-1: Corrosion protection

9th digit		Suitable surfaces
Resistance against corrosion		
1	Low protection, inside and outside	
2	Medium protection, inside and outside	<ul style="list-style-type: none"> • Black coated (SW) • Electrogalvanised (G) • Strip galvanised (FS)
3	Medium protection inside, high protection outside	
4	High protection inside and outside	<ul style="list-style-type: none"> • Hot-dip galvanised (FT) • Stainless steel (V2A, V4A)



Protection against mechanical loads

OBO metal pipes are particularly suited to use under tough industrial conditions. They provide reliable protection against very heavy mechanical loads during cable routing.

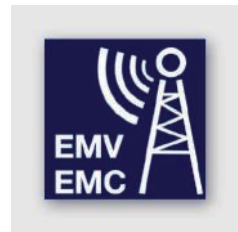
The different material and surface qualities, from galvanised to painted, allow perfect adaptation to the requirements of the appropriate environment.

Maintenance of electrical function to E30/E90

Our steel pipes guarantee the maintenance of electrical function to E30/E90. They are thus ideal for the connection of safety-relevant equipment, such as smoke extraction systems.



Definition of electromagnetic compatibility (EMC)



Recent years have seen the use of electronic circuits increase continually. Whether in industrial systems, medicine, households, telecommunications systems or electrical building installations – we find powerful electrical equipment and systems everywhere, and these switch ever greater currents, achieve greater radio ranges and transport ever more power in smaller spaces.

However, the use of state-of-the-art technology means that the complexity of applications also increases. The consequence of this is that ever more opposing influences (electromagnetic interferences) can occur from system parts and cables, causing damage and economic losses.

Here, we talk of electromagnetic compatibility:

Electromagnetic compatibility (EMC) is the ability of an electrical unit to function satisfactorily in its electromagnetic environment, without inappropriately influencing this environment, to which other units also belong (VDE 0870-1). In terms of standardisation, electromagnetic compatibility is dealt with by the EMC Directive 2004/108/EC. This means that electrical resources emit electromagnetic interferences (emissions), which are picked up by other devices or units (immision) that act as receivers (interference sink). This in turn means that the function of an interference sink can be severely reduced and, in the worst-case scenario, result in total failure and economic losses. The interferences can then spread along cables or in the form of electromagnetic waves.

Path of faults

Fault source (transmitting emissions)	Coupling of interference variables (spreading of interference)	Fault sink (receiving emissions)
For example - Mobile telephones - Switching components - Ignition systems - Frequency converters - Lightning strike - Welding devices	- Galvanic - Inductive - Capacitive - Electromagnetic	- Process computer - Radio receiver systems - Controllers - Converters - Measuring units

Guarantee of EMC



Guaranteeing EMC

A systematic planning process is necessary to guarantee EMC. The interference sources must be identified and quantified. The coupling describes the spread of the interference from the interference source up to the device being influenced, the interference sink. The task of EMC planning is to ensure the compatibility at the source, coupling path and sink using suitable measures. During their daily work, planners and installation engineers are confronted with this subject on an increasingly regular basis. This means that EMC is a basic factor to be taken into consideration during the planning of installations and cabling systems.

Due to the high complexity of electromagnetic compatibility, the problems of EMC must be analysed and solved using simplifying hypotheses and models, as well as experiments and measurements.

Cable support systems and their contribution to EMC

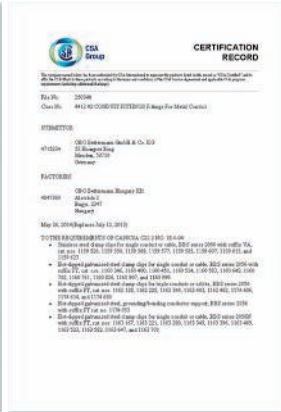
Cable support systems can make an important contribution to the improvement of EMC. They are passive and can thus make a safe, long-lasting

contribution to EMC through the fact that cables are run within cable support systems or are shielded by them. Routing cables inside cable support systems greatly reduces the galvanic decoupling and coupling due to electrical and magnetic fields in the cables. Thus, cable support systems can make a contribution to the reduction of coupling from the source to the sink. The shielding action of cable support systems can be quantified by the coupling resistance and the shield attenuation. This gives the planner important engineering parameters for cable support systems for EMC engineering.

Lightning discharge

From the analysis of the effectiveness of EMC in buildings (EN 62305-4), we know that lightning discharge is one of the greatest sources of interference to be expected. This causes a direct current feed into the entire equipotential bonding system in the building and/or to magnetic decoupling of interference currents in electrical cables. With regard to these couplings, cable support systems can offer an effective contribution to the reduction of interference voltages.

Standards, specifications and certifications



Standards

OBO offers products for professionals, made by professionals. Our products are manufactured and tested according to the respective specifications of the standards. For example, DIN EN 61537 describes all the relevant parameters for cable support systems, such as the area of application, test conditions, corrosion resistance and temperature classification. As a highly competent manufacturer, OBO subjects itself to these requirements on a daily basis. Comprehensive test procedures guarantee that systems which conform to standards function safely.

Specifications

All the OBO products and systems are CE-compliant according to the appropriate EC guidelines. This also applies to standard parts such as bolts, washers and nuts that are components of various product systems. The appropriate EC declaration of conformity certifies agreement with the named directives or standards, but does not guarantee properties. The safety instructions in the product information and the general safety regulations must be complied with during installation and use.

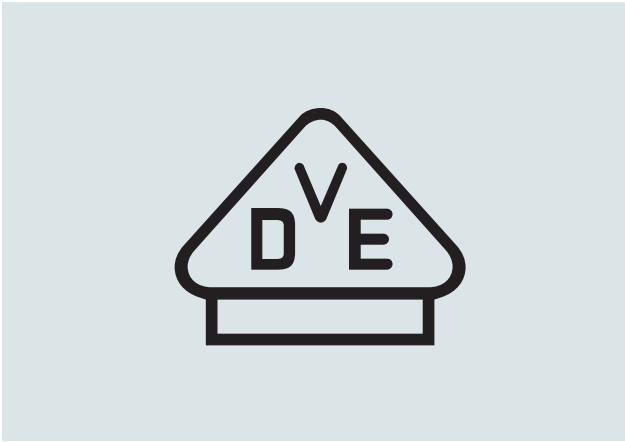
Certifications

For OBO, product quality is closely connected to continuous testing and checking – which is why we manufacture almost all our products ourselves. This enormous depth of production is an expression of our demand for quality. From construction, and the materials used through production, right up to logistics, our employees personally guarantee the quality and availability of OBO products.

The multitude of approvals emphasise our high demand for quality and product functionality.

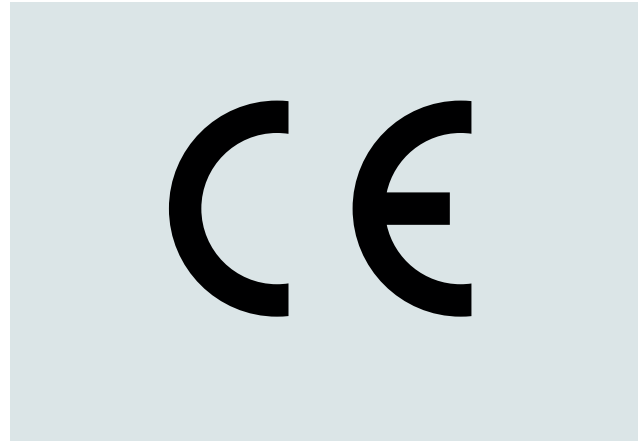
Our integrated quality management system forms the solid basis of our ISO 9001 certification, which we have held since 1994. The confirmation of suitability enables defined and workable processes in accordance with KTA 1401 and 10 CFR 50.

Certificates and test marks



VDE

VDE is the Association for Electrical, Electronic and Information Technologies, their study and the technologies and applications based upon them. The VDE mark on electrical equipment is proof that the equipment complies with VDE regulations and/or European or international harmonised standards, and meets the safety requirements of the applicable directives. The VDE mark indicates that a product is safe in relation to electrical, mechanical, thermal, toxic, radiological and other hazards.



CE symbol

Technical resources included in a legal ordinance, i.e. electrical resources, machines and safety components, must have a CE symbol, with which the manufacturer confirms that the safety requirements of the ordinances are fulfilled. In addition, there must also be a declaration of conformity and technical documentation. The CE symbol is not a quality mark, but simply a declaration by the manufacturer that they have complied with the legal requirements and the codes of practice.



UL

Underwriters Laboratories (UL) is an independent organisation that tests and certifies product safety. UL certification is generally required if a product is to be sold on the US market.

UL offers various certification options: The "UL Listed"



test mark indicates that UL has tested representative samples of a product and that it conforms to UL's safety requirements. The "UL Recognized" component test mark entitles a product to be used in a product or system bearing the "UL Listed" test mark.

First-hand support and knowledge



OBO seminars: First-hand knowledge

With a comprehensive programme of training courses and seminars, OBO supports its customers with first-hand specialist knowledge. Besides the theoretical principles, practical everyday implementation is also dealt with. Special calculation and application examples round off the comprehensive programme of knowledge transfer.

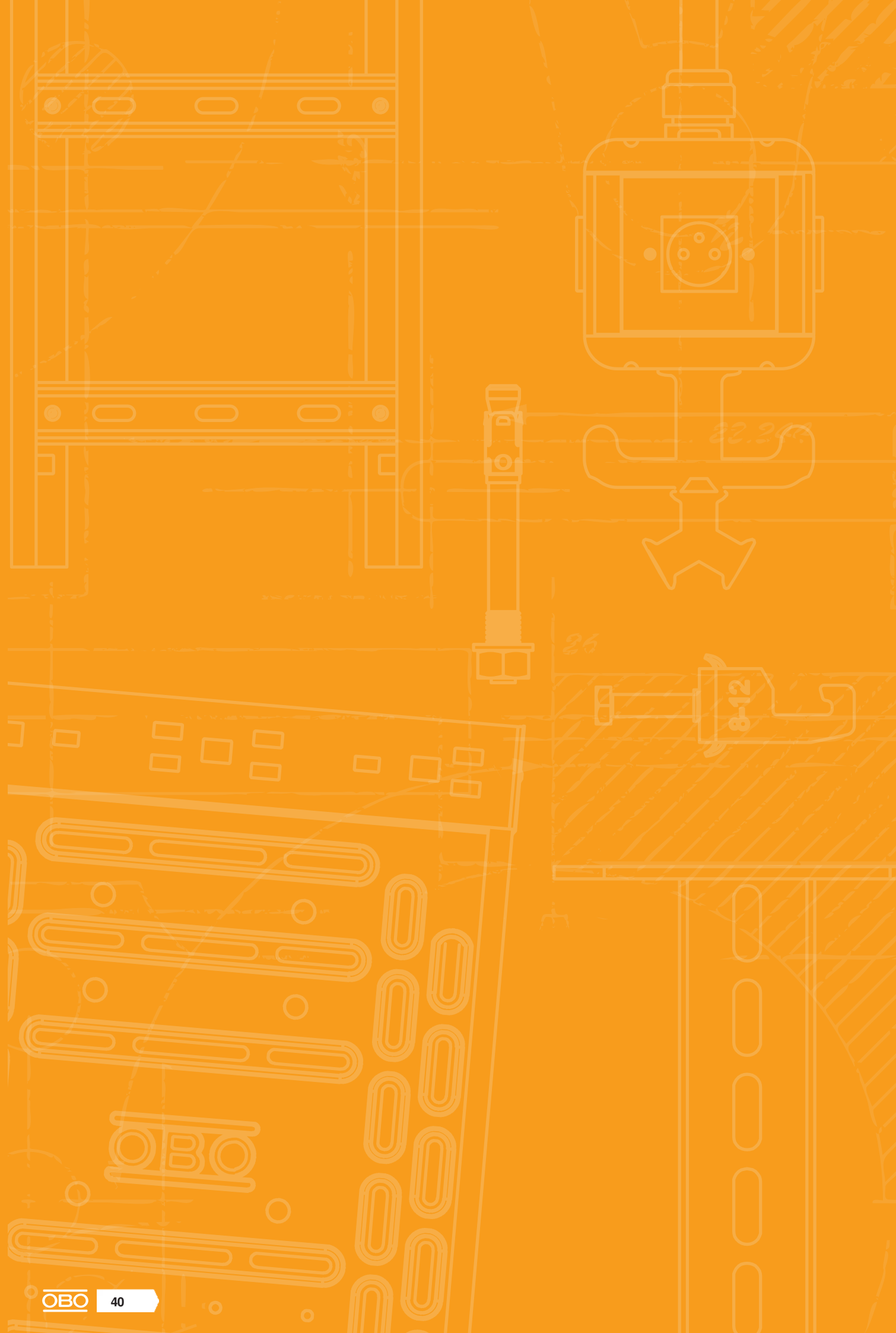
Invitations to tender, product information and data sheets

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 on the Internet at www.ausschreiben.de

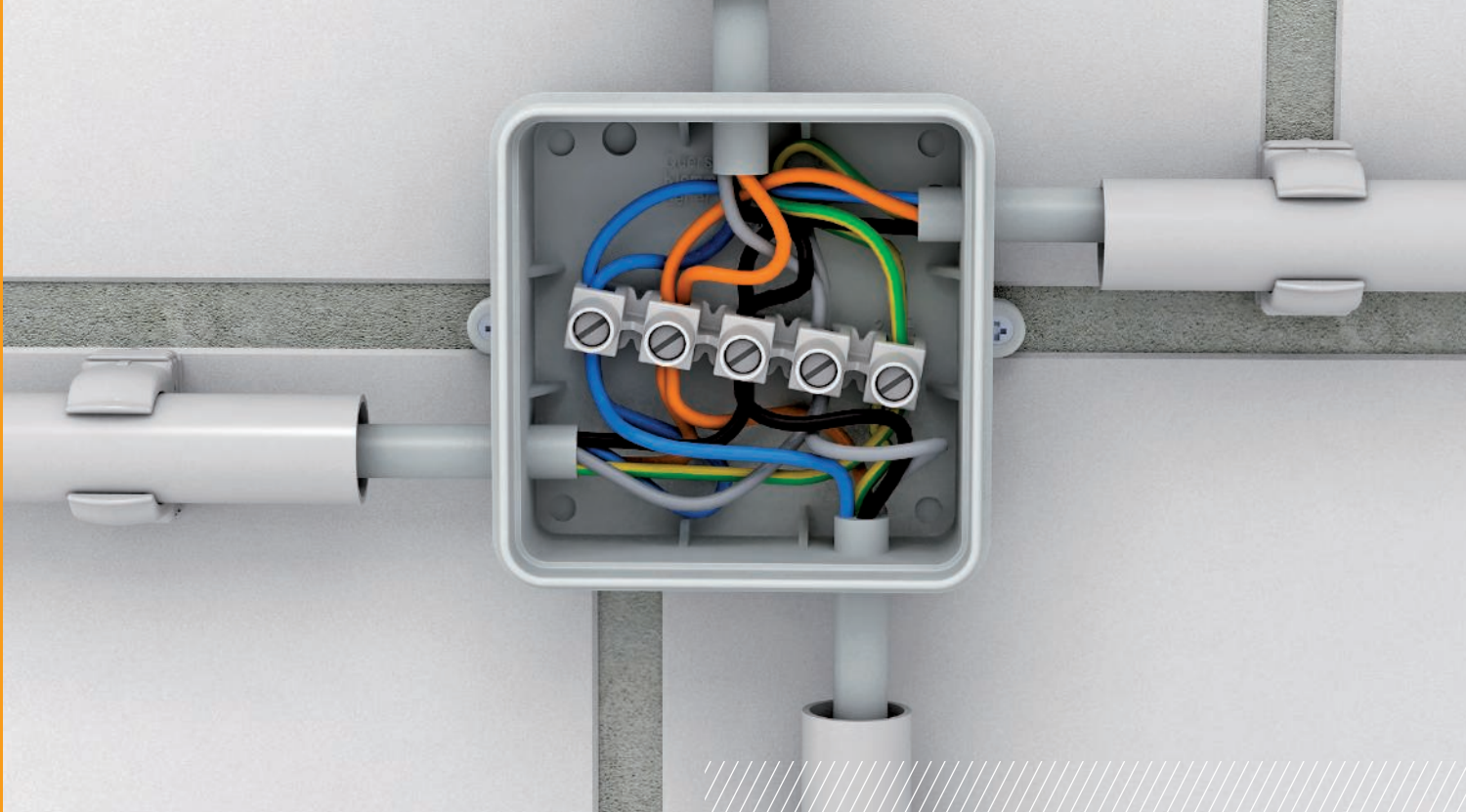
More than 10,000 entries from the different ranges can be called up free of charge. Regular updates and extensions mean that you always have a comprehensive overview of the OBO products. All the current file formats (PDF, DOC, GAEB, HTML, TEXT, XML, ÖNORM) are available. www.ausschreiben.de



Junction boxes

	A series	42
	T series	46
	X series	62
	Mx series	94
	Aquasit cold casting compound	96





Junction boxes A series

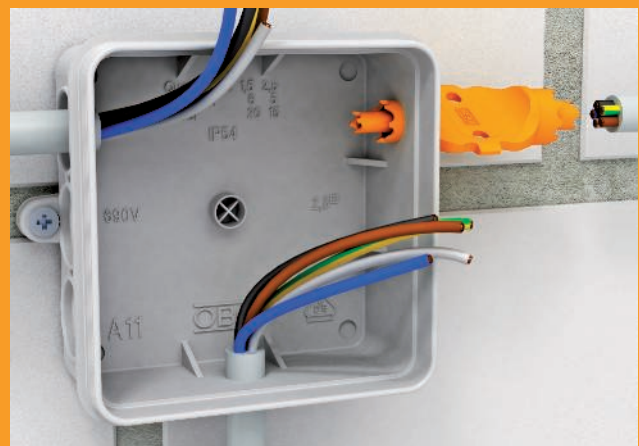
Classic and still youthful: The well-known junction boxes of the A series have had a makeover. Halogen-free thermoplastic is just as much of a hallmark of the A series as a tight-fitting clamshell and pre-marked cable entries. A protection rating of IP55 and practical external fastenings round off the profile of the classic item.



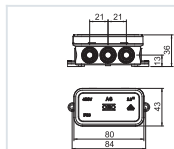
- Halogen-free thermoplastic
- Sturdy external fastenings
- Quick mounting with snug-fitting clamshell
- Suitable for wet rooms, IP55

Pre-marked cable entry

The pre-marked cable entries can be opened with a knife or using the cut-out tool supplied.



Junction box A 6

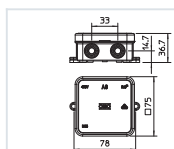


Type	A 6
Colour	Light grey
Dimension LxWxH mm	80x43x36
Clear internal dimensions mm	69x32x30
Pack Piece	10
Weight kg/100 pc.	2.560
Item no.	2000001

PE Polyethylene

Protection rating IP55, rated voltage 400 V, nominal cross-section 2.5 mm², 6 entries for cable diameter 5–14 mm
 4 entries for cable diameter 5–9 mm.
 Clamshell.
 Dimensions: 80 x 43 x 36 mm
 Clear internal dimensions: 69 x 32 x 30 mm
 1 cut-out tool for every 10 boxes

Junction box A 8

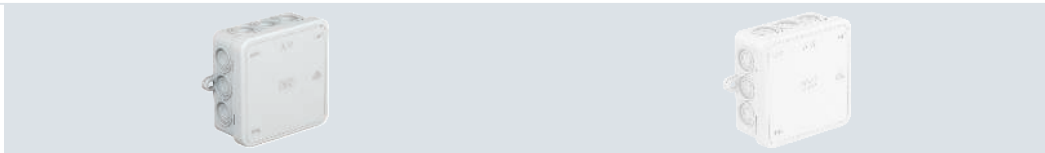
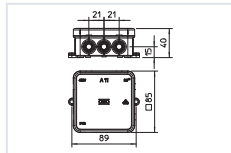


Type	A 8	A 8 HF RW
Accessories	without terminal strip	without terminal strip
Colour	Light grey	Pure white
Dimension LxWxH mm	75x75x36,7	75x75x36,7
Clear internal dimensions mm	65x65x32	65x65x32
Pack Piece	10	10
Weight kg/100 pc.	3.649	5.140
Item no.	2000016	2000075

PE Polyethylene

Protection rating IP55, rated voltage 400 V, nominal cross-section 2.5 mm², 7 entries for cable diameter 5–14 mm.
 Clamshell.
 Dimensions: 75 x 75 x 36.2 mm
 Clear internal dimensions: 65 x 65 x 32 mm
 1 cut-out tool for every 10 boxes

Junction box A 11

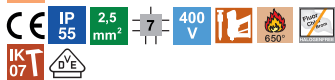


Type	A 11	A 11 HF RW
Accessories	without terminal strip	without terminal strip
Colour	Light grey	Pure white
Dimension LxWxH mm	85x85x40	85x85x40
Clear internal dimensions mm	75x75x35	75x75x35
Pack Piece	10	10
Weight kg/100 pc.	6.200	6.200
Item no.	2000342	2000180

PE Polyethylene

Protection rating IP55, rated voltage 400 V, nominal cross-section 2.5 mm², 12 entries for cable diameters of 5–14 mm.
 Clamshell.
 Dimensions: 85 x 85 x 40 mm
 Clear internal dimensions: 75 x 75 x 35 mm
 1 cut-out tool for every 10 boxes

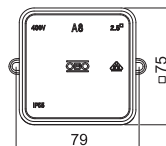
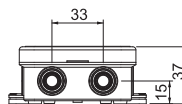
PE



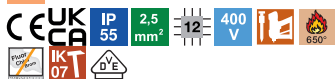
Junction box A 8 with terminal strip

Type	Accessories	Colour	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
A 8 5	1 terminal strip	Light grey	75x75x36,7	65x65x32	10	6.500	2000024

Protection rating IP55, nominal voltage 690 V, nominal cross-section 2,5 mm², 7 entries for cable diameter 5–14 mm.
Clamshell.
Dimensions: 75 x 75 x 36,2 mm
Clear internal dimensions: 65x65x32 mm
1 cut-out tool for every 10 boxes



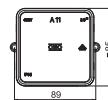
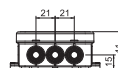
PE



Junction box A 11 with terminal strip

Type	Accessories	Colour	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
A 11 5	1 terminal strip	Light grey	85x85x40	75x75x35	10	7.640	2000326

Protection rating IP55, nominal voltage 690 V, nominal cross-section 2,5 mm², 12 entries for cable diameter 5–14 mm.
Clamshell.
Dimensions: 85 x 85 x 40 mm
Clear internal dimensions: 75x75x35 mm
1 cut-out tool for every 10 boxes





Junction boxes T series

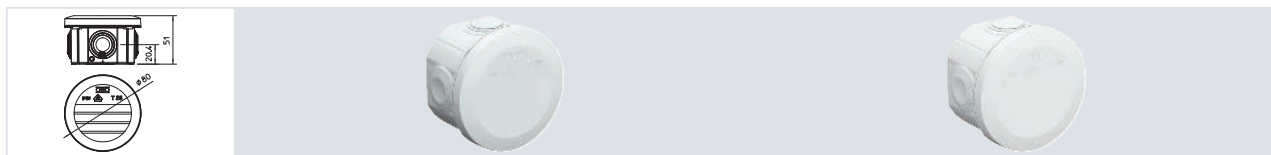
Intelligence is the natural characteristic of the T series: Our developers have used high-quality materials, sensible wall thicknesses and a stable construction to ensure that the T series can stand up to even the hardest conditions. All the boxes are made of halogen-free polypropylene and do not contain fluorine, chlorine or bromine.



- Wide range: Seven sizes, six variants
- High impermeability of IP 66
- High impact resistance - IK 08
- White variants with UV protection for outdoor use
- Flame-resistant: Standard up to 650 °C, special models up to 960 °C
- Halogen-free: Without chlorine, fluorine or bromine



Junction box T 25, plug-in seal

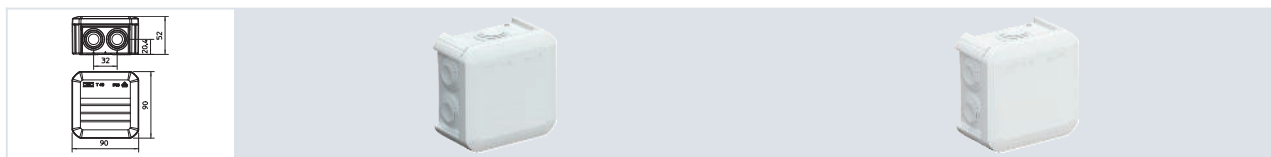


Type	T 25	T 25 RW
Colour	Light grey	Pure white
Entries	4 x M25	4 x M25
Dimension mm	Ø80x51	Ø80x51
Clear internal dimensions mm	Ø63x45	Ø63x45
Pack Piece	5	5
Weight kg/100 pc.	4.190	4.190
Item no.	2007029	2007509

PP Polypropylene

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Round design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting, on mounting panels and threads in the floor. With the option to fasten inside. With fixed clamping cover. Made from halogen-free and UV-stabilised materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK07 according to DIN EN 50102.

Junction box T 40, plug-in seal



Type	T 40	T 40 RW
Colour	Light grey	Pure white
Entries	7 x M25	7 x M25
Dimension LxWxH mm	90x90x52	90x90x52
Clear internal dimensions mm	77x77x46	77x77x46
Pack Piece	5	5
Weight kg/100 pc.	6.700	6.700
Item no.	2007045	2007517

PP Polypropylene

Junction box for the connection of cables indoors and in protected outdoor areas. Square design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside. With fixed clamping cover. Made from halogen-free, UV-stabilised materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650°C. Impact resistance IK07 according to DIN EN 50102.

Junction box T 60, plug-in seal



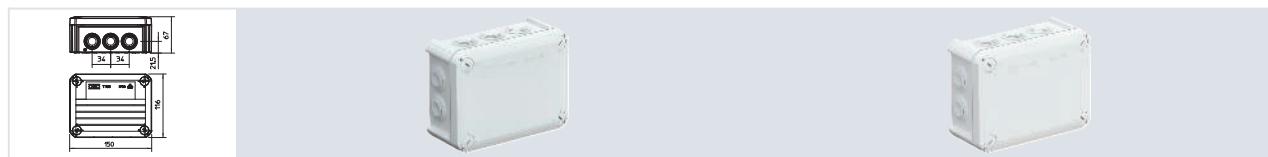
Type	T 60	T 60 RW
Colour	Light grey	Pure white
Entries	7 x M25	7 x M25
Dimension LxWxH mm	114x114x57	114x114x57
Clear internal dimensions mm	100x100x48	100x100x48
Pack Piece	5	5
Weight kg/100 pc.	12.300	12.300
Item no.	2007061	2007525

PP Polypropylene

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Square design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilised materials.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK07 according to DIN EN 50102.

Junction box T 100, plug-in seal



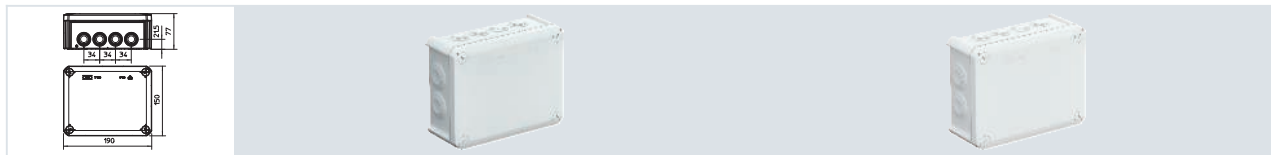
Type	T 100	T 100 RW
Colour	Light grey	Pure white
Entries	10 x M25	10 x M25
Dimension LxWxH mm	150x116x67	150x116x67
Clear internal dimensions mm	136x102x57	136x102x57
Pack Piece	1	1
Weight kg/100 pc.	16.500	16.270
Item no.	2007077	2007533

PP Polypropylene

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilised materials.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK07 according to DIN EN 50102.

Junction box T 160, plug-in seal



Type	T 160	T 160 RW
Colour	Light grey	Pure white
Entries	7 x M25 5 x M32	7 x M25 5 x M32
Dimension LxWxH mm	190x150x77	190x150x77
Clear internal dimensions mm	176x135x67	176x135x67
Pack Piece	1	1
Weight kg/100 pc.	30.000	30.000
Item no.	2007093	2007541

PP/GF Polypropylene, fibreglass reinforced

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilised materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK05 according to DIN EN 50102.

Junction box T 250, plug-in seal



Type	T 250	T 250 RW
Colour	Light grey	Pure white
Entries	9 x M25 7 x M32	9 x M25 7 x M32
Dimension LxWxH mm	240x190x95	240x190x95
Clear internal dimensions mm	225x173x86	225x173x86
Pack Piece	1	1
Weight kg/100 pc.	50.000	50.000
Item no.	2007109	2007554

PP/GF Polypropylene, fibreglass reinforced

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting, on mounting panels and threads in the floor. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilised materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK05 according to DIN EN 50102.

Junction box T 350, plug-in seal



Type	T 350	T 350 RW
Colour	Light grey	Pure white
Entries	16 x M32 8 x M40	16 x M32 8 x M40
Dimension LxWxH mm	285x201x120	285x201x120
Clear internal dimensions mm	267x182x110	267x182x110
Pack Piece	1	1
Weight kg/100 pc.	63.000	63.000
Item no.	2007125	2007568

PP/GF Polypropylene, fibreglass reinforced

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilised materials.
 Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK05 according to DIN EN 50102.

PP

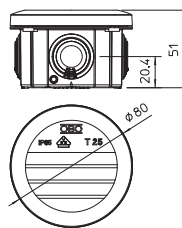


Junction box T 25, plug-in seal, terminal strip

Type	Colour	Entries	Dimension mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 25 KL	Light grey	4 x M25	Ø80x51	Ø63x45	5	6.400	2007430

Junction box with terminal strip for the connection of cables and lines indoors and in protected outdoor areas. Round design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting, on mounting panels and threads in the floor. With the option to fasten inside. With fixed clamping cover. Made from halogen-free and UV-stabilised materials.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK07 according to DIN EN 50102.



PP

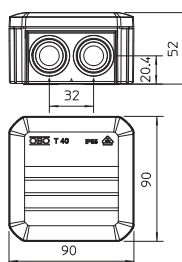


Junction box T 40, plug-in seal, terminal strip

Type	Colour	Entries	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 40 KL	Light grey	7 x M25	90x90x52	77x77x46	5	8.900	2007432

Junction box with terminal strip for the connection of cables and lines indoors and in protected outdoor areas. Square design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside. With fixed clamping cover. Made from halogen-free, UV-stabilised materials.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK07 according to DIN EN 50102.



PP

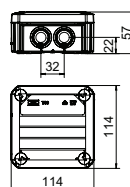


Junction box T 60, plug-in seal, terminal strip

Type	Entries	Colour	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 60 KL	7 x M25	Light grey	114x114x57	100x100x48	5	16.700	2007434

Junction box with terminal strip for the connection of cables and lines indoors and in protected outdoor areas. Square design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilised materials.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK07 according to DIN EN 50102.



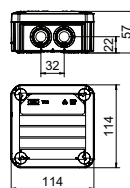
PP



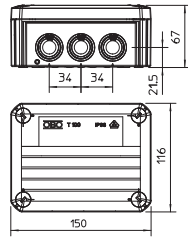
Junction box T 60, plug-in seal, terminal strip, cast resin

Type	Colour	Entries	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 60 hars	Light grey	7 x M25	114x114x57	100x100x48	1	64.000	2010007

Set consisting of a T 60 junction box with terminal strip, casting resin and a pair of disposable gloves. 2-component casting resin in a mixing bag to protect the electrical installation against moisture, in accordance with the IP68 protection class, and mechanical loads.



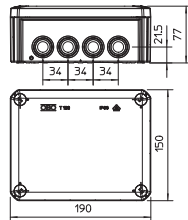
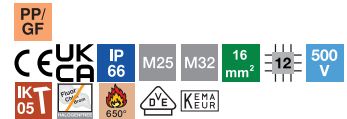
Junction box T 100, plug-in seal, terminal strip



Type	Colour	Entries	Dimension LxWxH mm	Dimension internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 100 KL	Light grey	10 x M25	150x116x67	136x102x57	1	40.000	2007436

Junction box with terminal strip for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK07 according to DIN EN 50102.

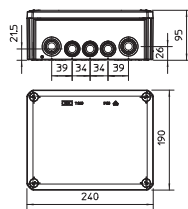
Junction box T 160, plug-in seal



Type	Colour	Entries	Dimension LxWxH mm	Dimension internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 160 KL	Light grey	7 x M25 5 x M32	190x150x77	176x135x67	1	64.200	2007440

Junction box with terminal strip for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK05 according to DIN EN 50102.

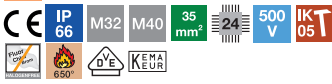
Junction box T 250, plug-in seal, terminal strip



Type	Colour	Entries	Dimension LxWxH mm	Dimension internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 250 KL	Light grey	9 x M25 7 x M32	240x190x95	225x173x86	1	79.500	2007444

Junction box with terminal strip for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting, on mounting panels and threads in the floor. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK05 according to DIN EN 50102.

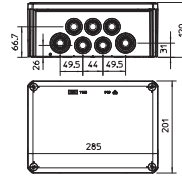
PP/ GF



Junction box T 350, plug-in seal, terminal strip

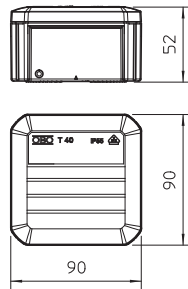
Type	Colour	Entries	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 350 KL	Light grey	16 x M32 8 x M40	285x201x120	267x182x110	1	95.700	2007448

Junction box with terminal strip for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design with plug-in seals. Suitable for wall and ceiling mounting, on mounting panels and threads in the floor. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK05 according to DIN EN 50102.



Junction box T 40, closed

PP

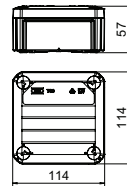


Type	Colour	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 40 OE	Light grey	90x90x52	77x77x46	5	6.300	2007223

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Square design without entries. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. With fixed clamping cover. Made from halogen-free and UV-stabilized materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK07 according to DIN EN 50102.

Junction box T 60, closed

PP

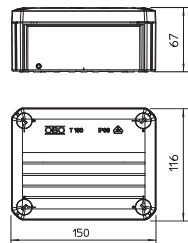


Type	Colour	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 60 OE	Light grey	114x114x57	100x100x46	5	12.000	2007239

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Square design without entries. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK08 according to DIN EN 50102.

Junction box T 100, closed

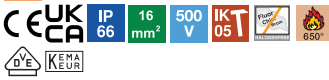
PP



Type	Colour	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 100 OE	Light grey	150x116x67	136x102x57	1	16.200	2007255

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design without entries. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK07 according to DIN EN 50102.

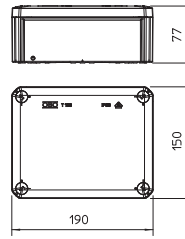
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Junction box T 160, closed

Type	Colour	Dimension		Pack Piece	Weight kg/100 pc.	Item no.
		LxWxH mm	Clear internal dimensions mm			
T 160 OE	Light grey	190x150x77	176x135x67	1	30.000	2007271

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design without entries. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK05 according to DIN EN 50102.



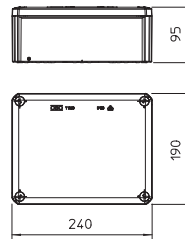
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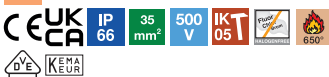
Junction box T 250, closed

Type	Colour	Dimension		Pack Piece	Weight kg/100 pc.	Item no.
		LxWxH mm	Clear internal dimensions mm			
T 250 OE	Light grey	240x190x95	225x173x86	1	48.300	2007287

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design without entries. Suitable for wall and ceiling mounting, on mounting panels and threads in the floor. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK05 according to DIN EN 50102.



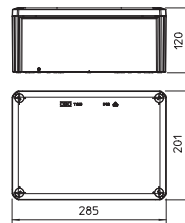
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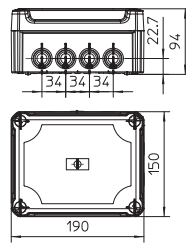
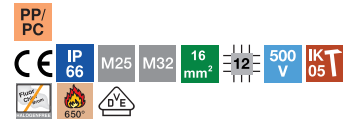
Junction box T 350, closed

Type	Colour	Dimension		Pack Piece	Weight kg/100 pc.	Item no.
		LxWxH mm	Clear internal dimensions mm			
T 350 OE	Light grey	285x201x120	267x182x110	1	58.800	2007303

Closed junction box for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design without entries. Suitable for wall and ceiling mounting, on mounting panels and threads in the floor. With the option to fasten inside and to mount via the corner domes. Cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK05 according to DIN EN 50102.



Junction box T160, plug-in seal, elevated cover

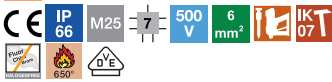


Type	Entries	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 160 HD LGR	7xM25 5xM32	190x150x94	176x135x84	1	34.180	2007714

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. High, transparent cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. With hat profile rail.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK05 according to DIN EN 50102.

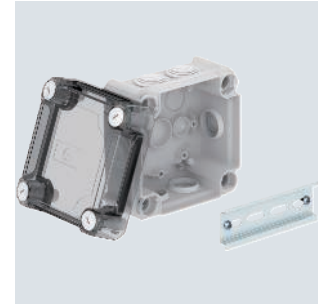
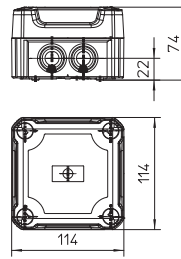
PP/PC



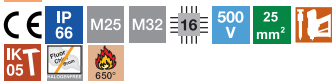
Junction box T60, with plug-in seal, transparent elevated cover

Type	Entries	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 60 HD TR	7xM25	114x114x74	100x100x65	1	17.180	2007750

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Square design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting and on mounting panels. With the option to fasten inside and to mount via the corner domes. High cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. With hat profile rail. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK07 according to DIN EN 50102.



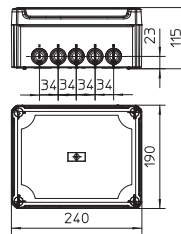
PP/PC



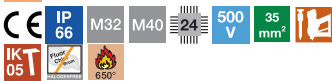
Junction box T250, with plug-in seal, transparent elevated cover

Type	Entries	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 250 HD TR	9xM25 7xM32	240x190x112	225x173x103	1	52.010	2007756

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design with plug-in seals to the sides and knock-out entries in the bottom. Suitable for wall and ceiling mounting, on mounting panels and threads in the floor. With the option to fasten inside and to mount via the corner domes. High, transparent cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. With hat profile rail. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK05 according to DIN EN 50102.



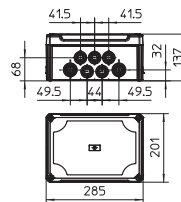
PP/PC



Junction box T350, with plug-in seal, transparent elevated cover

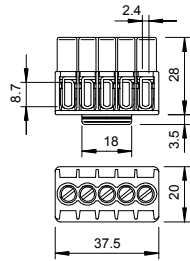
Type	Entries	Dimension LxWxH mm	Clear internal dimensions mm	Pack Piece	Weight kg/100 pc.	Item no.
T 350 HD TR	16xM32 8xM40	285x201x137	267x182x127	1	72.760	2007758

Junction box for the connection of cables and lines indoors and in protected outdoor areas. Rectangular design with plug-in seals. Suitable for wall and ceiling mounting, on mounting panels and threads in the floor. With the option to fasten inside and to mount via the corner domes. High, transparent cover with quick lock, sealable. Made from halogen-free and UV-stabilized materials. With hat profile rail. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK05 according to DIN EN 50102.



Terminal strip 1–4 mm², junction box, T series

PA

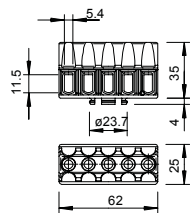


Type	Colour	No. of terminals	Nominal cross-section mm ²	Nom. V	Pack Piece	Weight kg/100 pc.	Item no.
KL-T 01-04	Light grey	5	1-4	400	10	2.100	2016180

Terminals and screws made of steel, galvanised and transparent-chromated, nominal cross-section 1 ÷ 4 mm², rated voltage 400 V, five-pole, with socket terminals, max. connectable cross-sections per terminal: 4x2.5 mm², 5x1.5 mm² or 6x1 mm².

Terminal strip 1.5–6 mm², junction box, T series, X series

PA

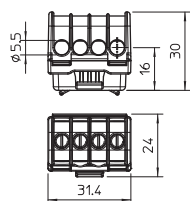


Type	Colour	No. of terminals	Nominal cross-section mm ²	Nom. V	Pack Piece	Weight kg/100 pc.	Item no.
KL-T 02-06	Light grey	5	1.5-6	400	10	4.380	2016185

Terminals and screws made of steel, galvanised and transparent-chromated, nominal cross-section 1.5 ÷ 6 mm², rated voltage 400 V, five-pole, with socket terminals, max. connectable cross-sections per terminal: 3x6 mm², 4x4 mm² or 6x2.5 mm².

Terminal strip 6–16 mm², junction box, T series, X series

PA

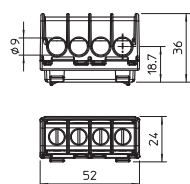


Type	Colour	No. of terminals	Nominal cross-section mm ²	Nom. V	Pack Piece	Weight kg/100 pc.	Item no.
KL-T 06-16	Light grey	4	6-16	400	10	1.970	2016190

Brass terminals, steel screws, electrogalvanised and transparently passivated, nominal cross-section 6 ÷ 16 mm², nominal voltage 400 V, 1-pin, with terminal sockets, max. connectable conductor per terminal 4 x 16 mm², 4 x 10 mm², 8 x 6 mm² or 12 x 4 mm².

Terminal strip 16–35 mm², junction box, T series, X series

PA



Type	Colour	No. of terminals	Nominal cross-section mm ²	Nom. V	Pack Piece	Weight kg/100 pc.	Item no.
KL-T 16-35	Light grey	4	16-35	400	10	5.630	2016195

Brass terminals, steel screws, electrogalvanised and transparently passivated, nominal cross-section 16 ÷ 35 mm², nominal voltage 400 V, 1-pin, with terminal sockets, max. connectable conductor per terminal 4 x 35 mm², 4 x 25 mm², 8 x 16 mm² or 12 x 10 mm².

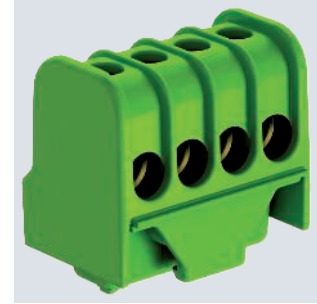
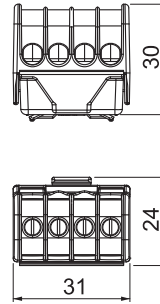
PA



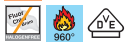
Protective conductor terminal, with screw contacts, 4 terminals

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
KL-DBS4x16GN	Green	10	1.980	2016250

Protective conductor connection terminal strip, brass, steel screws, electrogalvanised and transparently passivated, nominal cross-section 6 ÷ 16 mm², nominal voltage 400 V, 1-pole, with terminal sockets, max. connectable conductors per terminal 4 x 16 mm², 4 x 10 mm², 8 x 6 mm² or 12 x 4 mm².



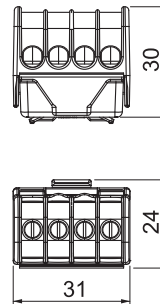
PA



Neutral conductor terminal, with screw contacts, 4 terminals

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
KL-DBN4x16BL	Blue	10	1.980	2016255

Neutral conductor connection terminal, brass, steel screws, electrogalvanised and transparently passivated, nominal cross-section 6 ÷ 16 mm², nominal voltage 400 V, 1-pole, with terminal sockets, max. connectable conductors per terminal 4 x 16 mm², 4 x 10 mm², 8 x 6 mm² or 12 x 4 mm².



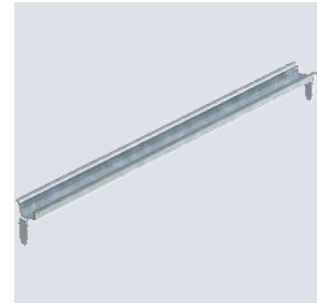
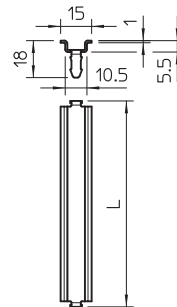
St GTP



Hat profile rail 15 x 5 mm

Type	Version	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
46277 T160 Q GTP	For T160 crosswise + T100 lengthwise	99	10	1.770	1115270
46277 T250 Q GTP	For T250 crosswise + T160 lengthwise	139	10	2.500	1115274
46277 T250 L GTP	For T250 lengthwise	189	10	3.270	1115278
46277 T350 Q GTP	For T350 crosswise	161	10	2.767	1115282
46277 T350 L GTP	For T350 lengthwise	168	10	3.000	1115286

Hat profile rail 15 x 5 mm to DIN EN 60715 (formerly DIN EN 50045).



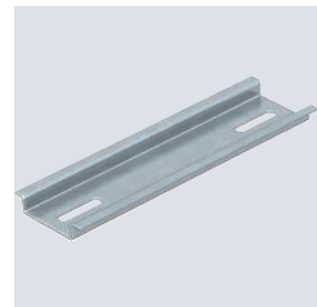
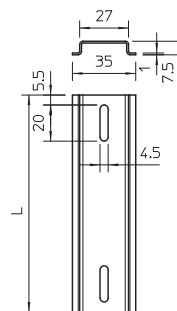
St FS



Hat profile rail 35 x 7.5 mm

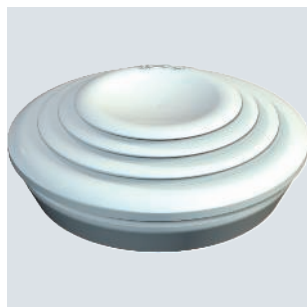
Type	Version	Length mm	Pack Piece	Weight kg/100 pc.	Item no.
2069 T100 GTP	For T100 lengthwise + T160 crosswise	118	10	4.140	1115382
2069 T160 GTP	For T160 lengthwise + T250, T350 crosswise	157	10	5.520	1115384
2069 T350 GTP	For T350 lengthwise	245	10	8.450	1115388

Hat profile rail 35 x 7.5 mm to DIN EN 60715 (formerly DIN EN 50022).



EDK plug-in seal

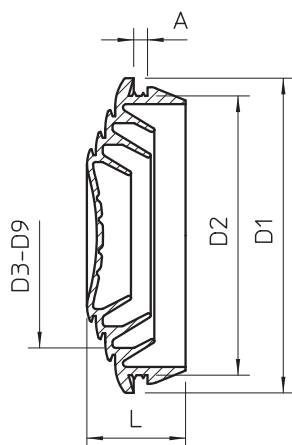
TPE



Type	Size	For Ø mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
EDK 25 LGR	M25	5-20	Light grey	100	0.214	2011638
EDK 32 LGR	M32	5-25	Light grey	50	0.328	2011646
EDK 40 LGR	M40	5-32	Light grey	25	0.534	2011654

The plug-in seal can be cut back to suit the relevant cable diameter.

Dimensions



Type	Dim. L mm	Dim. A mm	Dim. D1 mm	Dim. D2 mm	Dim. D3 mm	Dim. D4 mm	Dim. D5 mm	Dim. D6 mm	Dim. D7 mm	Dim. D8 mm	Dim. D9 mm
EDK 25 LGR	10.1	2.2	29.5	25.4	5	14	15	18	19	20	—
EDK 32 LGR	11.4	2.2	36.4	32.3	5	14	15	18	19	20	25
EDK 40 LGR	13.4	2.2	44.1	40.2	5	14	15	18	20	25	32

Plug-in seal for pipes, T-series junction box, light grey

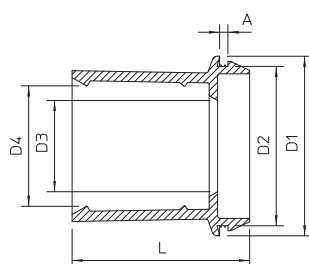
TPE



Type	Size	Colour	Pack Piece	Weight kg/100 pc.	Item no.
EDR 25 16-20 LGR	M25	Light grey	50	0.520	2011506
EDR 32 25-32 LGR	M32	Light grey	50	1.170	2011530

Plug-in seal for junction boxes for direct insertion of metric pipes

Dimensions



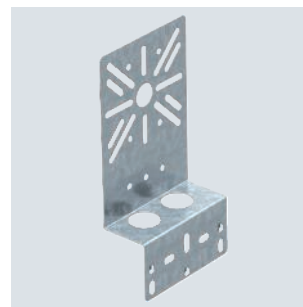
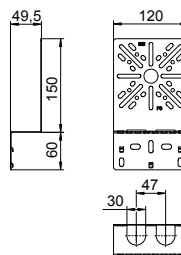
Type	Dim. L mm	Dim. A mm	Dim. D1 mm	Dim. D2 mm	Dim. D3 mm	Dim. D4 mm
EDR 25 16-20 LGR	30	2.2	29.5	25.3	15	18.4
EDR 32 25-32 LGR	36	2.2	37	32.3	24	31.2



Mounting plate, angled

Type	Height mm	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
MP WI KL. FS	210	120	1	20.200	7084765
MP WI KL. DD	210	120	1	20.200	7085111

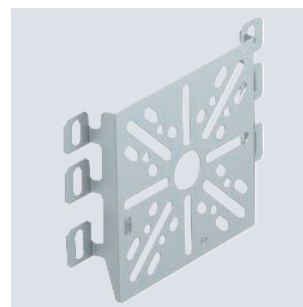
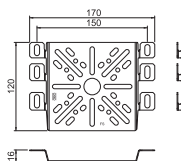
Please order the truss-head bolt, type FRS B6 x 12, separately.
Curved mounting plate, for fixing on the side rail of the cable tray.



Mounting plate

Type	Height mm	Width mm	Pack Piece	Weight kg/100 pc.	Item no.
MP UNI FS	120	170	1	11.000	7084773

Please order the truss-head bolt, type FRSB 6 x 12, separately.
Mounting plate, for fastening on the side rail of cable support systems.



X-TREME

The X series of the junction boxes



Robust and impact-resistant

For outdoor applications and the toughest conditions

Simple and flexible installation

Tested according to DIN EN 60670 Part 1 and 22

With the new X series, OBO Bettermann can offer a range of junction boxes and empty housings that can withstand even the toughest impacts. The use of special plastics based on high-quality polycarbonate allows the X series to meet the requirements for the highest level of impact resistance, achieving the protection rating of IK 09 (applies to the variants X01 - X16).

**IKT
09**

Junction box X 01



Type	X01 LGR	X01 LGR-TR	X01 SW	X01 SW-RO
Colour	Light grey	Grey/transparent	Graphite black	Black/red
Entries	7 x Ø20	7 x Ø20	7 x Ø20	7 x Ø20
Dimension LxWxH mm	95x95x60	95x95x60	95x95x60	95x95x60
Clear internal dimensions mm	85x85x45	85x85x45	85x85x45	85x85x45
Pack Piece	1	1	1	1
Weight kg/100 pc.	16.000	16.000	16.000	16.000
Item no.	2005000	2005050	2005110	2005140

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Junction box X 02



Type	X02 LGR	X02 LGR-TR	X02 SW	X02 SW-RO
Colour	Light grey	Grey/transparent	Graphite black	Black/red
Entries	7 x Ø20	7 x Ø20	7 x Ø20	7 x Ø20
Dimension LxWxH mm	95x95x72	95x95x72	95x95x72	95x95x72
Clear internal dimensions mm	85x85x57	85x85x57	85x85x57	85x85x57
Pack Piece	1	1	1	1
Weight kg/100 pc.	17.800	17.800	17.800	17.800
Item no.	2005004	2005054	2005114	2005144

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Junction box X 04



Type	X04 LGR	X04 LGR-TR	X04 SW	X04 SW-RO
Colour	Light grey	Grey/transparent	Graphite black	Black/red
Entries	7 x Ø20/25	7 x Ø20/25	7 x Ø20/25	7 x Ø20/25
Dimension LxWxH mm	114x114x78	114x114x78	114x114x78	114x114x78
Clear internal dimensions mm	102x102x60	102x102x60	102x102x60	102x102x60
Pack Piece	1	1	1	1
Weight kg/100 pc.	26.600	26.600	26.600	26.600
Item no.	2005008	2005058	2005118	2005148

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Junction box X 06



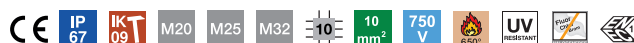
Type	X06 LGR	X06 LGR-TR	X06 SW	X06 SW-RO
Colour	Light grey	Grey/transparent	Graphite black	Black/red
Entries	4 x Ø20/25, 4 x Ø20/25/32	4 x Ø20/25, 4 x Ø20/25/32	4 x Ø20/25, 4 x Ø20/25/32	4 x Ø20/25, 4 x Ø20/25/32
Dimension LxWxH mm	151x117x87	151x117x87	151x117x87	151x117x87
Clear internal dimensions mm	137x105x68	137x105x68	137x105x68	137x105x68
Pack Piece	1	1	1	1
Weight kg/100 pc.	33.500	33.500	33.500	33.500
Item no.	2005012	2005062	2005122	2005152

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Junction box X 10



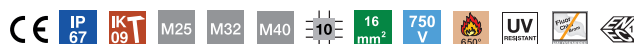
Type	X10 LGR	X10 LGR-TR	X10 SW	X10 SW-RO
Colour	Light grey	Grey/transparent	Graphite black	Black/red
Entries	10 x Ø20/25/32	10 x Ø20/25/32	10 x Ø20/25/32	10 x Ø20/25/32
Dimension LxWxH mm	191x151x126	191x151x126	191x151x126	191x151x126
Clear internal dimensions mm	177x137x110	177x137x110	177x137x110	177x137x110
Pack Piece	1	1	1	1
Weight kg/100 pc.	59.200	59.200	59.200	59.200
Item no.	2005016	2005066	2005126	2005156

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Junction box X 16



Type	X16 LGR	X16 LGR-TR	X16 SW	X16 SW-RO
Colour	Light grey	Grey/transparent	Graphite black	Black/red
Entries	10 x Ø25/32/40	10 x Ø25/32/40	10 x Ø25/32/40	10 x Ø25/32/40
Dimension LxWxH mm	241x191x126	241x191x126	241x191x126	241x191x126
Clear internal dimensions mm	227x177x110	227x177x110	227x177x110	227x177x110
Pack Piece	1	1	1	1
Weight kg/100 pc.	79.300	79.300	79.300	79.300
Item no.	2005020	2005070	2005130	2005160

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Junction box X 25



Type	X25 LGR	X25 LGR-TR	X25 SW	X25 SW-RO
Colour	Light grey	Grey/transparent	Graphite black	Black/red
Entries	10 x Ø25/40/50	10 x Ø25/40/50	10 x Ø25/40/50	10 x Ø25/40/50
Dimension LxWxH mm	286x202x126	286x202x126	286x202x126	286x202x126
Clear internal dimensions mm	271x187x110	271x187x110	271x187x110	271x187x110
Pack Piece	1	1	1	1
Weight kg/100 pc.	96.500	96.500	96.500	96.500
Item no.	2005024	2005074	2005134	2005164

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK08. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.
 Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK08 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Junction boxes, X series with knock-out entries and main cable junction terminal

PC



Junction box X 06 with main terminal block

Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X06 H25 GP4 LGR	Light grey	4 x Ø20/25, 4 x Ø20/25/32	1	56.800	2005304

Junction box with terminal for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

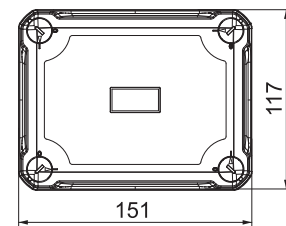
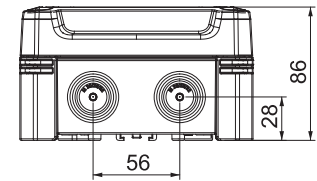
Including 4-pole main terminal block with 2 x 35 mm² + 2 x 16 mm² cable connection cross-sections per pole. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

In addition, a 4-pin main terminal block with 2 x 25 mm² + 2 x 16 mm² conductor connection cross-sections per pin is included.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X06 H25 GP4 LGR	151x117x87	137x105x68

Dimensions



Junction boxes, X series with knock-out entries and main cable junction terminal

Junction box X 10 with main terminal block

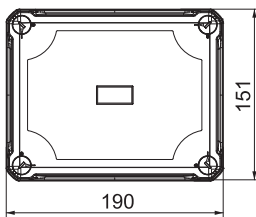
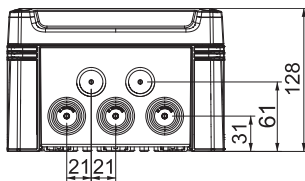


Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X10 H25 GNP5 LGR	Light grey	10 x Ø20/25/32	1	104.000	2005308

Junction box for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials. Including 5-pole main terminal block with 2 x 25 mm² + 2 x 16 mm² cable connection cross-sections per pole. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

In addition, a 5-pin main conductor branch terminal with 2 x 25 mm² + 2 x 16 mm² conductor connection cross-sections per pin is included.

Dimensions



Type	Dimension LxWxH mm	Clear internal dimensions mm
X10 H25 GNP5 LGR	191x151x126	177x137x110

Junction boxes, X series with knock-out entries and main cable junction terminal

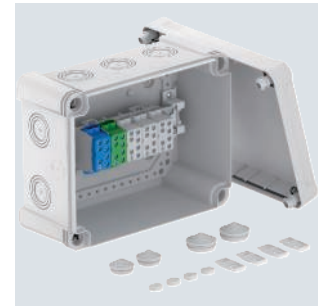
PC



Junction box X 16 with main terminal block

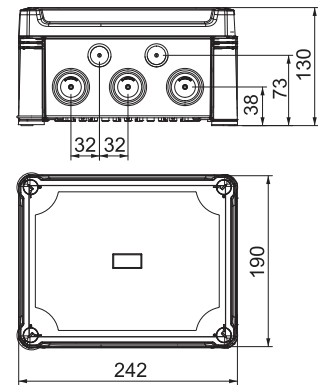
Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X16 H25 GNP5 LGR	Light grey	10 x Ø25/32/40	1	111.000	2005312
X16 H35 GNP5 LGR	Light grey	10 x Ø25/32/40	1	125.000	2005316

Junction box for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials. Including 5-pole main terminal block. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X16 H25 GNP5 LGR	241x191x126	227x177x110
X16 H35 GNP5 LGR	241x191x126	227x177x110

Dimensions



PC



Junction box X 25 with main terminal block

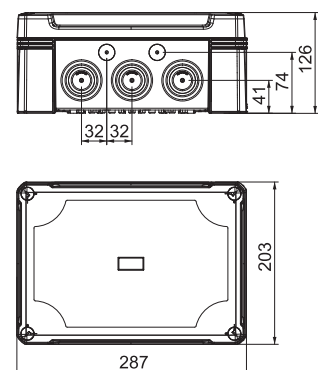
Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X25 H35 GNP5 LGR	Light grey	10 x Ø25/40/50	1	145.000	2005320
X25 H50 GNP5 LGR	Light grey	10 x Ø25/40/50	1	165.000	2005324

Junction box for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK08. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials. Including multipole main terminal block. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK08 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X25 H35 GNP5 LGR	286x202x126	271x187x110
X25 H50 GNP5 LGR	286x202x126	271x187x110

Dimensions



Junction box X 06 with hat profile rail

PC



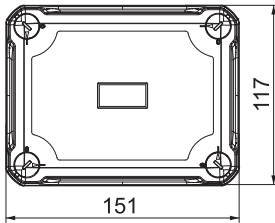
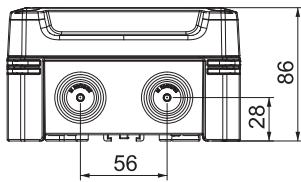
Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X06 R LGR-TR	Grey/transparent	4 x Ø20/25, 4 x Ø20/25/32	1	37.600	2005092

Junction box with hat profile rail for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Transparent cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

With hat profile rail type 2069.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Dimensions



Type	Dimension LxWxH mm	Clear internal dimensions mm
X06 R LGR-TR	151x117x87	137x105x68

PC



Junction box X 10 with hat profile rail

Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X10 R LGR-TR	Grey/transparent	10 x Ø20/25/32	1	65.600	2005096

Junction box with hat profile rail for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Transparent cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

With hat profile rail type 2069.

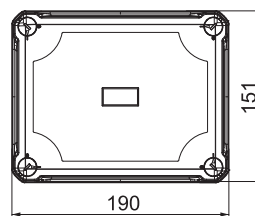
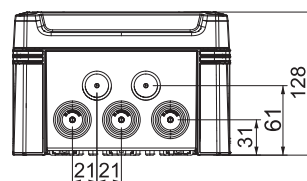
Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

With transparent cover and hat profile rail, type 2069, with fastening set.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X10 R LGR-TR	191x151x126	177x137x110

Dimensions



PC



Junction box X 16 with hat profile rail

Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X16 R LGR-TR	Grey/transparent	10 x Ø25/32/40	1	87.300	2005100

Junction box with hat profile rail for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Transparent cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

With hat profile rail type 2069.

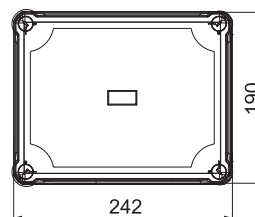
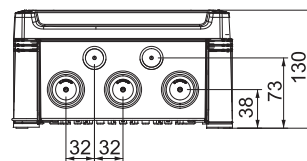
Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

With transparent cover and hat profile rail, type 2069, with fastening set.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X16 R LGR-TR	241x191x126	227x177x110

Dimensions



Junction box X 25 with hat profile rail



Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X25 R LGR-TR	Grey/transparent	10 x Ø25/40/50	1	107.000	2005104

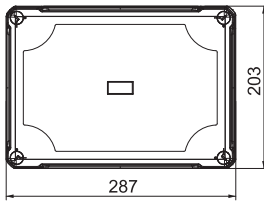
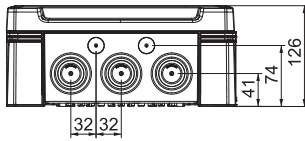
Junction box with hat profile rail for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK08. Transparent cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

With hat profile rail type 2069.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK08 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

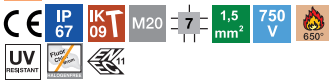
With transparent cover and hat profile rail, type 2069, with fastening set.

Dimensions



Type	Dimension LxWxH mm	Clear internal dimensions mm
X25 R LGR-TR	286x202x126	271x187x110

PC



Junction box X 01 with cable gland

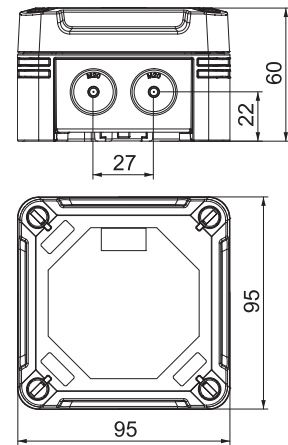
Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X01 G M20 LGR	Light grey	7 x Ø20	1	19.000	2005030

Junction box for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials. Including 3 cable glands V-TEC M20 and 3 locknuts. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

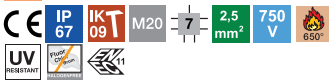


Type	Dimension LxWxH mm	Clear internal dimensions mm
X01 G M20 LGR	95x95x60	85x85x45

Dimensions



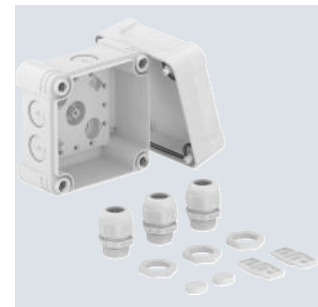
PC



Junction box X 02 with cable gland

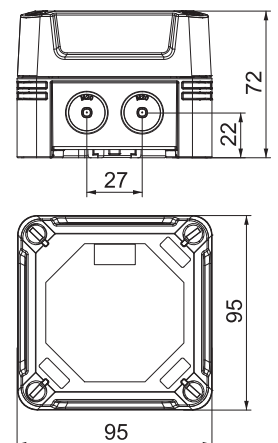
Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X02 G M20 LGR	Light grey	7 x Ø20	1	21.500	2005032

Junction box for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials. Including 3 cable glands V-TEC M20 and 3 locknuts. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X02 G M20 LGR	95x95x72	85x85x57

Dimensions



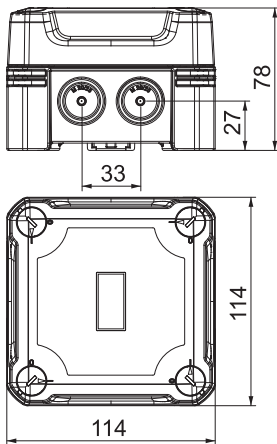
Junction box X 04 with cable gland



Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X04 G M25 LGR	Light grey	7 x Ø20/25	1	31.400	2005034

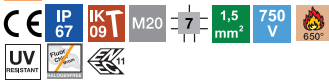
Junction box for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials. Including 3 cable glands V-TEC M25 and 3 locknuts.
 Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Dimensions



Type	Dimension LxWxH mm	Clear internal dimensions mm
X04 G M25 LGR	114x114x78	102x102x60

PC



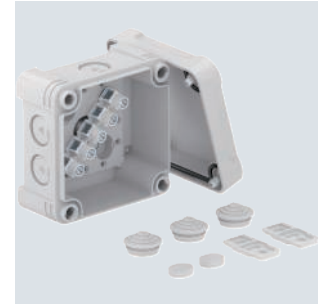
Junction box X 01 with terminal strip

Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X01 T LGR	Light grey	7 x Ø20	1	17.500	2005190

Junction box with terminal strip for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

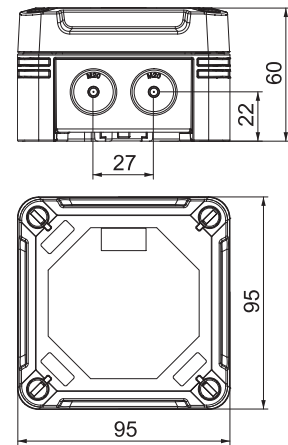
Including terminal strip, 5-pole.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

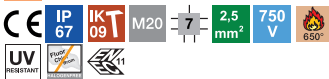


Type	Dimension LxWxH mm	Clear internal dimensions mm
X01 T LGR	95x95x60	85x85x45

Dimensions



PC



Junction box X 02 with terminal strip

Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X02 T LGR	Light grey	7 x Ø20	1	19.300	2005194

Junction box with terminal strip for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

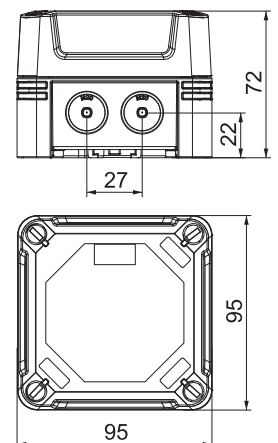
Including terminal strip, 5-pole.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X02 T LGR	95x95x72	85x85x57

Dimensions



Junction box X 04 with terminal strip



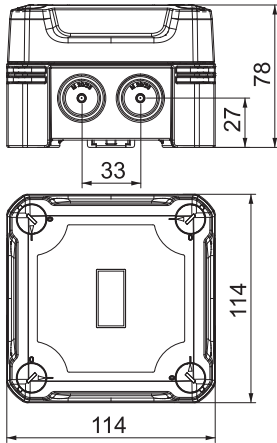
Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X04 T LGR	Light grey	7 x Ø20/25	1	31.600	2005198

Junction box with terminal strip for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

Including terminal strip, 5-pole.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Dimensions



Type	Dimension LxWxH mm	Clear internal dimensions mm
X04 T LGR	114x114x78	102x102x60

PC



Junction box X 06 with terminal strip

Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X06 T LGR	Light grey	4 x Ø20/25, 4 x Ø20/25/32	1	38.000	2005202

Junction box with terminal strip for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

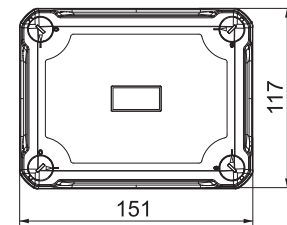
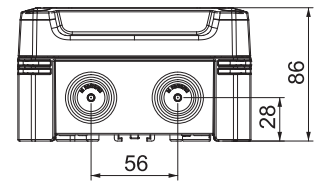
Including terminal strip, 5-pole.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X06 T LGR	151x117x87	137x105x68

Dimensions



PC



Junction box X 10 with terminal strip

Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X10 T LGR	Light grey	10 x Ø20/25/32	1	72.000	2005206

Junction box with terminal strip for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

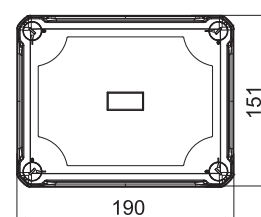
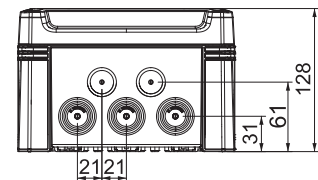
With 5 terminal strips of 4 terminals each.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X10 T LGR	191x151x126	177x137x110

Dimensions



Junction box X 16 with terminal strip



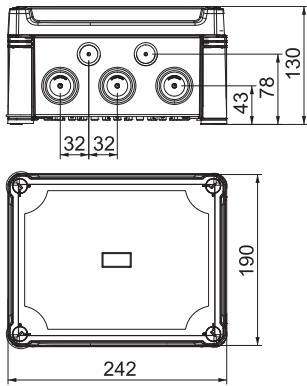
Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X16 T LGR	Light grey	10 x Ø25/32/40	1	97.500	2005210

Junction box with terminal strip for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials. With terminal.

With 5 terminal strips of 4 terminals each.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Dimensions



Type	Dimension LxWxH mm	Clear internal dimensions mm
X16 T LGR	241x191x126	227x177x110

PC



Junction box X 25 with terminal strip

Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X25 T LGR	Light grey	10 x Ø25/40/50	1	130.000	2005214

Junction box with terminal strip for the connection of cables and lines indoors and in outdoor areas. Rectangular design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK08. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

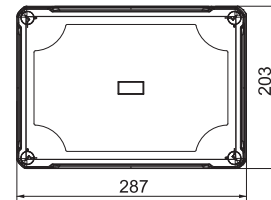
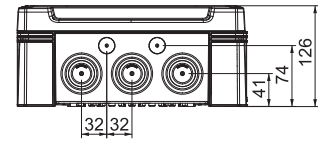
With 5 terminal strips of 4 terminals each.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK08 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X25 T LGR	286x202x126	271x187x110

Dimensions



Junction boxes, X series with knock-out entries, cable glands and terminal strip

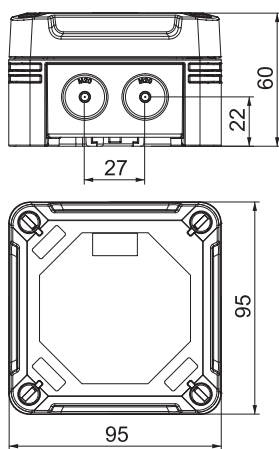
Junction box X 01 with cable gland and terminal strip



Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X01 T G M20 LGR	Light grey	7 x Ø20	1	20.500	2005220

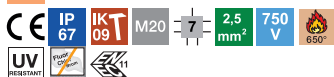
Junction box with terminal strip for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.
 Including terminal strip, 3 cable glands V-TEC M20 and 3 locknuts.
 Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Dimensions



Type	Dimension LxWxH mm	Clear internal dimensions mm
X01 T G M20 LGR	95x95x60	85x85x45

PC



Junction box X 02 with cable gland and terminal strip

Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X02 T G M20 LGR	Light grey	7 x Ø20	1	23.000	2005222

Junction box with terminal strip for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

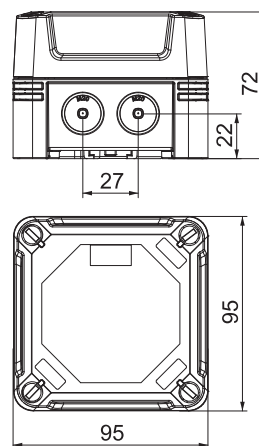
Including terminal strip, 3 cable glands V-TEC M20 and 3 locknuts.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X02 T G M20 LGR	95x95x72	85x85x57

Dimensions



Junction boxes, X series with knock-out entries, cable glands and terminal strip

Junction box X 04 with cable glands and terminal strip



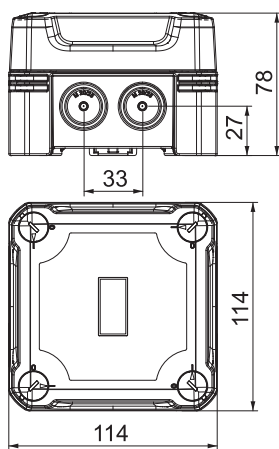
Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X04 T G M25 LGR	Light grey	7 x Ø20/25	1	36.700	2005224

Junction box with terminal strip for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

Including terminal strip, 3 cable glands V-TEC M25 and 3 locknuts.

Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

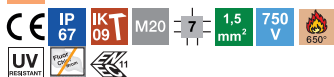
Dimensions



Type	Dimension LxWxH mm	Clear internal dimensions mm
X04 T G M25 LGR	114x114x78	102x102x60

Junction boxes, X series with knock-out entries, cable glands and screwless terminals

PC



Junction box X 01 with cable gland and plug-in terminals

Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X01 UT G LGR	Light grey	7 x Ø20	1	20.000	2005240

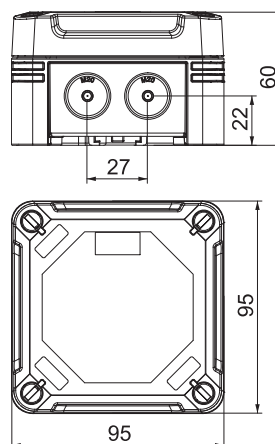
Junction box with terminal for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

With 3 universal screwless terminals (5-pole), 3 cable glands V-TEC M20 and 3 locknuts. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X01 UT G LGR	95x95x60	85x85x45

Dimensions



Junction boxes, X series with knock-out entries, cable glands and screwless terminals

Junction box X 02 with cable gland and plug-in terminals

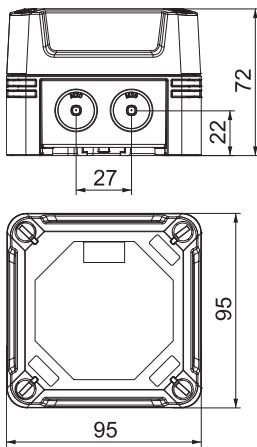


Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X02 UT G LGR	Light grey	7 x Ø20	1	23.000	2005244

Junction box with terminal for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

With 3 universal screwless terminals (5-pole), 3 cable glands V-TEC M20 and 3 locknuts. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Dimensions



Type	Dimension LxWxH mm	Clear internal dimensions mm
X02 UT G LGR	95x95x72	85x85x57

Junction boxes, X series with knock-out entries, cable glands and screwless terminals

PC



Junction box X 04 with cable glands and plug-in terminals

Type	Colour	Entries	Pack Piece	Weight kg/100 pc.	Item no.
X04 UT G LGR	Light grey	7 x Ø20/25	1	33.500	2005248

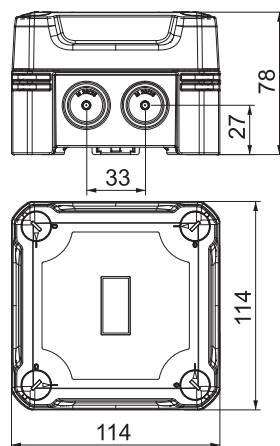
Junction box with terminal for the connection of cables and lines indoors and in outdoor areas. Square design with knock-out entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

With 3 universal screwless terminals (5-pole), 3 cable glands V-TEC M20 and 3 locknuts. Junction box according to DIN EN 60670. Flame-resistant to DIN EN 60695/2/11, test temperature 650 °C. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.



Type	Dimension LxWxH mm	Clear internal dimensions mm
X04 UT G LGR	114x114x78	102x102x60

Dimensions



Empty housing X 01



Type	X01C LGR	X01C LGR-TR	X01C SW
Colour	Light grey	Grey/transparent	Graphite black
Dimension LxWxH mm	95x95x60	95x95x60	95x95x60
Clear internal dimensions mm	85x85x45	85x85x45	85x85x45
Pack Piece	1	1	1
Weight kg/100 pc.	15.600	15.600	15.600
Item no.	2005450	2005520	2005590

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Square design without entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK08. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

Junction box according to DIN EN 60670. Impact resistance IK08 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Empty housing X 02



Type	X02C LGR	X02C LGR-TR	X02C SW
Colour	Light grey	Grey/transparent	Graphite black
Dimension LxWxH mm	95x95x72	95x95x72	95x95x72
Clear internal dimensions mm	85x85x57	85x85x57	85x85x57
Pack Piece	1	1	1
Weight kg/100 pc.	17.500	17.500	17.500
Item no.	2005454	2005524	2005594

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Square design without entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK08. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

Junction box according to DIN EN 60670. Impact resistance IK08 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Empty housing X 04



Type	X04C LGR	X04C LGR-TR	X04C SW
Colour	Light grey	Grey/transparent	Graphite black
Dimension LxWxH mm	114x114x78	114x114x78	114x114x78
Clear internal dimensions mm	102x102x60	102x102x60	102x102x60
Pack Piece	1	1	1
Weight kg/100 pc.	26.300	26.300	26.300
Item no.	2005458	2005528	2005598

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Square design without entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK08. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.
Junction box according to DIN EN 60670. Impact resistance IK08 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Empty housing X 06



Type	X06C LGR	X06C LGR-TR	X06C SW
Colour	Light grey	Grey/transparent	Graphite black
Dimension LxWxH mm	151x117x87	151x117x87	151x117x87
Clear internal dimensions mm	137x105x68	137x105x68	137x105x68
Pack Piece	1	1	1
Weight kg/100 pc.	33.100	33.100	33.500
Item no.	2005462	2005532	2005602

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Rectangular design without entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK08. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.
Junction box according to DIN EN 60670. Impact resistance IK08 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Empty housing X 10



Type	X10C LGR	X10C LGR-TR	X10C SW
Colour	Light grey	Grey/transparent	Graphite black
Dimension LxWxH mm	191x151x126	191x151x126	191x151x126
Clear internal dimensions mm	177x137x110	177x137x110	177x137x110
Pack Piece	1	1	1
Weight kg/100 pc.	58.500	85.500	58.500
Item no.	2005466	2005536	2005606

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Rectangular design without entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

Junction box according to DIN EN 60670. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Empty housing X 16



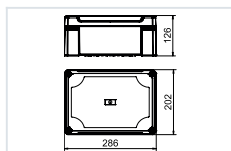
Type	X16C LGR	X16C LGR-TR	X16C SW
Colour	Light grey	Grey/transparent	Graphite black
Dimension LxWxH mm	241x191x126	241x191x126	241x191x126
Clear internal dimensions mm	227x177x110	227x177x110	227x177x110
Pack Piece	1	1	1
Weight kg/100 pc.	78.400	78.400	78.400
Item no.	2005470	2005540	2005610

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Rectangular design without entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.

Junction box according to DIN EN 60670. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Empty housing X 25



Type	X25C LGR	X25C LGR-TR	X25C SW
Colour	Light grey	Grey/transparent	Graphite black
Dimension LxWxH mm	286x202x126	286x202x126	286x202x126
Clear internal dimensions mm	271x187x110	271x187x110	271x187x110
Pack Piece	1	1	1
Weight kg/100 pc.	95.000	95.000	95.000
Item no.	2005474	2005544	2005614

PC Polycarbonate

Junction box for the connection of cables and lines indoors and in outdoor areas. Rectangular design without entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK08. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials.
 Junction box according to DIN EN 60670. Impact resistance IK08 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.



Empty housing X 06 with hat profile rail

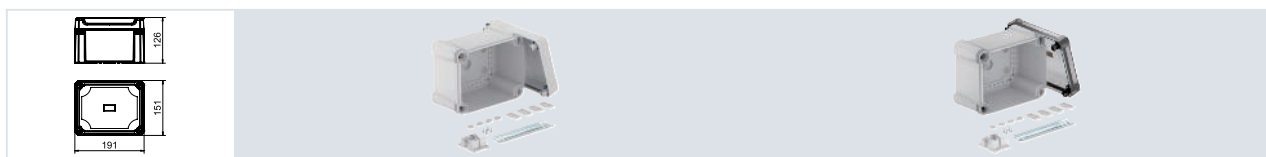


Type	X06C R LGR	X06C R LGR-TR
Colour	Light grey	Grey/transparent
Dimension LxWxH mm	151x117x87	151x117x87
Clear internal dimensions mm	137x105x68	137x105x68
Pack Piece	1	1
Weight kg/100 pc.	37.600	37.600
Item no.	2005490	2005560

PC Polycarbonate

Junction box with hat profile rail for the connection of cables and lines indoors and in outdoor areas. Rectangular design without entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK08. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials. With hat profile rail, type 2069, and fastening set. Junction box according to DIN EN 60670. Impact resistance IK08 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Empty housing X 10 with hat profile rail



Type	X10C R LGR	X10C R LGR-TR
Colour	Light grey	Grey/transparent
Dimension LxWxH mm	191x151x126	191x151x126
Clear internal dimensions mm	177x137x110	177x137x110
Pack Piece	1	1
Weight kg/100 pc.	65.600	65.600
Item no.	2005494	2005564

PC Polycarbonate

Junction box with hat profile rail for the connection of cables and lines indoors and in outdoor areas. Rectangular design without entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials. With hat profile rail, type 2069, and fastening set. Junction box according to DIN EN 60670. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Empty housing X 16 with hat profile rail



Colour	Light grey	Grey/transparent
Dimension LxWxH mm	241x191x126	241x191x126
Clear internal dimensions mm	227x177x110	227x177x110
Pack Piece	1	1
Weight kg/100 pc.	87.300	87.300
Item no.	2005498	2005568

PC Polycarbonate

Junction box with hat profile rail for the connection of cables and lines indoors and in outdoor areas. Rectangular design without entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK09. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials. With hat profile rail 2069 and fastening set. Junction box according to DIN EN 60670. Impact resistance IK09 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Empty housing X 25 with hat profile rail



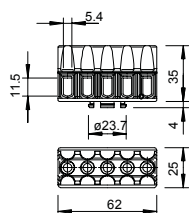
Colour	Light grey	Grey/transparent
Dimension LxWxH mm	286x202x126	286x202x126
Clear internal dimensions mm	271x187x110	271x187x110
Pack Piece	1	1
Weight kg/100 pc.	107.000	107.000
Item no.	2005502	2005572

PC Polycarbonate

Junction box with hat profile rail for the connection of cables and lines indoors and in outdoor areas. Rectangular design without entries. Suitable for wall and ceiling mounting with the option to fasten outside, inside or to mount via the corner domes. Particularly impact resistant with IK08. Cover with quick lock, sealable. Made from halogen-free and UV-resistant materials. With hat profile rail, type 2069, and fastening set. Junction box according to DIN EN 60670. Impact resistance IK08 according to DIN EN 50102. Protection rating IP67 according to DIN EN 60529.

Terminal strip 1.5–6 mm², junction box, T series, X series

PA

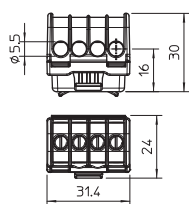


Type	Colour	No. of terminals	Nominal cross-section mm ²	Nom. V	Pack Piece	Weight kg/100 pc.	Item no.
KL-T 02-06	Light grey	5	1.5-6	400	10	4.380	2016185

Terminals and screws made of steel, galvanised and transparent-chromated, nominal cross-section 1.5 ÷ 6 mm², rated voltage 400 V, five-pole, with socket terminals, max. connectable cross-sections per terminal: 3x6 mm², 4x4 mm² or 6x2.5 mm².

Terminal strip 6–16 mm², junction box, T series, X series

PA

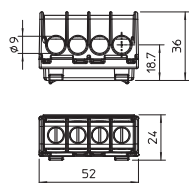


Type	Colour	No. of terminals	Nominal cross-section mm ²	Nom. V	Pack Piece	Weight kg/100 pc.	Item no.
KL-T 06-16	Light grey	4	6-16	400	10	1.970	2016190

Brass terminals, steel screws, electrogalvanised and transparently passivated, nominal cross-section 6 ÷ 16 mm², nominal voltage 400 V, 1-pin, with terminal sockets, max. connectable conductor per terminal 4 x 16 mm², 4 x 10 mm², 8 x 6 mm² or 12 x 4 mm².

Terminal strip 16–35 mm², junction box, T series, X series

PA

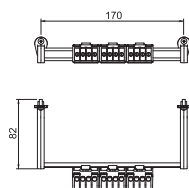
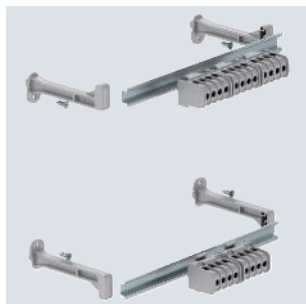


Type	Colour	No. of terminals	Nominal cross-section mm ²	Nom. V	Pack Piece	Weight kg/100 pc.	Item no.
KL-T 16-35	Light grey	4	16-35	400	10	5.630	2016195

Brass terminals, steel screws, electrogalvanised and transparently passivated, nominal cross-section 16 ÷ 35 mm², nominal voltage 400 V, 1-pin, with terminal sockets, max. connectable conductor per terminal 4 x 35 mm², 4 x 25 mm², 8 x 16 mm² or 12 x 10 mm².

Terminal strip set for X series

CE



Type	Nominal cross-section mm ²	Pole number	Number of screwless terminals per pole	Pack Piece	Weight kg/100 pc.	Item no.
KL-X10 06-16	6-16	5	4	1	17.600	2008931
KL-X16 06-16	6-16	5	4	1	14.500	2008935

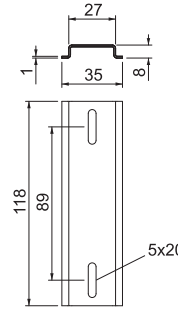
Terminal strip set for the distribution boxes of the SDB series. The sets can be used to expand and equip empty distribution boxes of the SDB series.



Hat profile rail set

Type	Length mm	Width mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
2069 X10 FS	161	62	23	1	7.400	1115879
2069 X16 FS	211	62	23	1	9.200	1115882
2069 X25 FS	252	62	23	1	10.700	1115887

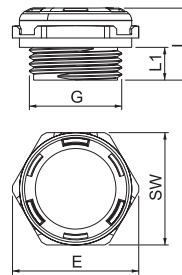
Hat profile rail 35 x 7.5 mm to DIN EN 60715 (formerly DIN EN 50022).



Pressure compensation element

Type	Thread	Protection rating	Colour	Pack Piece	Weight kg/100 pc.	Item no.
109 M20 LGR	M20 x 1,5	IP68	Light grey	1	0.538	2034680

The pressure compensation element, type 109 M20 LGR compensates for pressure differences in junction boxes, small distributors and connection sockets with an M20 opening and avoids the formation of condensation water in sealed housings. The polyamide pressure compensation element has an IP68/IP69 protection rating. This remains intact, even after the installation of the pressure compensation element. The pressure compensation element is suitable for use in industrial environments and in exterior areas.



TPE



EDS plug-in seal, light grey, X series

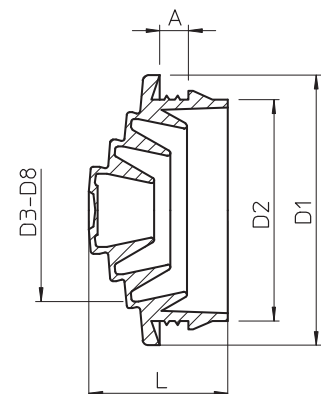
Type	Size	For Ø mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
EDS M20 LGR	M20	0-17	Light grey	100	0.125	2012350
EDS M25 LGR	M25	0-22	Light grey	100	0.185	2012354
EDS M32 LGR	M32	0-28	Light grey	50	0.295	2012358

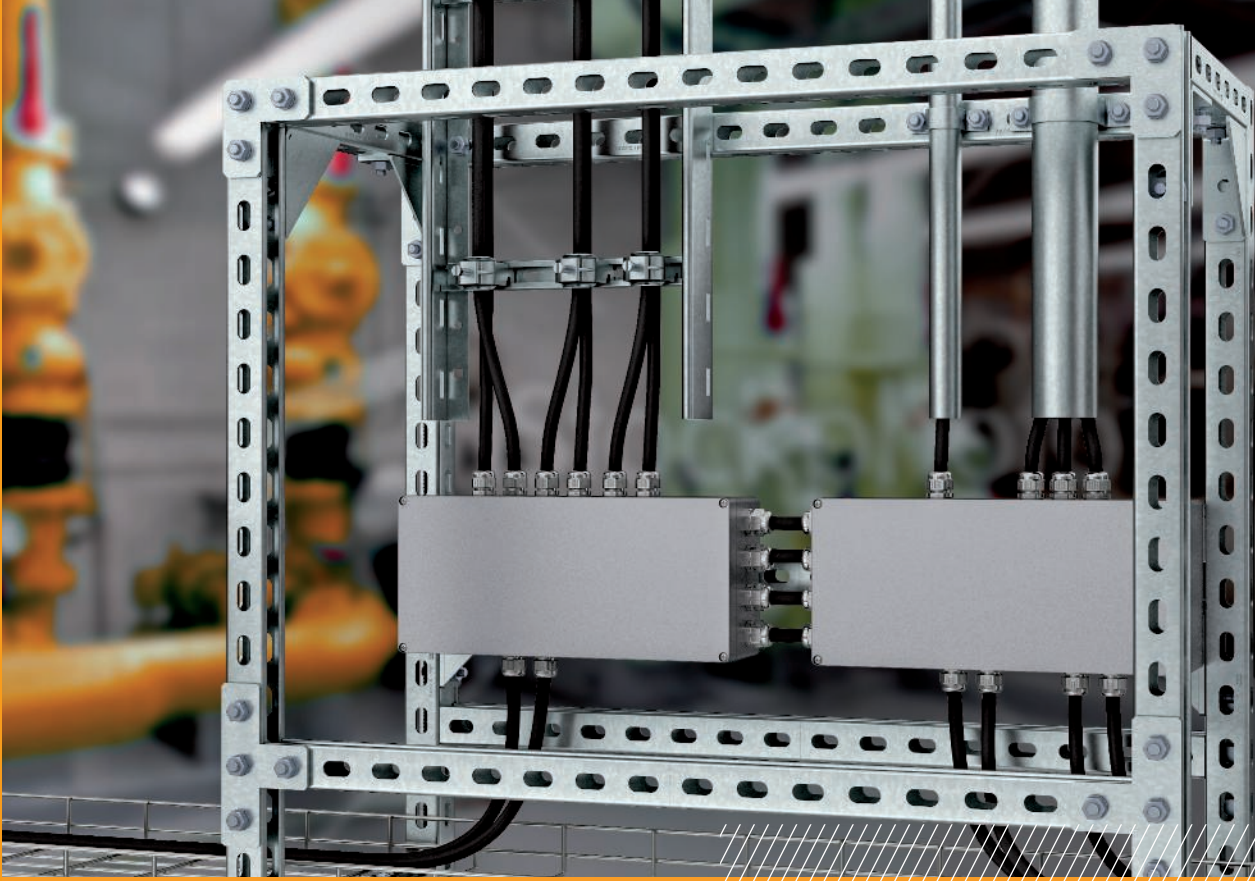
The push-in nipple can be cut back to suit the relevant cable diameter.



Type	Dim. L	Dim. A	Dim. D1	Dim. D2	Dim. D3	Dim. D4	Dim. D5	Dim. D6	Dim. D7	Dim. D8
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
EDS M20 LGR	12.8	3.1	24.8	20.3	6	10	15	17	-	-
EDS M25 LGR	14.5	3.1	29.5	25.3	6	10	15	20	22	-
EDS M32 LGR	17.8	3.1	36.3	32.3	6	10	15	20	25	28

Dimensions

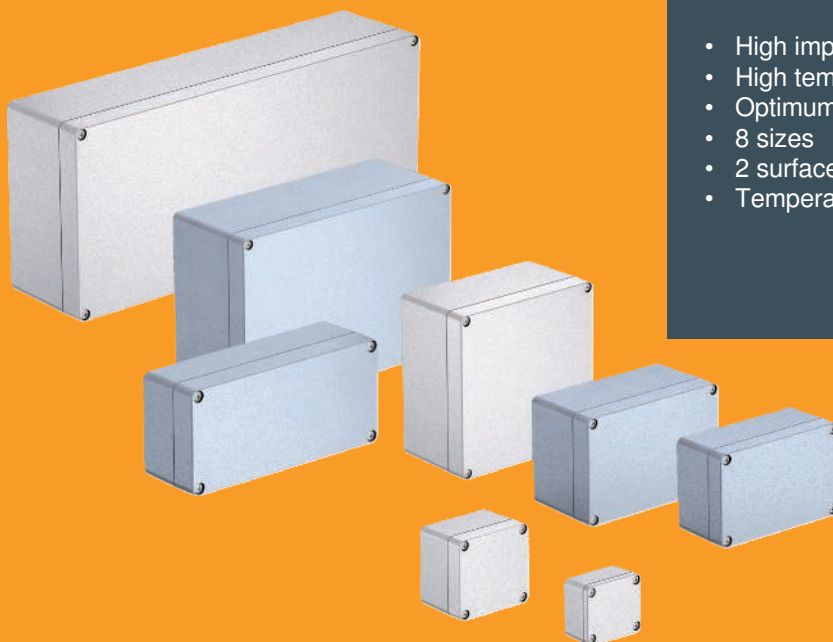




Junction boxes Mx series

Our aluminium empty housings were designed for use under the toughest conditions and provide optimum protection of the installation. The metal housing of the Mx series withstands extremely high and low temperatures, as well as large temperature differences. High impact loads in an industrial

surrounding, vandalism or rock falls are not able to harm the housing. Furthermore, the Mx series offers perfect EMC protection and is ideally secured against the entry of dust and water in line with protection rating IP66.



- High impact resistance
- High temperature resistance
- Optimum EMC protection
- 8 sizes
- 2 surface variants
- Temperature range: -40 to 125 °C

Aluminium empty housing Mx06, powder coated



	Mx 060503 SGR Closed with 4 stainless steel lid screws Silver grey 64x58x34 mm 56.5x50.5x31.5 mm 1 pc. 19.200 kg/100 pc.	Mx 080705 SGR Closed with 4 stainless steel lid screws Silver grey 80x75x57 mm 71x65.6x52.5 mm 1 pc. 36.400 kg/100 pc.	Mx 120805 SGR Closed with 4 stainless steel lid screws Silver grey 125x80x57 mm 115.5x70.5x51 mm 1 pc. 50.000 kg/100 pc.	Mx 161008 SGR Closed with 4 stainless steel lid screws Silver grey 160x100x81 mm 117x90x74.5 mm 1 pc. 90.000 kg/100 pc.
Item no.	2011304	2011308	2011312	2011316

AIG Die-cast aluminium
P Powder-coated

Robust aluminium empty housing for mechanical engineering and automation technology. The OBO Mx series' excellent mechanical and thermal features make it most suitable for extreme demands in many different areas. It is therefore also best suited for applications in industry, ports and shipbuilding, as well as in the agricultural sector. The products protect the electrical installation against high-grade strains. They withstand both extreme cold and heat as well as vandalism and impact on roads, railways or in tunnels. With an IP66 protection class, they are optimally protected against the intrusion of dust and water. The aluminium housings are powder-coated (RAL 7001) and are delivered with a cover including stainless steel screws, a seal and two or four earthing screws.

Temperature: -40°C to +125°C

Aluminium empty housing Mx16, powder coated



	Mx 161609 SGR Closed with 4 stainless steel lid screws Silver grey 160x160x90 mm 149x149x84.5 mm 1 pc. 170.000 kg/100 pc.	Mx 170805 SGR Closed with 4 stainless steel lid screws Silver grey 175x80x57 mm 165x70x51 mm 1 pc. 66.000 kg/100 pc.	Mx 261609 SGR Closed with 4 stainless steel lid screws Silver grey 260x160x90 mm 229.5x149x94.5 mm 1 pc. 230.000 kg/100 pc.	Mx 361609 SGR Closed with 4 stainless steel lid screws Silver grey 360x160x91 mm 317.5x149x92 mm 1 pc. 320.000 kg/100 pc.
Item no.	2011320	2011324	2011328	2011332

AIG Die-cast aluminium
P Powder-coated

Robust aluminium empty housing for mechanical engineering and automation technology. The OBO Mx series' excellent mechanical and thermal features make it most suitable for extreme demands in many different areas. It is therefore also best suited for applications in industry, ports and shipbuilding, as well as in the agricultural sector. The products protect the electrical installation against high-grade strains. They withstand both extreme cold and heat as well as vandalism and impact on roads, railways or in tunnels. With an IP66 protection class, they are optimally protected against the intrusion of dust and water. The aluminium housings are powder-coated (RAL 7001) and are delivered with a cover including stainless steel screws, a seal and two or four earthing screws.

Temperature: -40°C to +125°C

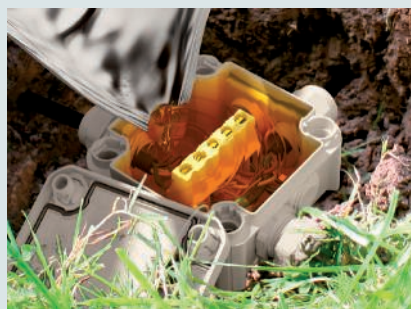
Aquasit cold casting compound

provides flexible and simple protection of electrical installations against moisture

OBO Aquasit cold casting compound is the ideal solution for electrical installations in particularly damp environments. Whether for connections in the garden, by waterways, in laundries or in a pump well – Aquasit ensures a safe electrical installation anywhere. Aquasit can be used to protect those electrical installations, which could be damaged by extreme or continuous moisture.

Overview of product description

- Protection rating: IP68 at 1.8 bar/1000 h
- Rated voltage: 400 V
- Penetration resistance: >20 kv/mm to VDE 0291 Part 2
- Operating temperature: -40 to +90 °C
- Processing temperature: 0 to +40 °C
- Halogen-free, silicon-free, isocyanite-free
- Environmentally friendly and without the need to be labelled



The application is simple: For smaller junction boxes, Aquasit is cast tidily using a standard cartridge pistol, whilst Aquasit for larger boxes can be processed in appropriate, practical mixing bags.

The transparent, amber-coloured cold casting compound, based on hydrocarbon resins, hardens to a soft elastic state, so that a voltage test with test pins is then possible. As Aquasit is "self-healing", i.e. the resulting test tunnel closes itself again fully, the protection rating of IP68 remains intact. Aquasit can also be removed easily, meaning that reinstallation and regular testing of the installation are child's play.















Protects electrical installations against extreme or persistent moisture



Whether a laundry or a garden pond – Aquasit keeps things shut and provides protection.

Aquasit material consumption

Junction box filling

T Series	ml per unit*	PU*		T Series	ml per unit*	PU*	
T25	80 ml	1		T160	1540 ml	1	
T40	250 ml	1		T160 HD	1930 ml	2	
T60	410 ml	1		T250	3170 ml	2	
T60 HD	590 ml	1		T250 HD	3310 ml	2	
T 100	720 ml	1		T350	5200 ml	4	
T 100 HD	770 ml	1		T350 HD	6830 ml	5	

*Gross box volume without equipment
Smallest possible packaging unit for complete filling of the complete junction box. Please refer to the product brochure for the technical dimensions.

 250 ml  400 ml  800 ml  1.600 ml



Aquasit cold casting compound, cartridge
250 ml | Art. no. 2363010



Aquasit cold casting compound, mixing bag
400 ml | M | Art. no. 2363008
800 ml | L | Art. no. 2363006
1600 ml | XL | Art. no. 2363002



Junction box set
T 40 KVM
Art. no. 2363012

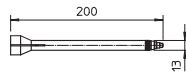


AQUASIT mixer pipe
10 mixer pipes in the set
Art. no. 2363015



AQUASIT cartridge pistol
Art. no. 2363019

AQUASIT mixer pipe



Type

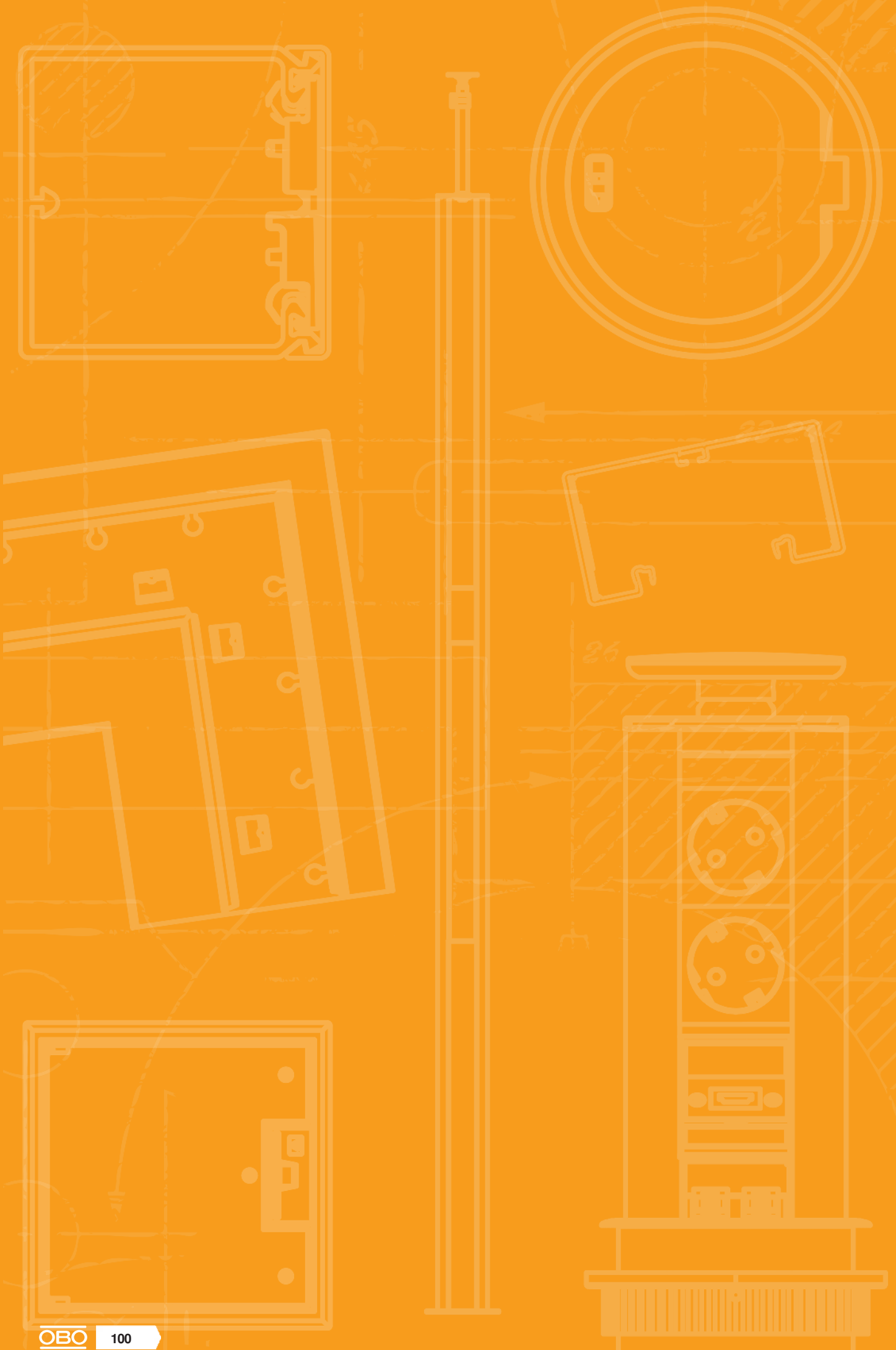
KVM-M

Pack	Weight	Item no.
PU	kg/100 PUs	
1	17.000	2363015






10 mixer pipes in the set.
Simple, automatic mixing of OBO AQUASIT when pressing out the compound from the cartridge.

Junction boxes





Power supply units

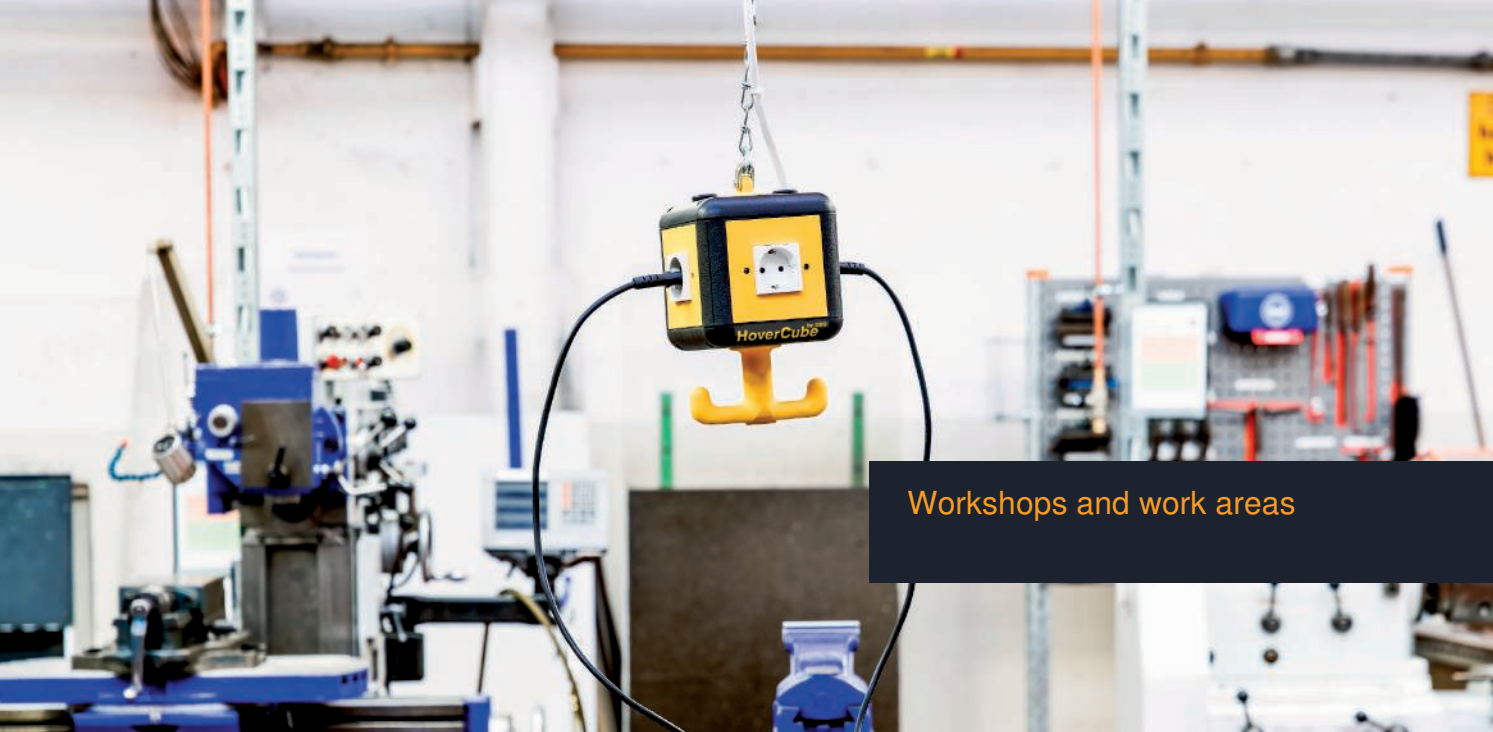
	VH – prewired power supply units IP20	102
	VH – empty housing and installation accessories IP20, pure white	106
	Accessories IP 20 VH4/VH8	108
	Accessories IP 20 and IP 44	110
	VHF – empty housing and installation accessories IP44	112



HoverCube VH/VHF

Suspended energy distributor for workplaces and machinery in industry, the trades and in training areas. The HoverCubes can be placed freely in the room. They are supplied from the ceiling. Depending on the protection rating, they can be equipped flexibly to supply power, data and media technology through to work media such as compressed air.

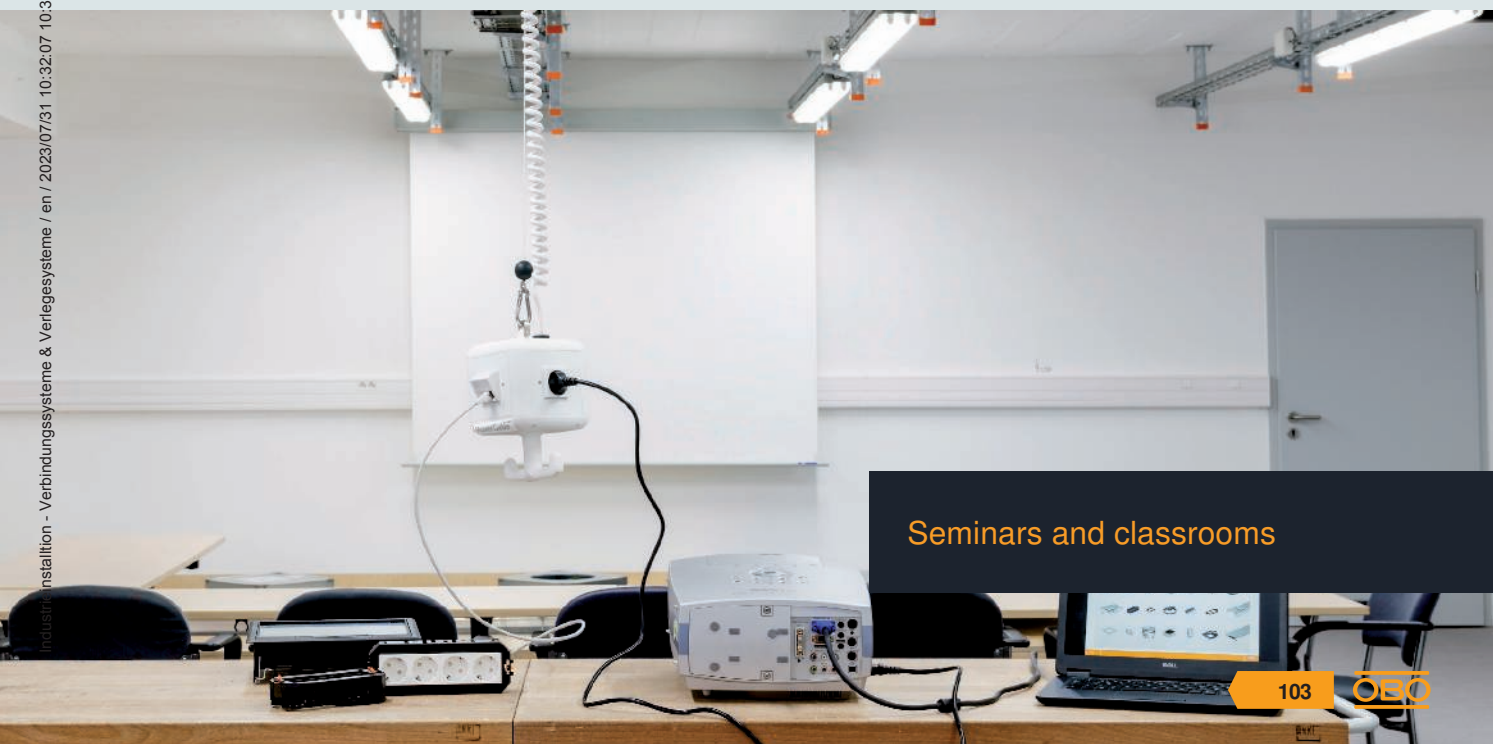




Workshops and work areas



Industrial and assembly workplaces



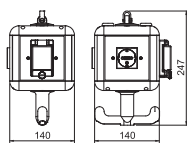
Seminars and classrooms



VH - Prewired power supply units IP20

HoverCube VH-4, with FI/LS, 2x protective contact sockets

PA



Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
VH-4 2SD FILS	Graphite black	1	98.000	6109780
VH-4 2SF FILS	Graphite black	1	97.900	6109782

In the case of an overcurrent/error current (16 A/30 mA), the VH-4 HoverCube with decentralised protection triggers the FI/LS directly. Switching back on can take place directly on the power supply unit.

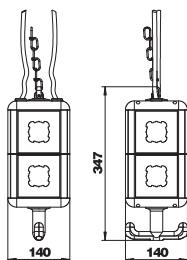
Equipped as follows: 2x single sockets with earthing pin 16 A/250 V with increased touch protection, pre-wired for an AC current, connection via 1x 3-pin terminal, with partition for circuit separation and an FI/LS switch.

One unequipped side with a free panel for individual, construction-side equipment (e.g. blanking plate, cover plate for devices/Modul 45 devices).

VH - Empty housing and installation accessories IP20

HoverCube VH-8, empty housing, with cover plates

PA

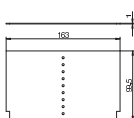
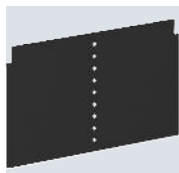


Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
VH-8 LG8P2	Graphite black	1	123.400	6109820

Empty housing with suspension lug and grip hook, for the installation of eight electrical resources, with included partition. With eight cover plates for accessories with concealed support ring or support bracket.

Partition VH-4

PVC



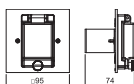
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
VH-4 TW	Graphite black	1	2.350	6109832

Additional partition wall for reciprocal insulation of three different power circuits and types. Version for VH-4.

Accessories IP 20

Mounting set VH4

PA



Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
VH MS FILS	Yellow	1	10.500	6109788

Mounting kit for the installation of series-mounted devices up to 2 part units, e.g. of an FI/LS switch in the freely terminable HoverCube VH4/VH8.

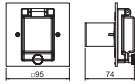
Mounting of the FI/LS switch is possible at a later time, irrespective of the system.





Mounting set VH4

PA

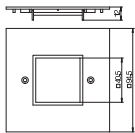


Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
VH MS FILS RW	Pure white	1	10.500	6109789

Mounting kit for the installation of series-mounted devices up to 2 part units, e.g. of an FI/LS switch in the freely terminable HoverCube VH4/VH8.
Mounting of the FI/LS switch is possible at a later time, irrespective of the system.

VH cover plate, for Modul 45 devices, single

PA

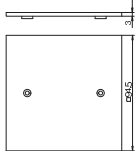


Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
VH-P4 RW	Pure white	1	2.009	6109841

Cover plate to install a single Modul 45 socket.

VH cover plate as blanking cover

PA



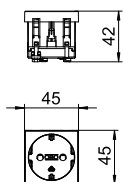
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
VH-P1 RW	Pure white	1	3.000	6109843

Cover plate as blanking cover.



0° socket, protective contact, single

PC

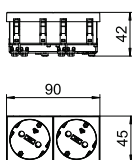


Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
STD-D0 RW1	Pure white	1	4.200	612008

Power socket, single 0°, with increased touch protection with screwless terminals, 2-pin, 16 A, 250 V~, with connection terminals to IEC 60884-1.

33° socket, protective contact, double

PC

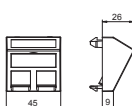


Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
STD-D3S RW2	Pure white	1	7.700	6120103

Protective contact socket, double 33°, with increased touch protection, with screwless terminals, 2-pin, 16 A, 250 V~, with connection terminals to IEC 60884-1.

Data technology support, 1 module, slanting outlet, type C

PC

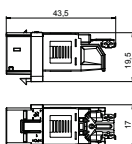


Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
DTS-2C RW1	Pure white	1	1.500	6119250

The type C data technology support is suitable for accepting the following data connection modules: BTR (Keystone design): Cat. 6A module and UAE module; Corning: modules with Keystone seat; CobiNet: CobiDat KS module; Dätwyler: KS-T, KS-TS, MS-K and KU-T; EKU: E-Stone; Harting: Prelink Keystone Cat. 6A; Fixlink Keystone Cat. 6A; Komos: KDM 500 module; Leoni Kerpen: MegaLine-Connect45 Keystone socket modules; OBO: Type ASM-C6A and ASM-C6A G; R&M: Cat. 6A with Keystone fastening; Rutenbeck: UM and UMflex; SETEC: UKJ and XKJ; Telegärtner: AMJ and UMJ.

Data technology support with slanting outlet and locking slider to accept two data technology connection modules with RJ45 socket. The locking fastening is suitable for horizontal and vertical installation in the system environment. Type C has a mounting opening of 19.30 x 14.80 mm and is designed for direct fastening of the data connection modules in the mounting opening.

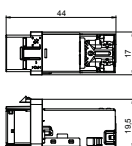
Connection module Cat. 6A, unshielded, keystone



Type	Pack Piece	Weight kg/100 pc.	Item no.
ASM-C6A	1	1.050	6117348

Connection module Cat. 6A (ISO) unshielded, with an RJ45 slot. Including a dust cover, a cable tie, a Keystone fastening frame and mounting instructions. Suitable for installation in the data technology supports of type DTG-2C and DTS-2C, support plate of type MTM 2C and MTM 3C, mounting plate of type MPR2 2C, mounting supports of type MTGE2 2C, MTGE2 15 2C and MTGE2 F 2C.

Connection module Cat. 6A, shielded, Keystone



Type	Pack Piece	Weight kg/100 pc.	Item no.
ASM-C6A G	1	1.630	6117346

Connection module Cat. 6A (ISO) shielded, with an RJ45 slot. Including an EMC screen hood, a dust cover, a cable tie, a Keystone fastening frame and mounting instructions. Suitable for installation in the data technology supports of type DTG-2C and DTS-2C, support plate of type MTM 2C and MTM 3C, mounting plate of type MPR2 2C, mounting supports of type MTGE2 2C, MTGE2 15 2C and MTGE2 F 2C.

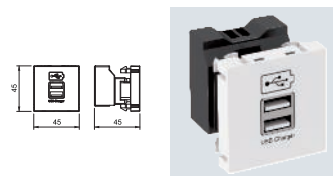


PC

USB charging device

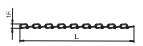
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
MTG-2UC2.1 RW1	Pure white	1	6.162	6105300
MTG-2UC2.1 SWGR1	Black-grey	1	5.500	6105302

USB charging device with two USB type A sockets, for charging 1–2 mobile devices, maximum charging current 1x 2,100 mA or 2x 1,050 mA.



Knotted chain

St



Designation		Pack	Weight	Item no.
Type		m	kg/100 m	
VH-K800	sold by the metre	1	20.000	6109870

Knotted chain made of pre-copper-plated steel, nickel-plated, according to DIN 5686.
 Max. tensile force: 800 N.
 Note: Specify the required chain length during ordering.

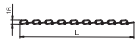
Power supply units





Knotted chain

St



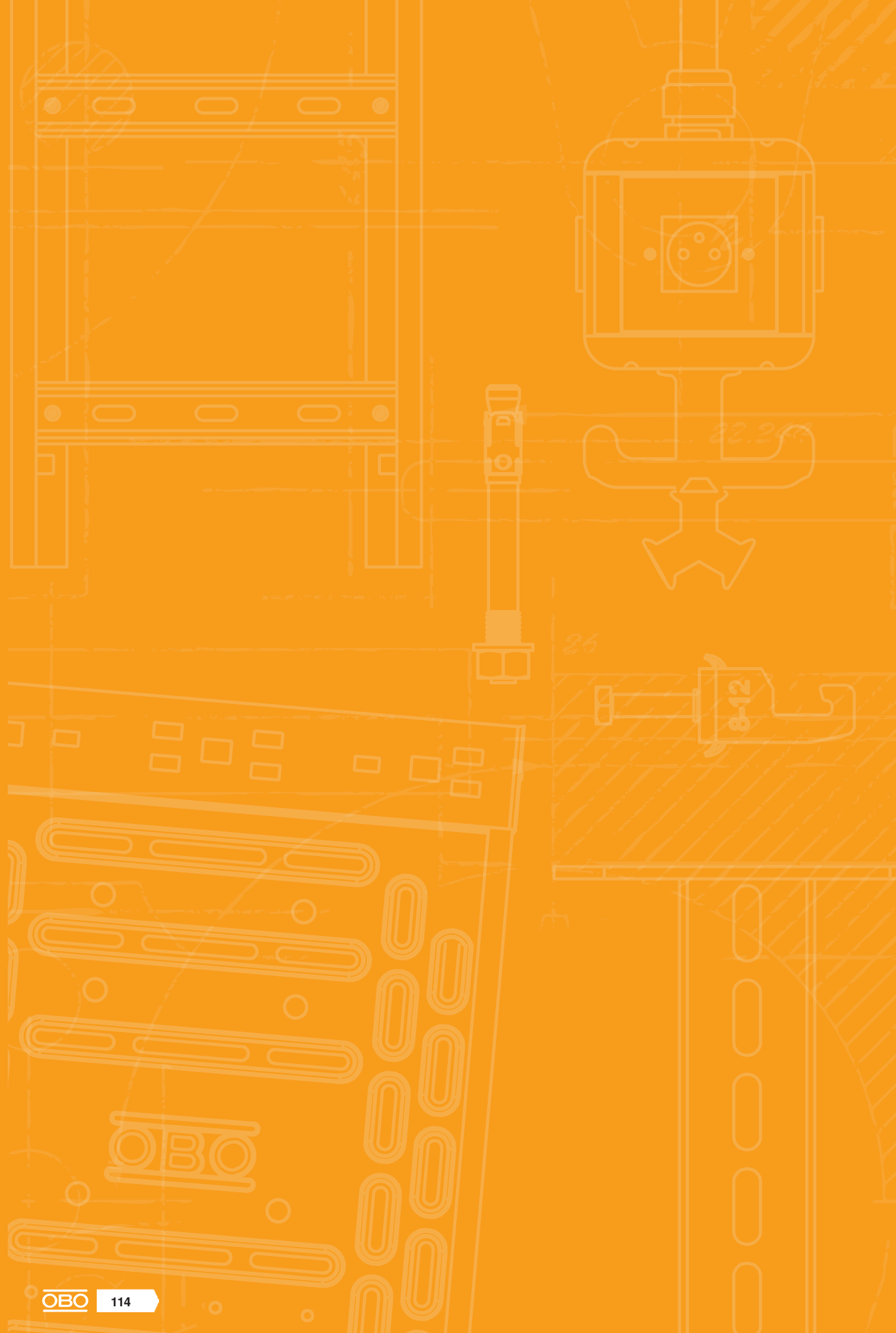
Designation		Pack	Weight	Item no.
Type		m	kg/100 m	
VH-K800	sold by the metre	1	20.000	6109870

Knotted chain made of pre-copper-plated steel, nickel-plated, according to DIN 5686.
 Max. tensile force: 800 N.
 Note: Specify the required chain length during ordering.

Power supply units







Distributors



Distribution boxes

116



Accessories, distribution boxes

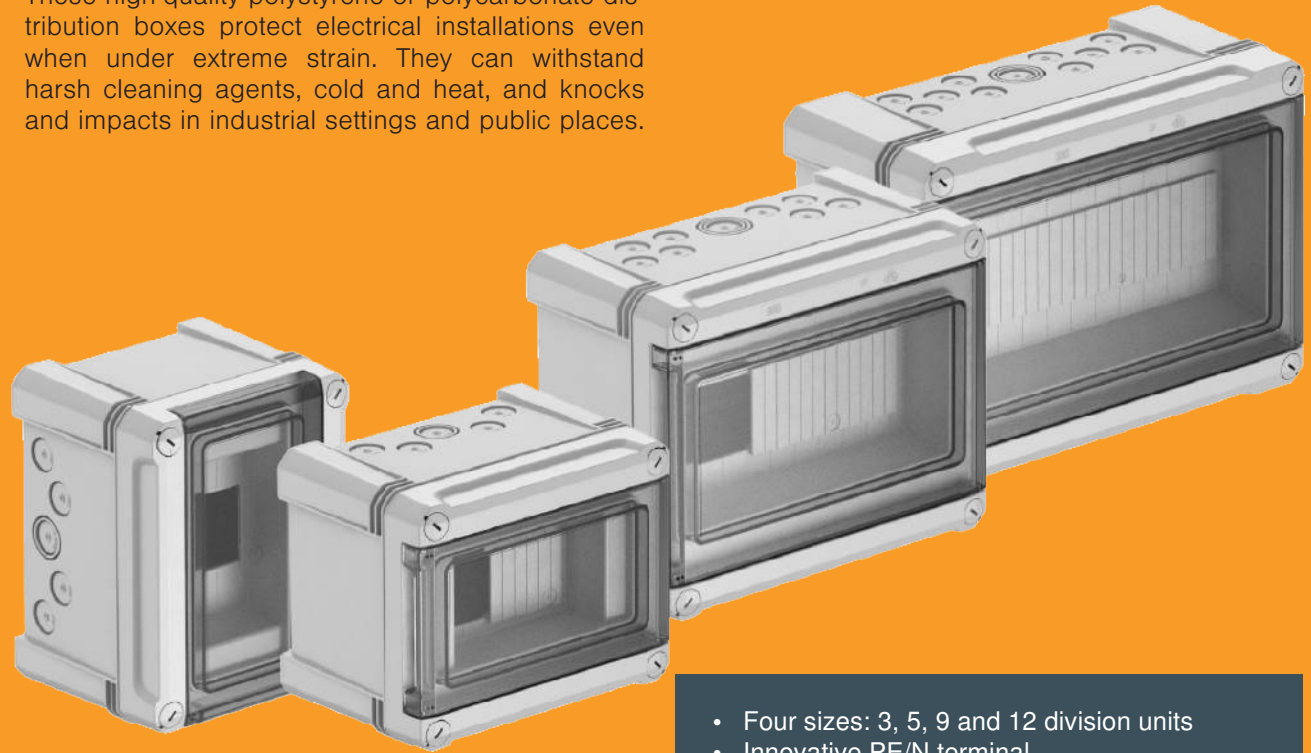
122





SDB distribution box series

These high-quality polystyrene or polycarbonate distribution boxes protect electrical installations even when under extreme strain. They can withstand harsh cleaning agents, cold and heat, and knocks and impacts in industrial settings and public places.



- Four sizes: 3, 5, 9 and 12 division units
- Innovative PE/N terminal
- Flexible fastening
- Adhesive labelling sheets



PC



Distribution box, 3 division units, with terminal strip

Type	Colour	Dimension LxWxH mm	Pack	Weight	Item no.
			Piece	kg/100 pc.	
SDB 03 PC	Light grey	150x190x125	1	75.540	2008840

Distribution box with terminal strip for surface mounting, for the current sub-distribution in interior and exterior areas, in accordance with IEC 439-3. With pre-mounted 35 mm hat profile rail. IP66 protection type and IK06 protection rating. Transparent cover to screw on, with cut-out.

- Protection-insulated for a maximum of 3 division units
- Terminal strip set consisting of: One each of: PE/N terminal (1x25 mm² and 1x16 mm² screw terminals, 2x4 mm² and 12x2.5 mm² screwless terminals), mini hat profile rail, mounting instructions and fastening set
- Identification plates for connected consumers
- 2 elastic cable entries Ø20 mm for cable diameters of 0–17 mm
- 1 elastic cable entry Ø25 mm for cable diameters of 0–22 mm
- 2 Ø 20 mm break-out openings each at the top and bottom
- 1 Ø 20/25 mm combination break-out opening each at the top and bottom
- 4 screw cover caps
- 2 stainless steel external fastenings
- Cover strip for unused division units



PS



Distribution box, 3 division units, with terminal strip

Type	Colour	Dimension LxWxH mm	Pack	Weight	Item no.
			Piece	kg/100 pc.	
SDB 03 PS	Light grey	150x190x125	1	81.000	2008800

Distribution box with terminal strip for surface mounting, for the current sub-distribution in interior and protected exterior areas, in accordance with IEC 439-3. With pre-mounted 35 mm hat profile rail. IP66 protection type and IK06 protection rating. Transparent cover to screw on, with cut-out.

- Protection-insulated for a maximum of 3 division units
- Terminal strip set consisting of: One each of: PE/N terminal with 4x 16 mm² screw terminals, mini hat profile rail, mounting instructions and fastening set
- Identification plates for connected consumers
- 2 elastic cable entries Ø20 mm for cable diameters of 0–17 mm
- 1 elastic cable entry Ø25 mm for cable diameters of 0–22 mm
- 2 Ø 20 mm break-out openings each at the top and bottom
- 1 Ø 20/25 mm combination break-out opening each at the top and bottom
- 4 screw cover caps



PS PC

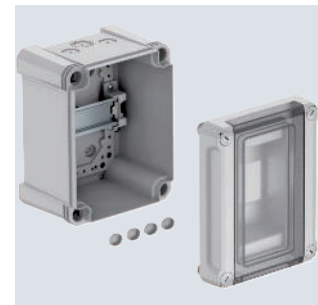


Distribution box, 3 division units, empty

Type	Colour	Dimension LxWxH mm	Pack	Weight	Item no.
			Piece	kg/100 pc.	
SDB 03L PC	Light grey	150x190x125	1	78.000	2008860
SDB 03L PS	Light grey	150x190x125	1	69.000	2008820

Small distributor for surface mounting, for the current sub-distribution in interior and exterior areas, according to IEC 439-3. With pre-mounted 35 mm hat profile rail. IP66 protection type and IK06 protection rating. Transparent cover to screw on, with cut-out. Including 4 screw cover caps.

- Protection-insulated for a maximum of 3 division units
- 2 break-out openings each of Ø 20 mm at the top and bottom
- 1 combination break-out opening each of Ø 20/25 mm at the top and bottom
- 4 screw cover caps



Distribution box, 5 division units, with terminal strip

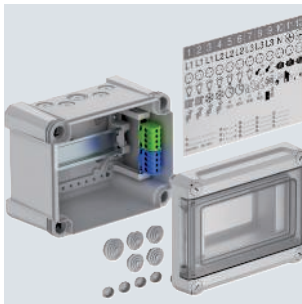


Type	Colour	Dimension LxWxH mm	Pack Piece	Weight kg/100 pc.	Item no.
SDB 05 PC	Light grey	190x150x125	1	76.040	2008844

Distribution box with terminal strip for surface mounting, for the current sub-distribution in interior and exterior areas, in accordance with IEC 439-3. With pre-mounted 35 mm hat profile rail. IP66 protection type and IK06 protection rating. Transparent cover to screw on, with cut-out.

- Protection-insulated for a maximum of 5 division units
- Terminal strip set consisting of: One each of: PE/N terminal (1x25 mm² and 1x16 mm² screw terminals, 2x4 mm² and 12x2.5 mm² screwless terminals), mini hat profile rail, mounting instructions and fastening set
- Identification plates for connected consumers
- 4 elastic cable entries Ø20 mm for cable diameters of 0–17 mm
- 1 elastic cable entry Ø25 mm for cable diameters of 0–22 mm
- 4 Ø 20 mm break-out openings each at the top and bottom
- 1 Ø 20/25 mm combination break-out opening each at the top and bottom
- 4 screw cover caps
- 2 stainless steel external fastenings
- Cover strips for unused division units

Distribution box, 5 division units, with terminal strip

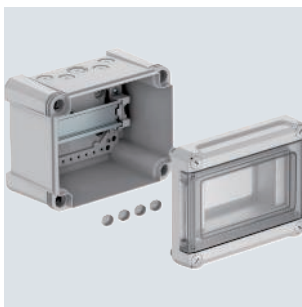


Type	Colour	Dimension LxWxH mm	Pack Piece	Weight kg/100 pc.	Item no.
SDB 05 PS	Light grey	190x150x125	1	81.500	2008804

Distribution box with terminal strip for surface mounting, for the current sub-distribution in interior and protected exterior areas, in accordance with IEC 439-3. With pre-mounted 35 mm hat profile rail. IP66 protection type and IK06 protection rating. Transparent cover to screw on, with cut-out.

- Protection-insulated for a maximum of 5 division units
- Terminal strip set consisting of: One each of: PE/N terminal with 4x 16 mm² screw terminals, mini hat profile rail, mounting instructions and fastening set
- Identification plates for connected consumers
- 4 elastic cable entries Ø20 mm for cable diameters of 0–17 mm
- 1 elastic cable entry Ø25 mm for cable diameters of 0–22 mm
- 4 Ø 20 mm break-out openings each at the top and bottom
- 1 Ø 20/25 mm combination break-out opening each at the top and bottom
- 4 screw cover caps

Distribution box, 5 division units, empty



Type	Colour	Dimension LxWxH mm	Pack Piece	Weight kg/100 pc.	Item no.
SDB 05L PS	Light grey	190x150x125	1	69.500	2008824
SDB 05L PC	Light grey	190x150x125	1	78.500	2008864

Distribution box for surface mounting, for the current sub-distribution in interior and protected exterior areas, in accordance with IEC 439-3. With pre-mounted 35 mm hat profile rail. IP66 protection type and IK06 protection rating. Transparent cover to screw on, with cut-out.

- Protection-insulated for a maximum of 5 division units
- 4 Ø 20 mm break-out openings each at the top and bottom
- 1 Ø 20/25 mm combination break-out opening each at the top and bottom
- 4 screw cover caps

PC



Distribution box, 9 division units, with terminal strip

Type	Colour	Dimension LxWxH mm	Pack	Weight	Item no.
			Piece	kg/100 pc.	
SDB 09 PC	Light grey	240x191x125	1	103.840	2008848

Distribution box with terminal strip for surface mounting, for the current sub-distribution in interior and exterior areas, in accordance with IEC 439-3. With pre-mounted 35 mm hat profile rail. IP66 protection type and IK06 protection rating. Transparent cover to screw on, with cut-out.

- Protection-insulated for a maximum of 9 division units
- Terminal strip set consisting of: One each of: PE/N terminal (1x25 mm² and 1x16 mm² screw terminals, 2x4 mm² and 12x2.5 mm² screwless terminals), mini hat profile rail, mounting instructions and fastening set
- Identification plates for connected consumers
- 6 elastic cable entries Ø20 mm for cable diameters of 0–17 mm
- 1 elastic cable entry Ø25 mm for cable diameters of 0–22 mm
- 1 elastic cable entry Ø32 mm for cable diameters of 0–28 mm
- 8 Ø 20 mm break-out openings each at the top and bottom
- 1 Ø 20/25/32 mm combination break-out opening each at the top and bottom
- 4 screw cover caps
- 2 stainless steel external fastenings
- Cover strips for unused division units



PS



Distribution box, 9 division units, with terminal strip

Type	Colour	Dimension LxWxH mm	Pack	Weight	Item no.
			Piece	kg/100 pc.	
SDB 09 PS	Light grey	240x191x125	1	110.000	2008808

Distribution box with terminal strip for surface mounting, for the current sub-distribution in interior and protected exterior areas, in accordance with IEC 439-3. With pre-mounted 35 mm hat profile rail. IP66 protection type and IK06 protection rating. Transparent cover to screw on, with cut-out.

- Protection-insulated for a maximum of 9 division units
- Terminal strip set consisting of: Two each of: PE/N terminals with 4x 16 mm² screw terminals, mini hat profile rail, mounting instructions and fastening set
- Identification plates for connected consumers
- 6 elastic cable entries Ø20 mm for cable diameters of 0-17 mm
- 1 elastic cable entry Ø25 mm for cable diameters of 0–22 mm
- 1 elastic cable entry Ø32 mm for cable diameters of 0–28 mm
- 8 Ø 20 mm break-out openings each at the top and bottom
- 1 Ø 20/25/32 mm combination break-out opening each at the top and bottom
- 4 screw cover caps



PS PC

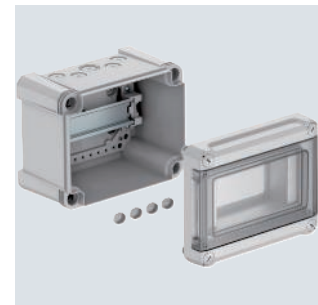


Distribution box, 9 division units, empty

Type	Colour	Dimension LxWxH mm	Pack	Weight	Item no.
			Piece	kg/100 pc.	
SDB 09L PS	Light grey	240x191x125	1	96.000	2008828
SDB 09L PC	Light grey	240x191x125	1	108.000	2008868

Distribution box for surface mounting, for the current sub-distribution in interior and protected exterior areas, in accordance with IEC 439-3. With pre-mounted 35 mm hat profile rail. IP66 protection type and IK06 protection rating. Transparent cover to screw on, with cut-out.

- Protection-insulated for a maximum of 9 division units
- 8 Ø 20 mm break-out openings each at the top and bottom
- 1 Ø 20/25/32 mm combination break-out opening each at the top and bottom
- 4 screw cover caps



Distribution box, 12 division units, with terminal strip



Type	Colour	Dimension LxWxH mm	Pack	Weight	Item no.
			Piece	kg/100 pc.	
SDB 12 PS	Light grey	286x202x125	1	141.000	2008812
SDB 12L PS	Light grey	286x202x125	1	120.000	2008832

Distribution box with terminal strip for surface mounting, for the current sub-distribution in interior and protected exterior areas, in accordance with IEC 439-3. With pre-mounted 35 mm hat profile rail. IP66 protection type and IK06 protection rating. Transparent cover to screw on, with cut-out.

- Protection-insulated for a maximum of 12 division units
- Terminal strip set consisting of: Three each of: PE/N terminals with 4x 16 mm² screw terminals, mini hat profile rail, mounting instructions and fastening set
- Identification plates for connected consumers
- 8 elastic cable entries Ø20 mm for cable diameters of 0–17 mm
- 1 elastic cable entry Ø25 mm for cable diameters of 0–22 mm
- 1 elastic cable entry Ø32 mm for cable diameters of 0–28 mm
- 10 Ø 20 mm break-out openings each at the top and bottom
- 1 Ø 20/25/32 mm combination break-out opening each at the top and bottom
- 4 screw cover caps

Distribution box, 12 division units, empty



Type	Colour	Dimension LxWxH mm	Pack	Weight	Item no.
			Piece	kg/100 pc.	
SDB 12L PC	Light grey	286x202x125	1	134.000	2008872

Small distributor for surface mounting, for the current sub-distribution in interior and exterior areas, according to IEC 439-3. With pre-mounted 35 mm hat profile rail. IP66 protection type and IK06 protection rating. Transparent cover to screw on, with cut-out. Including 4 screw cover caps.

- Protection-insulated for a maximum of 12 division units
- 11 break-out openings each of Ø 20 mm at the top and bottom
- 1 combination break-out opening each of Ø 20/25/32 mm at the top and bottom
- 4 screw cover caps

Distribution box, 12 division units, with terminal strip



Type	Colour	Dimension LxWxH mm	Pack	Weight	Item no.
			Piece	kg/100 pc.	
SDB 12 PC	Light grey	286x202x125	1	150.000	2008852

Distribution box with terminal strip for surface mounting, for the current sub-distribution in interior and exterior areas, in accordance with IEC 439-3. With pre-mounted 35 mm hat profile rail. IP66 protection type and IK06 protection rating. Transparent cover to screw on, with cut-out.

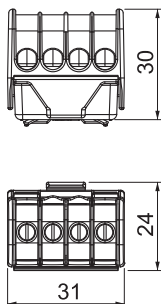
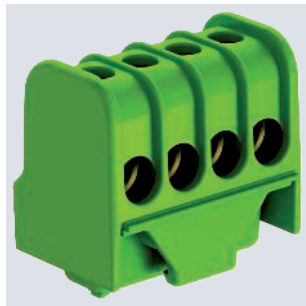
- Protection-insulated for a maximum of 12 division units
- Terminal strip set consisting of: One each of: PE/N terminal (1x25 mm² and 1x16 mm² screw terminals, 2x4 mm² and 12x2.5 mm² screwless terminals), mini hat profile rail, mounting instructions and fastening set
- Identification plates for connected consumers
- 8 elastic cable entries Ø20 mm for cable diameters of 0–17 mm
- 1 elastic cable entry Ø25 mm for cable diameters of 0–22 mm
- 1 elastic cable entry Ø32 mm for cable diameters of 0–28 mm
- 10 Ø 20 mm break-out openings each at the top and bottom
- 1 Ø 20/25/32 mm combination break-out opening each at the top and bottom
- 4 screw cover caps
- 2 stainless steel external fastenings
- Cover strips for unused division units



Protective conductor terminals

Protective conductor terminal, with screw contacts, 4 terminals

PA



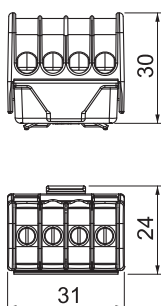
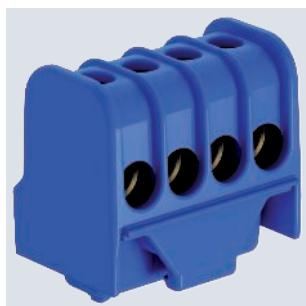
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
KL-DBS4x16GN	Green	10	1.980	2016250

Protective conductor connection terminal strip, brass, steel screws, electrogalvanised and transparently passivated, nominal cross-section 6 ÷ 16 mm², nominal voltage 400 V, 1-pole, with terminal sockets, max. connectable conductors per terminal 4 x 16 mm², 4 x 10 mm², 8 x 6 mm² or 12 x 4 mm².

Neutral conductor terminals

Neutral conductor terminal, with screw contacts, 4 terminals

PA



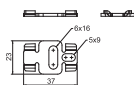
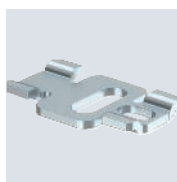
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
KL-DBN4x16BL	Blue	10	1.980	2016255

Neutral conductor connection terminal, brass, steel screws, electrogalvanised and transparently passivated, nominal cross-section 6 ÷ 16 mm², nominal voltage 400 V, 1-pole, with terminal sockets, max. connectable conductors per terminal 4 x 16 mm², 4 x 10 mm², 8 x 6 mm² or 12 x 4 mm².

External fastening

External fastening or connection

A2 2B



Type	Pack Piece	Weight kg/100 pc.	Item no.
AV-S	20	0.900	2007990

The convenient external fastening/connection means the cable boxes and distribution boxes of the S and SDB series can be fastened easily to a wall. Because they fasten outside the cable box, the possibility of voltage carry over is ruled out. These metal connectors can also be used for lining up several boxes together.

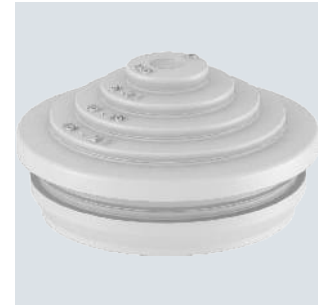
TPE



EDS plug-in seal, light grey, X series

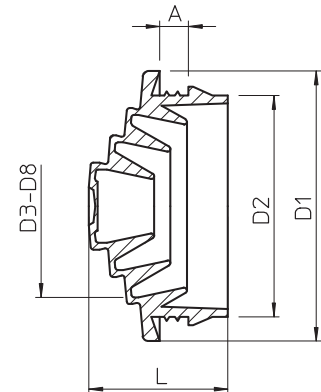
Type	Size	For Ø mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
EDS M20 LGR	M20	0-17	Light grey	100	0.125	2012350
EDS M25 LGR	M25	0-22	Light grey	100	0.185	2012354
EDS M32 LGR	M32	0-28	Light grey	50	0.295	2012358

The push-in nipple can be cut back to suit the relevant cable diameter.



Type	Dim. L	Dim. A	Dim. D1	Dim. D2	Dim. D3	Dim. D4	Dim. D5	Dim. D6	Dim. D7	Dim. D8
EDS M20 LGR	12.8	3.1	24.8	20.3	6	10	15	17	-	-
EDS M25 LGR	14.5	3.1	29.5	25.3	6	10	15	20	22	-
EDS M32 LGR	17.8	3.1	36.3	32.3	6	10	15	20	25	28

Dimensions



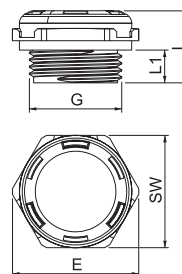
Pressure compensation element

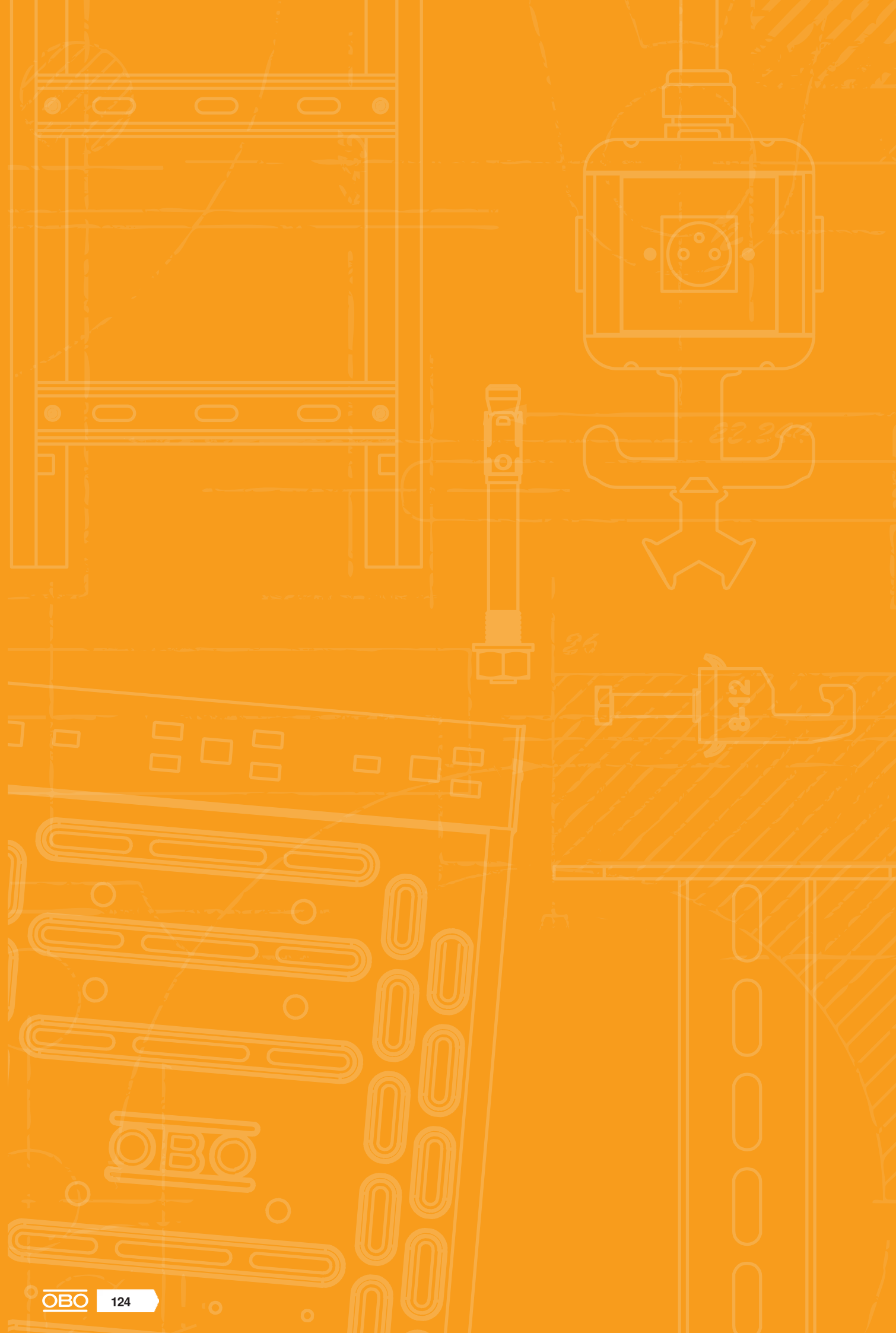


Type	Thread	Protection rating	Colour	Pack Piece	Weight kg/100 pc.	Item no.
109 M20 LGR	M20x1,5	IP68	Light grey	1	0.538	2034680

The pressure compensation element, type 109 M20 LGR compensates for pressure differences in junction boxes, small distributors and connection sockets with an M20 opening and avoids the formation of condensation water in sealed housings. The polyamide pressure compensation element has an IP68/IP69 protection rating. This remains intact, even after the installation of the pressure compensation element. The pressure compensation element is suitable for use in industrial environments and in exterior areas.

Pressure compensation element





Terminals



Screwless terminals

126



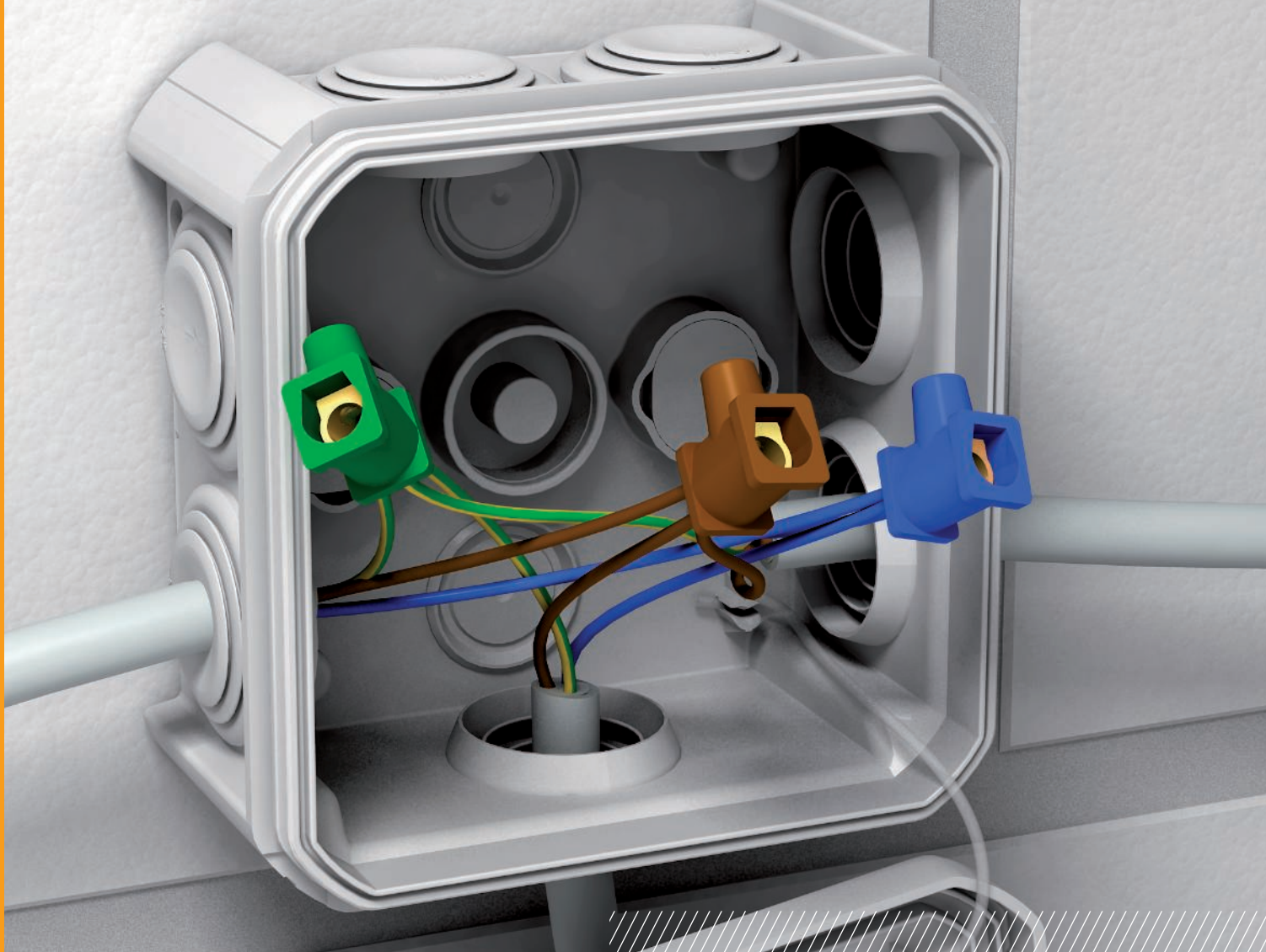
Screw terminals

126



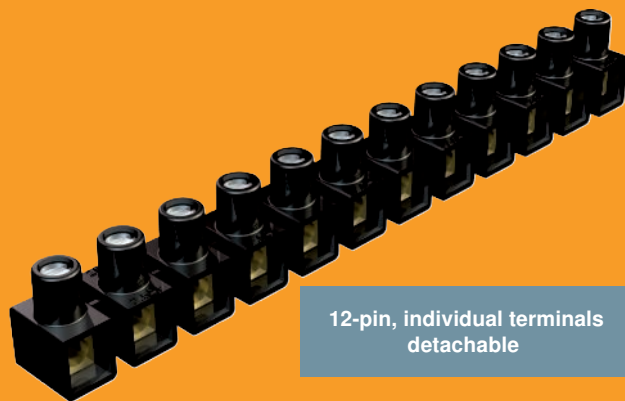
Phase terminals

130

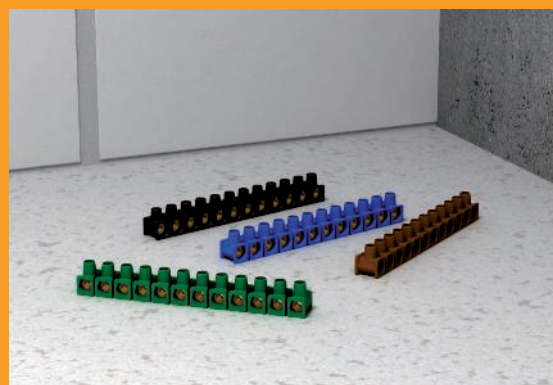


Dolü branch terminal

The branch terminal/terminal strip consists of an insulating plastic housing that serves as electric shock protection for the steel/brass terminal insert. Thus no voltage-carrying parts can be touched if the component is used correctly. The ends of the wire strands must be inserted using ferrules. These ensure no mechanical damage can occur and rule out the risk of damage to individual strands from the clamping screw as it turns. When using terminal strips, it must be ensured in each individual case that the installation conforms to the applicable VDE standards.



12-pin, individual terminals detachable

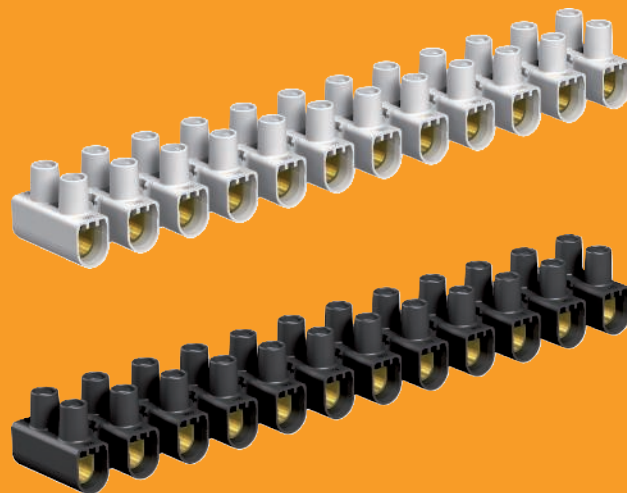


Various colours



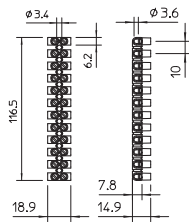
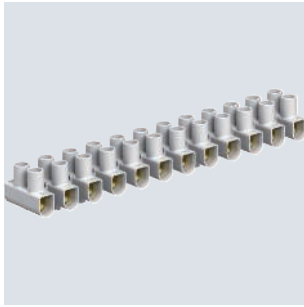
Terminal strips

The branch terminal/terminal strip consists of an insulating plastic housing that serves as electric shock protection for the steel/brass terminal insert. Thus no voltage-carrying parts can be touched if the component is used correctly. The ends of wire strands must be inserted with wire end sleeves to ensure no mechanical damage can occur and rule out the risk of damage to individual strands from the clamping screw as it turns.



- Tested to EN 60998
- Brass terminals, bolts made of electrogalvanised steel
- 12-pin strips, separable into individual terminals through "twist'n'pull"
- Captive upwards screw
- Max. approved ambient temperature to EN 60998: -5 to +80 °C
- Nominal cross-section 4–35 mm²

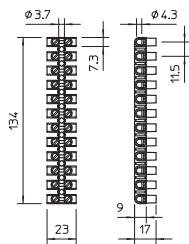
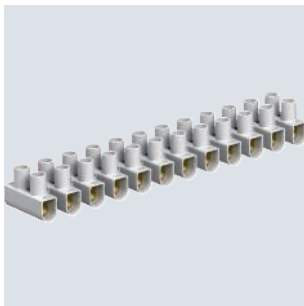
6 mm² series connectors, polypropylene



Type	Colour	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
74 CE WS/EKL 1 S	White	200	10	2.600	2056224

Tested according to EN 60998.
 Steel terminals, steel screws, electrogalvanised, 12-pin, individual terminals detachable from strips using "twist'n'pull".
 Captive upwards screw.
 Max. approved ambient temperature to EN 60998: -5 to +80 °C.
 Nominal cross-section 6 mm².
 Nominal voltage 450 V.
 Nominal current 41 A.
 Max. connections on each side: 6 mm² single-wire or 4 mm² fine-wire.

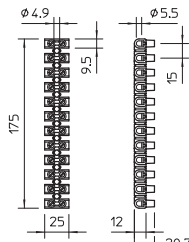
10 mm² series connectors, polypropylene



Type	Colour	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
76 CE WS/EKL 2 S	White	100	10	4.300	2056372

Tested to EN 60998.
 Steel terminals, steel screws, electrogalvanised, 12-pole, individual terminals detachable from strips using "twist'n'pull".
 Captive upwards screw.
 Max. approved ambient temperature to EN 60998: -5 to +80 °C.
 Nominal cross-section 10 mm².
 Nominal voltage 450 V.
 Nominal current 57 A.
 Max. attachment each side: 10 mm² single-wire or 6 mm² multi-wire/flexible.

16 mm² series connectors, polypropylene



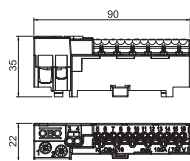
Type	Colour	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
78 CE WS/EKL 3 S	White	100	10	7.500	2056550

Tested to EN 60998.
 Steel terminals, steel screws, electrogalvanised, 12-pole, individual terminals detachable from strips using "twist'n'pull".
 Captive upwards screw.
 Max. approved ambient temperature to EN 60998: -5 to +80 °C.
 Nominal cross-section 16 mm².
 Nominal voltage 450 V.
 Nominal current 76 A.
 Max. attachment each side: 16 mm² single-wire or 10 mm² multi-wire or 6 mm² flexible.



Phase terminal, with screwless contacts, 12 terminals

PA



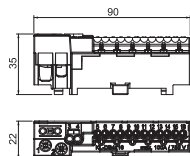
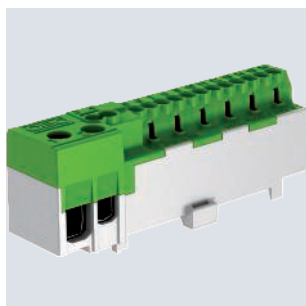
Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
KL-DBP12x02GR	Grey	10	4.500	2016270

Phase connection terminal with 12 2.5 mm² screwless terminal points; two 4 mm² screwless terminal points and two 16/25 mm² screw connection terminal points. For snapping onto 15 mm hat rails to DIN EN 50022.

Protective conductor terminals

Protective conductor terminal, with screwless contacts, 12 terminals

PA

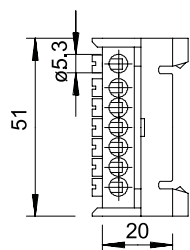
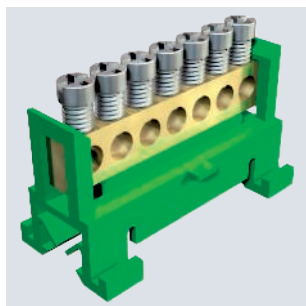


Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
KL-DBS12x02GRGN	Grey/green	10	4.500	2016260

Neutral conductor connection terminal with 12 plug-in terminals, 2.5 mm² or 1.5 mm², flexible with wire end sleeve; two plug-in terminals, 4 mm² and 2.5 mm², flexible with wire end sleeve and two screw connection terminals up to 25 mm² or 16 mm², flexible, 3 Nm. For snapping onto 15 mm hat rails according to DIN EN 60715 (formerly DIN EN 50022).

Protection conductor terminals, with screw contacts, 7 terminals

PA



Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
60 S 7x16 GN	Green	10	2.900	2054019

Protective conductor connection terminal with 7 terminals up to 16 mm². Clamping rail, brass, steel screws, electrogalvanised and transparently passivated, for snapping onto 35 x 7.5 mm hat profile rails to DIN EN 60715 (previously DIN EN 50022) (transverse) or flat rails 10 x 2–2.5 mm (lengthwise).

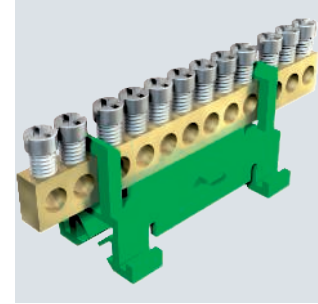
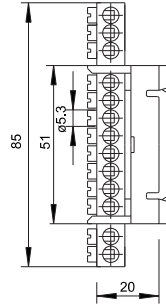
PA



Protection conductor terminals, with screw contacts, 12 terminals

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
60 S 12x16 GN	Green	10	4.200	2054094

Protective conductor connection terminal with 7 terminals up to 16 mm². Clamping rail, brass, steel screws, electrogalvanised and transparently passivated, for snapping onto 35 x 7.5 mm hat profile rails to DIN EN 60715 (previously DIN EN 50022) (transverse) or flat rails 10 x 2–2.5 mm (lengthwise).



Neutral conductor terminals

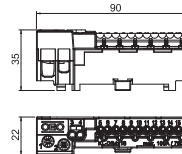
PA



Neutral conductor terminal, with screwless contacts, 12 terminals

Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
KL-DBN12x02GRBL	Grey/blue	10	4.500	2016265

Neutral conductor connection terminal with 12 plug-in terminals, 2.5 mm² or 1.5 mm², flexible with wire end sleeve; two plug-in terminals, 4 mm² and 2.5 mm², flexible with wire end sleeve and two screw connection terminals up to 25 mm² or 16 mm², flexible, 3 Nm. For snapping onto 15 mm hat rails according to DIN EN 60715 (formerly DIN EN 50022).



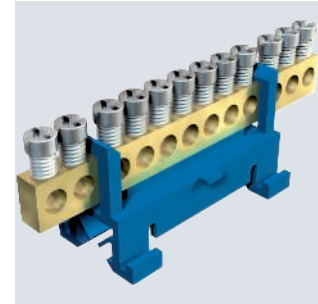
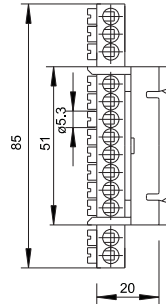
PA

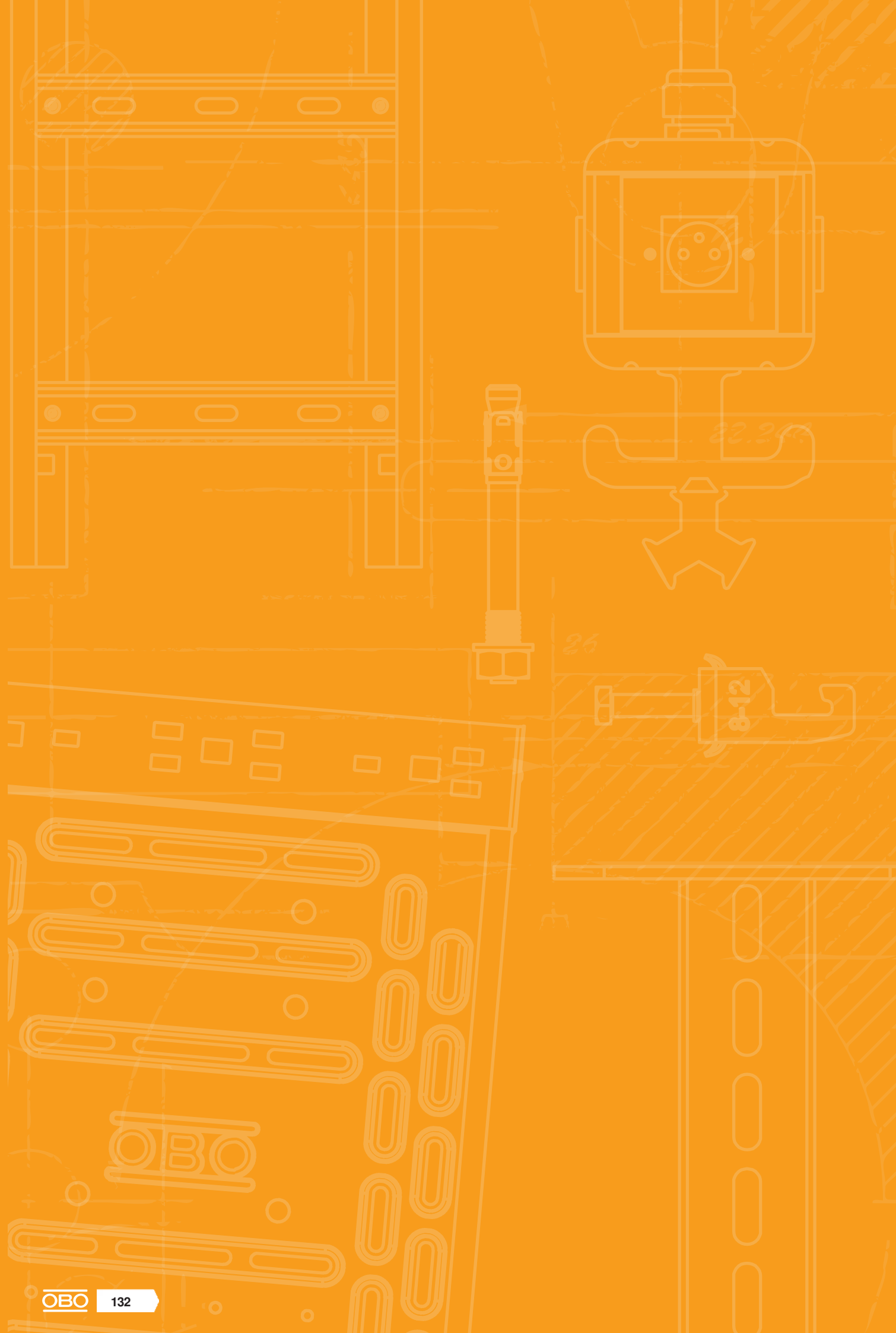


Neutral conductor terminals, with screw contacts, 12 terminals




Type	Colour	Pack Piece	Weight kg/100 pc.	Item no.
60 N 12x16 BL	Blue	10	4.200	2054086

Neutral conductor connection terminal with 12 terminals up to 16 mm². Clamping rail, brass, steel screws, electrogalvanised and transparently passivated, for snapping onto 35 mm hat rails to DIN EN 60715 - previously DIN EN 50022 - (transverse) or flat rails 10 x 2-2.5 mm (lengthwise).





Cable glands

	Plastic	134
	Accessories, glands, plastic	144
	Metal	150
	Accessories, glands, metal	154



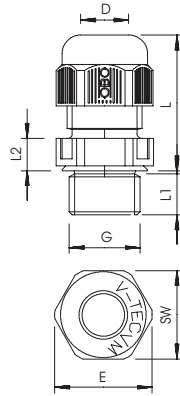


Cable glands V-TEC VM and V-TEC VM L

The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO.

- Fast and convenient means of cable entry for junction boxes and housings
- With the integrated sealing lip and the special OBO lamella technology, protection class IP68 is achieved
- Strain relief and tightness have been tested to DIN EN 62444
- The connecting threads are metric and are therefore suitable for universal use
- Applications: From private housing with junction boxes up to industrial applications in the distributor cabinet
- Temperature range: $-20\text{ }^{\circ}\text{C}$ to $+65\text{ }^{\circ}\text{C}$

V-TEC VM



- Fast, convenient means of cable entry for junction boxes and housings
- With the integrated sealing lip and the special OBO lamella technology, protection class IP68 is achieved
- Strain relief and tightness have been tested to DIN EN 62444
- The connecting threads are metric and are therefore suitable for universal use
- Applications: From private housing with junction boxes up to industrial applications in the distributor cabinet
- Temperature range: -20 °C to +65 °C

G	D	SW	E	L min.	L max.	L1	L2
	mm	mm	mm	mm	mm	mm	mm
M12 x 1.5	3.5–7	15	16.5	18.5	23.5	8	5
M16 x 1.5	4.5–10	20	22	21.5	29	8	5
M20 x 1.5	6–13	24	27	23.5	30.5	10	6
M25 x 1.5	9–17	29	32	26	35	10	6
M32 x 1.5	15–21	36	41	29	40	11	6
M40 x 1.5	16–28	44	50	36	46	11	7
M50 x 1.5	23–35	54	60	43	52	12	8
M63 x 1.5	36–48	67	75	48	60	12	9

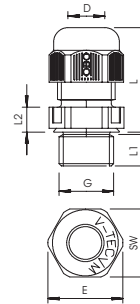
Cap nut cable gland, plastic metric

Cable gland, metric thread, light grey



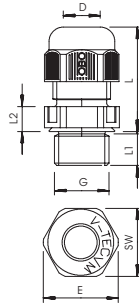
Type	Colour	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
V-TEC VM16 LGR	Light grey	500	50	0.638	2022864
V-TEC VM20 LGR	Light grey	600	50	0.856	2022866
V-TEC VM25 LGR	Light grey	300	25	1.360	2022868
V-TEC VM32 LGR	Light grey	240	20	2.235	2022870
V-TEC VM40 LGR	Light grey	120	10	3.467	2022872

Cable gland with metric connection thread in cap nut design, suitable for junction boxes, housings, distributor boxes in private and industrial areas. With strain relief and integrated sealing lip, tested according to DIN EN 62444. Protection class IP68. Can be used between -20 °C and +65 °C.



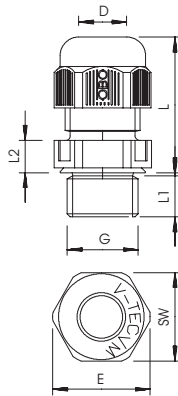
Cap nut cable gland, metric thread, silver grey

PA



Type	Thread	Colour	Pack Piece	Weight kg/100 pc.	Item no.
V-TEC VM16 SGR	M16 x 1,5	Silver grey	50	0.638	2022845
V-TEC VM20 SGR	M20 x 1,5	Silver grey	50	0.856	2022847
V-TEC VM25 SGR	M25 x 1,5	Silver grey	25	1.360	2022849
V-TEC VM32 SGR	M32 x 1,5	Silver grey	20	2.230	2022851

The quickest and most convenient way of providing strain relief and tightness with cable glands on junction boxes and housings is with the tried-and-trusted V-TEC VM cable glands from OBO. With the integrated sealing lip and the special OBO lamella technology, protection class IP68 is achieved. Strain relief and tightness have been tested to DIN EN 62444. The connecting threads of the cable glands are metric or PG and are therefore suitable for universal use. Once screwed in place, the installation is there forever, as the optimum thread adjustment with the right pitch ensures permanent resistance to shaking. Applications: From private housing with junction boxes up to industrial applications in the distributor cabinet. Temperature range: -20 °C to +65 °C.



- Long connection thread (up to 33 mm) for thick-walled housing penetrations
- With the integrated sealing lip and the special OBO lamella technology, protection class IP68 is achieved
- Strain relief and tightness have been tested to DIN EN 62444
- The connecting threads are metric and are therefore suitable for universal use
- Applications: From private housing with junction boxes up to industrial applications in the distributor cabinet
- Temperature range: -20 °C to +65 °C

G	D	SW	E	L min.	L max.	L1	L2
	mm	mm	mm	mm	mm	mm	mm
M12 x 1.5	3.5–7	15	16.5	17.5	24	15	12
M16 x 1.5	4.5–10	20	22	20.5	29.5	15	15.5
M20 x 1.5	6–13	24	27	22.5	32.5	15	17.5
M25 x 1.5	9–17	29	32	25.5	36	15	19.5
M32 x 1.5	15–21	36	41	28	40	15	22
M40 x 1.5	16–28	44	50	32	46	18	25
M50 x 1.5	23–35	54	60	37.5	54.3	18	29.5
M63 x 1.5	36–48	68	75	41.5	60.3	18	32.5

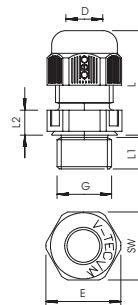
Cap nut cable gland, plastic metric

Cable gland, metric thread, long, light grey

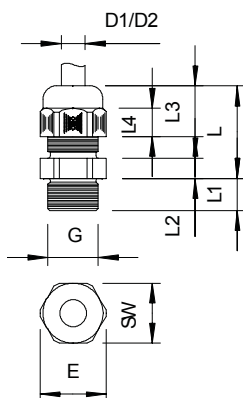


Type	Colour	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
V-TEC VM L25 LGR	Light grey	300	25	1.597	2022949
V-TEC VM L32 LGR	Light grey	240	20	2.047	2022951
V-TEC VM L63 LGR	Light grey	60	5	7.390	2022957

Cable gland with metric connection thread in cap nut design, suitable for junction boxes, housings, distributor cabinets in private and industrial areas. With strain relief and integrated sealing lip, tested according to DIN EN 62444. Protection class IP68. Can be used between -20 °C and +65 °C.



Cable gland, PG thread

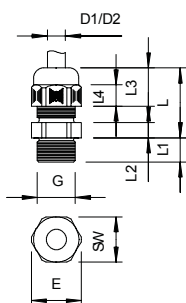


- PG connection thread
- With the integrated sealing lip, protection class IP68 is achieved
- Applications: From private housing with junction boxes up to industrial applications in the distributor cabinet
- Temperature range: -20 °C to +65 °C

G	D1	D2	SW	E	L min.	L max.	L1	L2	L3
	mm	mm	mm	mm	mm	mm	mm	mm	mm
Pg 7	2.5-6.5	3-6.5	15	16.5	18	23	8	5	12.6
Pg 9	2.5-8	3.5-8	19	21	21	27	8	5	15.5
PG 11	3.5-10	4.5-10	22	25	22	29	8	5	17
Pg 13.5	5-12	6-12	24	27	23	30	9	5	18
Pg 16	7-14	7-14	27	30	25	33	10	6	19
Pg 21	9-18	12-18	33	37.5	28	38	11	6	22
Pg 29	14-25	17-25	42	47.5	32	43	11	7	24.5
Pg 36	18-32	20-32	53	60	39	54	13	8	31
Pg 42	24-38	26-38	60	68.5	42	57	13	9	32.5
Pg 48	30-44	30-44	65	74	42	58	14	9	33

Cap nut cable gland, plastic PG thread

Cable gland, PG thread, light grey



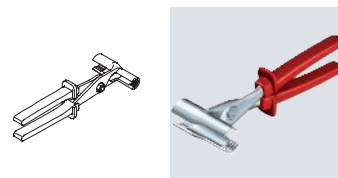
Type	Colour	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
V-TEC PG7 LGR	Light grey	500	50	0.410	2024705
V-TEC PG29 LGR	Light grey	240	20	4.020	2024772
V-TEC PG36 LGR	Light grey	120	10	6.030	2024780

Cable gland with PG connection thread in cap nut design, suitable for junction boxes, housings, distributor boxes in private and industrial areas. With strain relief and integrated sealing lip, tested according to DIN EN 62444. Protection class IP68. Can be used between -20 °C and +65 °C.

Special tongs for cable glands

Type	Pack Piece	Weight kg/100 pc.	Item no.
186	1	47.000	3010104

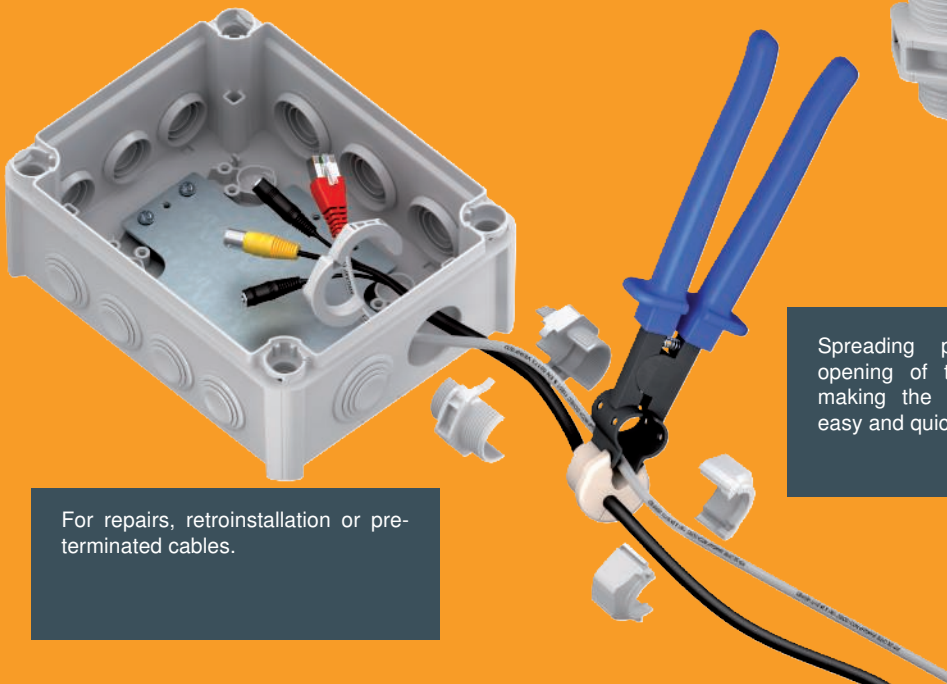
Universal tool for easy tightening of all glands up to size PG 21 or M25 x 1.5, also usable with glands very close to one another.
 Small opening PG 7–PG 11.
 Large opening PG 13.5–PG 21.





Separable cable glands

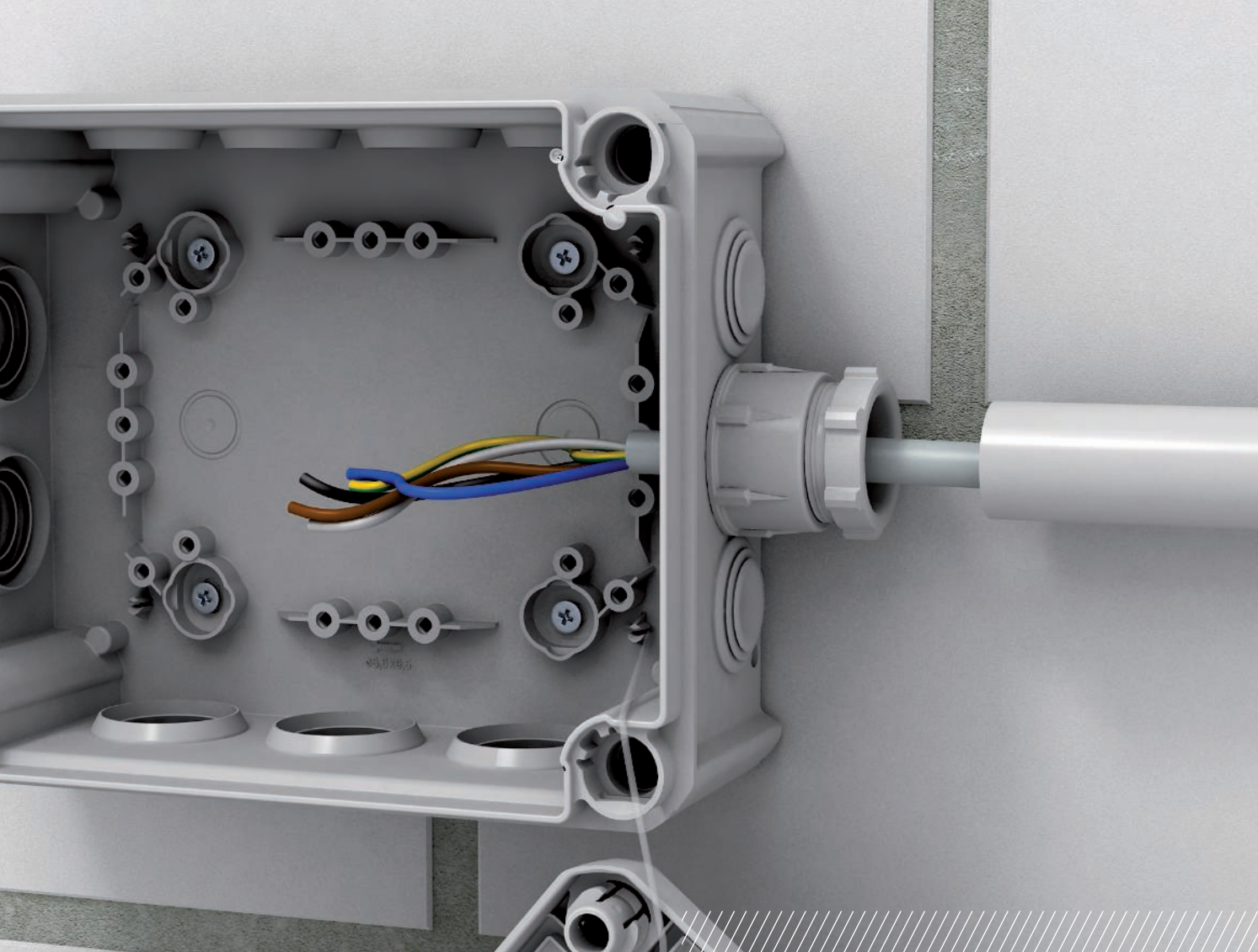
The separable cable gland allows easy and quick installation, for example, of pre-terminated cables with connectors. In an existing installation, a missing or defective cable gland can be replaced or supplemented without dismantling and interruption.



- M20
- M25
- M30
- IP 67

For repairs, reinstallation or pre-terminated cables.

Spreading pliers for the best opening of the sealing inserts – making the laying of each cable easy and quick.



Cone cable glands

- Standard cable gland
- Shape A in accordance with DIN 46320 with simple NR/SBR sealing ring
- Metric connecting thread to IEC 423
- Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54
- With PG thread
- With metric thread
- Strain relief



Cone cable gland, PG thread, light grey

PS

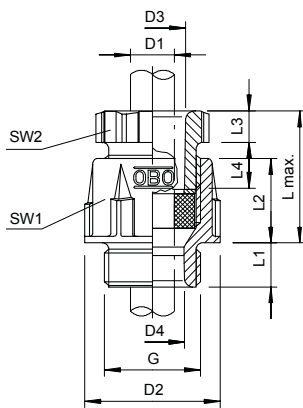
IP 54 IP 65 Pg



Type	Thread	Colour	Pack Piece	Weight kg/100 pc.	Item no.
106 PG21	Pg 21	Light grey	50	1.760	2036215
106 PG29	Pg 29	Light grey	10	3.004	2036290

Standard cable gland, shape A, to DIN 46320 with simple NR/SBR sealing ring.
 PG connection thread in accordance with DIN 40430.
 Protection rating: with connection thread sealing ring IP65, without connection thread sealing ring IP54.
 Note: Only tighten polystyrene cable glands lightly due to the risk of stress crack formation.

Dimensions



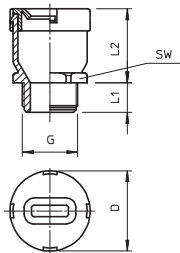
Type	Thread	Sealing range		Dim.				Dim.				
		D	D2	D3	D4	SW 1	SW 2	L max.	L1	L2	L3	L4
106 PG21	Pg 21	14-18	37.5	21.2	21	33	30	38	10	19	7	17
106 PG29	Pg 29	18-25	47.5	30	27.5	42	40	42	11	20.5	8	18

Flat cable gland

Flat cable threaded connection, metric thread M20, stone grey

PE

IP 31 M 650°



Type	Thread	Flat cables/ thickness mm	Flat cables/ width mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
106 FL M20 8 19	M20	6-8	17-19	Stone grey	50	0.909	2013002

Flat-cable entry, choke-nipple design with metric connecting thread to IEC 432, protection rating IP31, with pre-mounted support sealing ring 107/F.

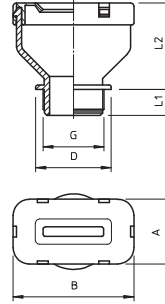
PE



Flat cable threaded connection, metric thread M25, stone grey

Type	Thread	Flat cables/ thickness mm	Flat cables/ width mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
106 FL M25 8 33	M25	6-8	30-33	Stone grey	25	2.630	2013007

Flat-cable entry, choke-nipple design with metric connecting thread to IEC 432, protection rating IP31, with pre-mounted support sealing ring 107/F.



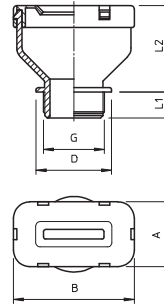
PE



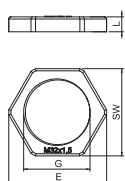
Flat cable threaded connection, metric thread M32, stone grey

Type	Thread	Flat cables/ thickness mm	Flat cables/ width mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
106 FL M32 12 35	M32	9-12	31-35	Stone grey	15	3.450	2013021

Flat-cable entry, choke-nipple design with metric connecting thread to IEC 432, protection rating IP31, with pre-mounted support sealing ring 107/F.



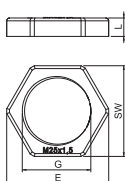
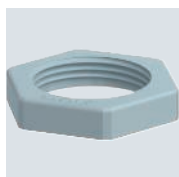
Locknut, metric thread



Type	Thread	Colour	SW mm	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
				E mm	L mm			
116 M16 LGR PA	M16 x 1,5	Light grey	22	25	5	100	0.160	2048914
116 M20 LGR PA	M20 x 1,5	Light grey	26	29	6	100	0.173	2048922
116 M25 LGR PA	M25 x 1,5	Light grey	32	36	6,5	100	0.297	2048930
116 M32 LGR PA	M32 x 1,5	Light grey	41	46	7	50	0.610	2048949
116 M40 LGR PA	M40 x 1,5	Light grey	50	56	7	25	1.683	2048957
116 M50 LGR PA	M50 x 1,5	Light grey	60	68	8	25	0.890	2048965

Locknut DIN 46319, with metric thread IEC 423.

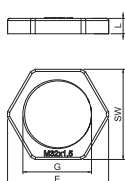
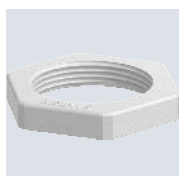
Cable outlet, plastic locknut



Type	Thread	Colour	SW mm	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
				E mm	L mm			
116 M16 SGR PA	M16 x 1,5	Silver grey	22	25	5	100	0.125	2048760
116 M20 SGR PA	M20 x 1,5	Silver grey	26	29	6	100	0.177	2048779
116 M25 SGR PA	M25 x 1,5	Silver grey	32	36	6,5	100	0.266	2048787
116 M32 SGR PA	M32 x 1,5	Silver grey	41	46	7	50	0.503	2048795

Locknut to DIN 46319, with metric thread IEC 423.

Locknut, metric thread

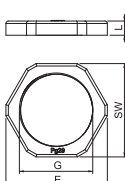


Type	Thread	Colour	SW mm	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
				E mm	L mm			
116 M25 LGR PS	M25 x 1,5	Light grey	32	36	6,5	100	0.260	2049546
116 M32 LGR PS	M32 x 1,5	Light grey	41	46	7	50	0.484	2049554
116 M40 LGR PS	M40 x 1,5	Light grey	50	56	7	25	0.491	2049562

Locknut to DIN 46319, with metric thread IEC 423.

Note: Only tighten polystyrene cable glands lightly due to the risk of stress crack formation.

Locknut, PG thread



Type	Thread	Colour	SW mm	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
				E mm	L mm			
116 VDE PG13.5PA	Pg 13,5	Light grey	27	29	6	100	0.256	2048132

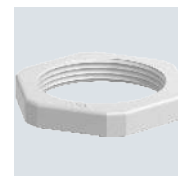
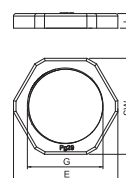
Locknut DIN 46320, with PG thread DIN 40430.

PS



Locknut, PG thread

Type	Thread	Colour	SW mm	Dim.		Pack Piece	Weight kg/100 pc.	Item no.
				E mm	L mm			
116 PG 9	Pg 9	Light grey	22	24	5	100	0.118	2043092
116 PG13.5	Pg 13,5	Light grey	27	29	6	100	0.178	2043130
116 PG16	Pg 16	Light grey	30	33	6	100	0.226	2043165
116 PG21	Pg 21	Light grey	36	39	7	100	0.346	2043211
116 PG29	Pg 29	Light grey	46	50	7	50	0.573	2043297
116 PG36	Pg 36	Light grey	60	66	8	25	1.184	2043351



Locknut DIN 46320, with PG thread DIN 40430.

Note: Only tighten polystyrene cable glands lightly due to the risk of stress crack formation.

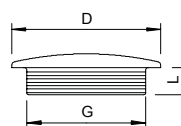
Screw plugs

PS

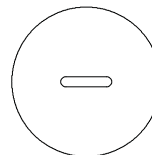


Screw plug, metric thread

Type	Thread	Dim. D mm	Dim. L mm	Colour	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
108 M20 PS	M20 x 1,5	24	6	Light grey	1200	100	0.128	2033011
108 M25 PS	M25 x 1,5	30	8	Light grey	1000	100	0.210	2033016



Screw plug in accordance with DIN 46320, with metric thread to IEC 423.

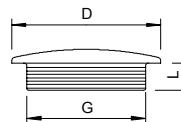


PS

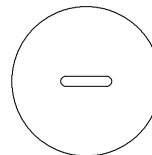


Screw plug, PG thread

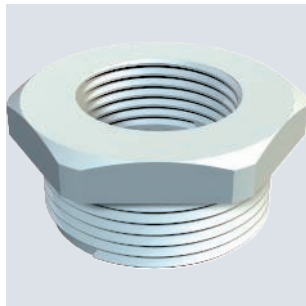
Type	Thread	Dim. D mm	Dim. L mm	Colour	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
108 PG16	Pg 16	27	6.5	Light grey	1000	100	0.184	2033151
108 PG29	Pg 29	44	8	Light grey	600	50	0.646	2033291



Screw plug in accordance with DIN 46320, with PG thread to DIN 40430.



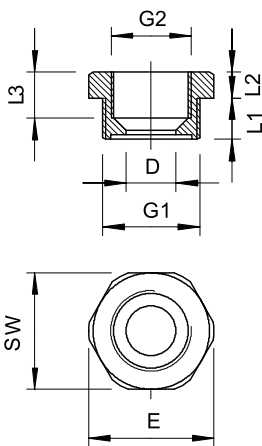
Reduction, metric thread



Type	External thread	Internal thread	Colour	SW mm	Pack Piece	Weight kg/100 pc.	Item no.
107 R M20-12 PA	M20	M12	Light grey	24	100	0.500	2030616
107 R M25-12 PA	M25	M12	Light grey	29	100	0.850	2030624
107 R M25-16 PA	M25	M16	Light grey	29	100	0.850	2030626
107 R M32-20 PA	M32	M20	Light grey	36	50	1.050	2030637

Reduction, with metric internal and external thread.

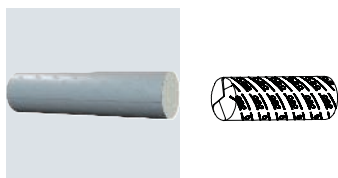
Dimensions



Type	SW mm	Dim. E mm	Dim. L mm	Dim. L1 mm	Dim. L2 mm	Dim. L3 mm
107 R M20-12 PA	24	26.5	12	8	4	12
107 R M25-12 PA	29	32	14	8	6	14
107 R M25-16 PA	29	32	14	8	6	14
107 R M32-20 PA	36	40	16	10	6	16

Sealing kit

Electrical insulating and sealing compound



Type	Colour	Shipping box Piece	Pack Piece	Weight kg/100 pc.	Item no.
115 GR-GN	Natural	90	10	11.020	2340038

In rods.

Permanently elastic, fibre-free sealing kit on a polymer and a mineral basis to fill cavities in installations, e.g. cable glands or similar components, to prevent the entry of dirt and water.

Colour: Natural

Characteristics of the sealing kit:

- Halogen-, acid- and silicone-free
- Can also be processed at low temperatures
- Permanent heat resistance to +80 °C
- Corrosion-resistant
- Low water consumption
- Good insulation properties
- Puncture strength 16 kV/mm to VDE 0291 Part 2
- Can be stored almost indefinitely

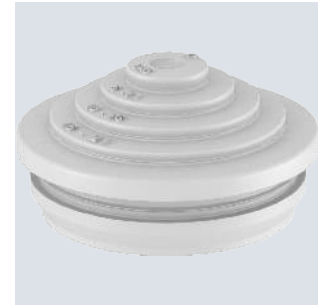
EDS plug-in seal, light grey, X series

TPE



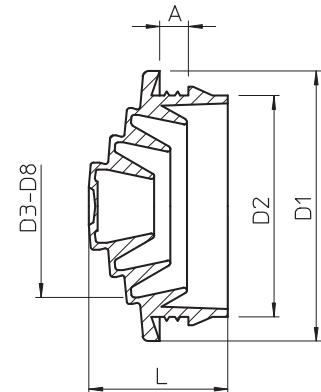
Type	Size	For Ø mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
EDS M20 LGR	M20	0-17	Light grey	100	0.125	2012350
EDS M25 LGR	M25	0-22	Light grey	100	0.185	2012354
EDS M32 LGR	M32	0-28	Light grey	50	0.295	2012358

The push-in nipple can be cut back to suit the relevant cable diameter.



Type	Dim. L	Dim. A	Dim. D1	Dim. D2	Dim. D3	Dim. D4	Dim. D5	Dim. D6	Dim. D7	Dim. D8
EDS M20 LGR	12.8	3.1	24.8	20.3	6	10	15	17	-	-
EDS M25 LGR	14.5	3.1	29.5	25.3	6	10	15	20	22	-
EDS M32 LGR	17.8	3.1	36.3	32.3	6	10	15	20	25	28

Dimensions



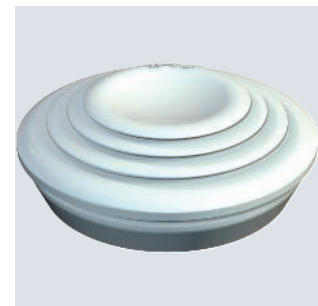
TPE



Type	Size	For Ø mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
EDK 25 LGR	M25	5-20	Light grey	100	0.214	2011638
EDK 32 LGR	M32	5-25	Light grey	50	0.328	2011646
EDK 40 LGR	M40	5-32	Light grey	25	0.534	2011654

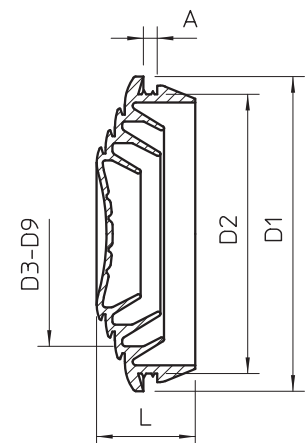
The plug-in seal can be cut back to suit the relevant cable diameter.

EDK plug-in seal



Type	Dim. L	Dim. A	Dim. D1	Dim. D2	Dim. D3	Dim. D4	Dim. D5	Dim. D6	Dim. D7	Dim. D8	Dim. D9
EDK 25 LGR	10.1	2.2	29.5	25.4	5	14	15	18	19	20	-
EDK 32 LGR	11.4	2.2	36.4	32.3	5	14	15	18	19	20	25
EDK 40 LGR	13.4	2.2	44.1	40.2	5	14	15	18	20	25	32

Dimensions



Plug-in seal for pipes, T-series junction box, light grey

TPE

IP 55

M25

M32

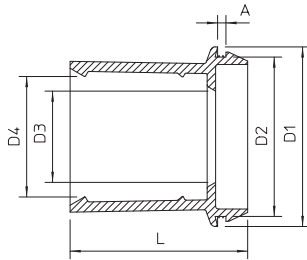
M40



Type	Size	Colour	Pack Piece	Weight kg/100 pc.	Item no.
EDR 25 16-20 LGR	M25	Light grey	50	0.520	2011506
EDR 32 25-32 LGR	M32	Light grey	50	1.170	2011530

Plug-in seal for junction boxes for direct insertion of metric pipes

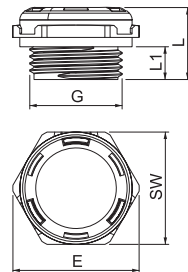
Dimensions



Type	Dim. L	Dim. A	Dim. D1	Dim. D2	Dim. D3	Dim. D4
EDR 25 16-20 LGR	30	2.2	29.5	25.3	15	18.4
EDR 32 25-32 LGR	36	2.2	37	32.3	24	31.2

Pressure compensation component

Pressure compensation element



Type	Thread	Protection rating	Colour	Pack Piece	Weight kg/100 pc.	Item no.
109 M20 LGR	M20 x 1,5	IP68	Light grey	1	0.538	2034680

The pressure compensation element, type 109 M20 LGR compensates for pressure differences in junction boxes, small distributors and connection sockets with an M20 opening and avoids the formation of condensation water in sealed housings. The polyamide pressure compensation element has an IP68/IP69 protection rating. This remains intact, even after the installation of the pressure compensation element. The pressure compensation element is suitable for use in industrial environments and in exterior areas.



Robust

With long and short connection

Excellent protection

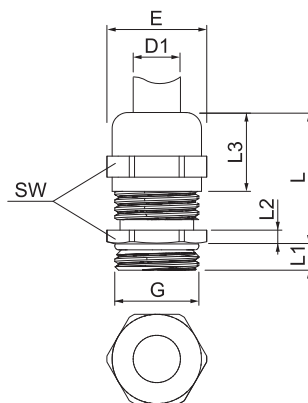
VDE-tested

Cap nut cable gland V-TEC VM MS

Tough conditions are no problem for the brass V-TEC VM. Here too, the well-known V-TEC cap nut design of the cable glands ensures a secure hold of the cables. The protection class IP68 is achieved using separate sealing rings and their special OBO slat technology. Strain relief and tightness have been tested to DIN EN 62444. The connecting threads are metric or PG and are therefore suitable for universal use. Once screwed in place, the installation will stay secure for a long time to come. The optimum thread adjustment with the right pitch ensures permanent resistance to shaking. Applications: From private housing with junction boxes up to industrial applications in the distributor cabinet.



Cable gland, EMC



- Robust EMC cap-nut cable gland
- With metric connecting thread to IEC 423
- Satisfies high tightness requirements: protection rating IP68 at 5 bar/1 hr
- Neoprene/natural rubber sealing ring, polyamide terminal insert
- With pre-mounted O sealing ring on the connection thread
- * Prices according to DEL notation

G	D1	SW	E	L max.	L1
	mm	mm	mm	mm	mm
M12 x 1.5	3-6	14	15.5	25	5
M16 x 1.5	5-9	17	19	30	5
M20 x 1.5	9-13	22	24	33.5	6
M25 x 1.5	11-16	27	30	36.5	7
M32 x 1.5	14-21	34	36	38	8
M40 x 1.5	19-27	43	46	49.5	8
M50 x 1.5	24-35	55	60	49.5	9
M63 x 1.5	32-42	65	70	52.5	10



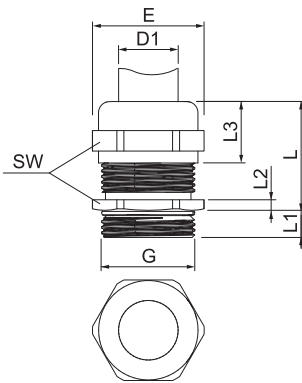
Cap nut cable gland, EMC, metric thread, nickel-plated



Type	Material	Pack Piece	Weight kg/100 pc.	Item no.
V-TEC VM50 EMV	Brass	5	26.165	2086227

With metric connecting thread to IEC 423, robust EMV cap-nut cable gland with large sealing area. Strain relief, wringing protection and tightness over the whole clamping area. Neoprene sealing ring. Polyamide terminal insert. With pre-mounted O sealing ring on connection thread, VDE-tested to DIN EN 50262, protection rating IP 68 at 5 bar for 1 hr.
 * Prices according to DEL notation.

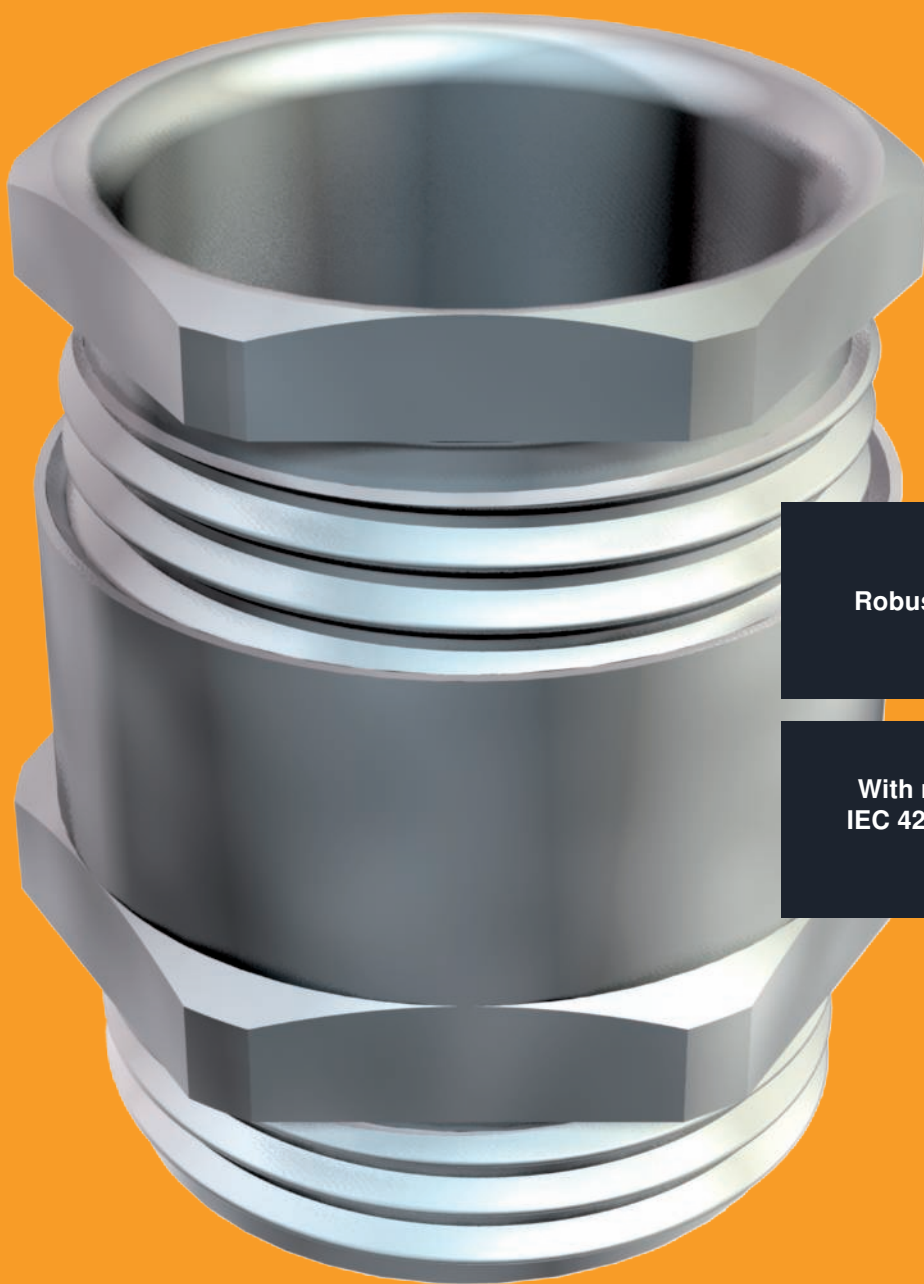
Dimensions



Type	Sealing range		Dim.				
	D	SW	Dim. E	Dim. L max.	Dim. L1	Dim. L2	Dim. L3
	mm	mm	mm	mm	mm	mm	mm
V-TEC VM50 EMV	24-35	55	60	49.5	9	4.5	25

Cone cable glands, brass

Cable gland with hexagonal intermediate connector, shape C4, to DIN 46320 with metric connection thread to DIN EN 60423 and ISO 68.



Robust EMC cap-nut cable gland

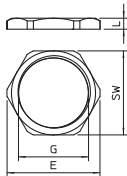
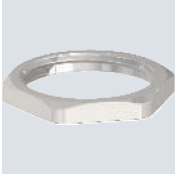
With metric connecting thread to IEC 423 for meeting high tightness requirements



Locknuts

Locknut, PG thread

CuZn
37 N
Pg



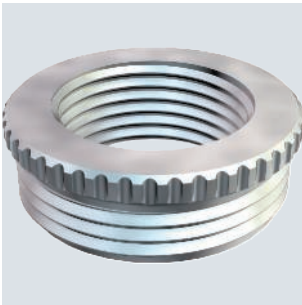
Type	Thread	Dim.			Pack Piece	Weight kg/100 pc.	Item no.
		SW mm	E mm	L mm			
169 MS PG16	Pg 16	26	29	3	100	0.460	2091151

Locknuts, part M to DIN 46320 with Pg thread to DIN 40430. * Price according to DEL notation.

Reducers

Reduction, PG thread

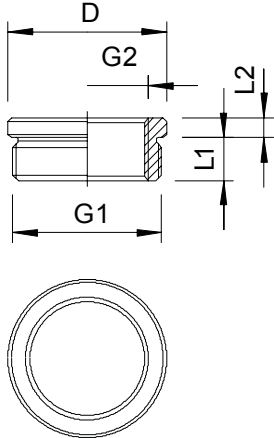
CuZn
37 N
Pg



Type	Thread length mm	Pack Piece	Weight kg/100 pc.	Item no.

Reduction (Part H) to DIN 46320, with Pg thread to DIN 40430, as a transition from a PG thread hole to a smaller cable gland.
* Prices according to DEL notation.

Dimensions



Type	External thread	Internal thread	Dim.		
			L1 mm	L2 mm	D mm
167 R MS PG16-9	Pg 16	Pg 9	6.5	3	24

CuZn
37 N

M

Expansion piece, metric thread

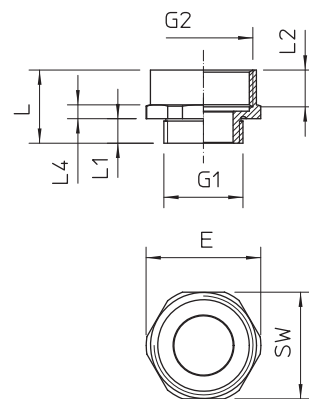
Type	External thread	Internal thread	Pack Piece	Weight kg/100 pc.	Item no.
165 ADA M20-25	M20	M25	50	2.090	2088282

The areas of application for brass cable glands range from junction boxes as a distribution/-connection box up to large industrial applications for safe floor routing to switchgear cabinets with a control and distribution function. For high mechanical requirements, OBO can offer the entire family of extensions (Part K) to DIN 46320.
* Prices according to DEL notation.



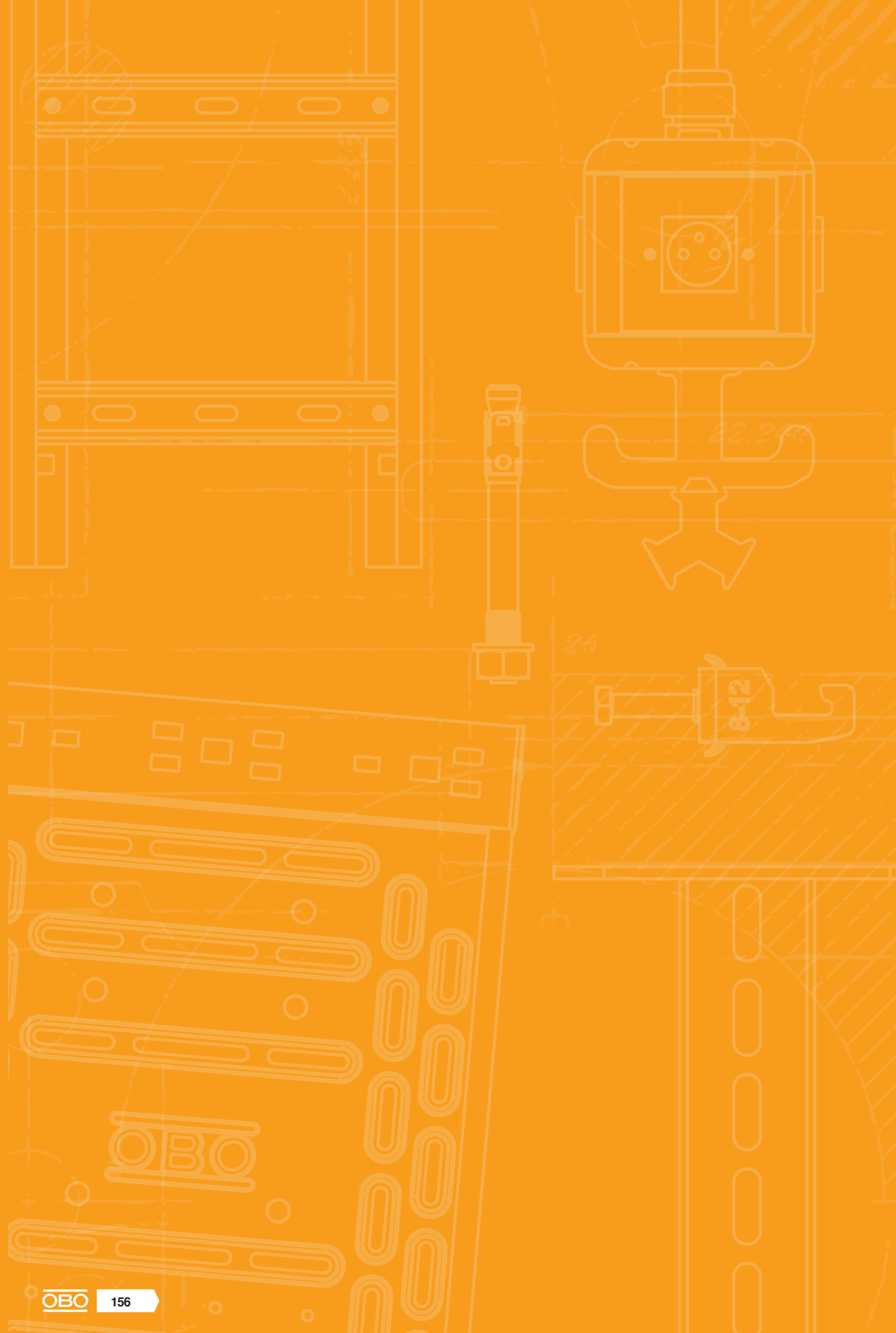
Type	SW	Dim. E	Dim. L	Dim. L1	Dim. L2	Dim. D
	mm	mm	mm	mm	mm	mm
165 ADA M20-25	27	29	18.5	6.4	9	15

Dimensions



Cable glands





Pipe systems



Pipe systems, metal

158



Pipe systems, plastic

166



Plastic end caps

168





Metal pipe systems

Protection against mechanical loads

OBO metal pipes are particularly suited to use under tough industrial conditions. They provide reliable protection against very heavy mechanical loads during cable routing.

The different material and surface qualities, from galvanised to painted, allow perfect adaptation to the requirements of the appropriate environment.

Maintenance of electrical function to E30/E90

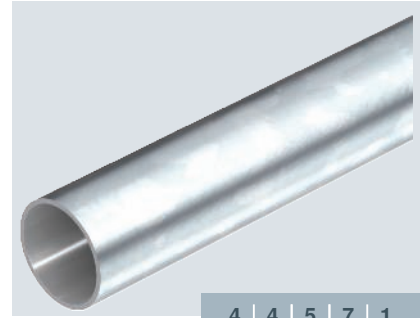
Our steel pipes guarantee the maintenance of electrical function to E30/E90. They are thus ideal for the connection of safety-relevant equipment, such as smoke extraction systems.



Armoured steel pipe without thread, electrogalvanised

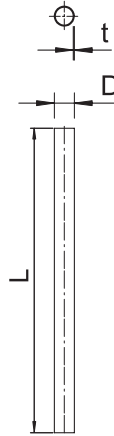


Type	Dim. D mm	Dim. L mm	Dim. t mm	Pack m	Weight kg/100 m	Item no.
S16W G	16	3000	1	30	37.000	2046840
S20W G	20	3000	1	30	44.700	2046841
S25W G	25	3000	1.2	30	70.400	2046842
S32W G	32	3000	1.2	21	91.200	2046843
S40W G	40	3000	1.2	15	139.700	2046844
S50W G	50	3000	1.2	15	176.000	2046845
S63W G	63	3000	1.2	9	223.000	2046846



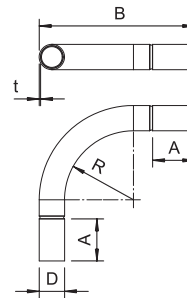
4 | 4 | 5 | 7 | 1

Electrical installation pipe without threaded ends according to EN 61386-1 for mechanical protection of cables. With burr-free inner wall.



Electrogalvanised steel bend, without thread

Type	Dim. A mm	Dim. B mm	Dim. D mm	Dim. R mm	Dim. t mm	Pack Piece	Weight kg/100 pc.	Item no.
SBN16 G	43.7	103	18.6	50	1	15	7.200	2046808
SBN20 G	53.7	155	22.6	90	1	25	13.300	2046809
SBN25 G	66.5	190	28	110	1.2	25	24.400	2046810
SBN32 G	86.5	254	35.1	150	1.2	20	41.000	2046811
SBN40 G	87.2	279	43.7	170	1.5	15	70.200	2046812
SBN50 G	131	358	54	200	1.5	5	111.800	2046813
SBN63 G	163	446	67	250	1.5	3	174.200	2046814

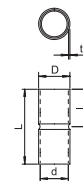


90° bend with moulded sleeves, for electrical installation pipes according to EN 61386-1. With burr-free inner wall.



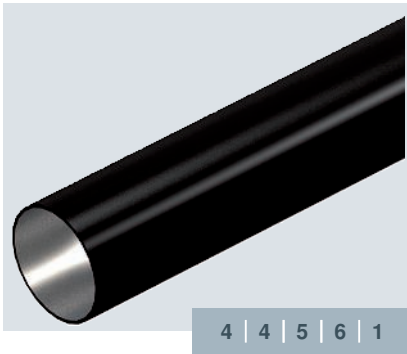
Armoured steel pipe connection sleeve without thread, electrogalvanised

Type	Dim. D mm	Dim. d mm	Dim. L mm	Dim. l mm	Dim. t mm	Pack Piece	Weight kg/100 pc.	Item no.
SV16W G	18.6	16.6	50	25	1	25	2.100	2046854
SV20W G	23.1	20.7	60	30	1.2	50	2.800	2046855
SV25W G	28.1	25.7	60	30	1.2	50	4.800	2046856
SV32W G	35.2	32.8	70	35	1.2	50	7.200	2046857
SV40W G	43.8	43.8	80	40	1.5	25	13.200	2046858
SV50W G	54	51	100	50	1.5	10	20.000	2046859
SV63W G	67	64	100	50	1.5	5	28.000	2046860



Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.

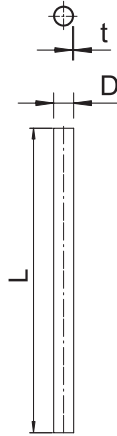
Armoured steel pipe without thread, black



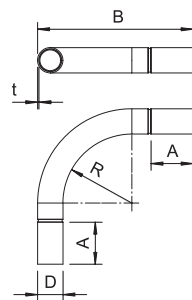
4 | 4 | 5 | 6 | 1

Electrical installation pipe without threaded ends according to EN 61386-1 for mechanical protection of cables. With burr-free inner wall.

Type	Dim. D mm	Dim. L mm	Dim. t mm	Colour	Pack m	Weight kg/100 m	Item no.
S16W SW	16	3000	1	Jet black	30	37.000	2046565
S20W SW	20	3000	1	Jet black	30	44.700	2046566
S25W SW	25	3000	1.2	Jet black	30	70.400	2046567
S32W SW	32	3000	1.2	Jet black	21	91.200	2046568
S40W SW	40	3000	1.2	Jet black	15	139.700	2046569
S50W SW	50	3000	1.2	Jet black	15	176.000	2046570
S63W SW	63	3000	1.2	Jet black	9	223.000	2046571



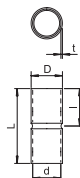
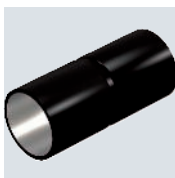
Black powder-coated steel bend, without thread



Type	Colour	Dim. A mm	Dim. B mm	Dim. D mm	Dim. R mm	Dim. t mm	Pack Piece	Weight kg/100 pc.	Item no.
SBN16 SW	Jet black	43.7	103	16.6	50	1	15	7.200	2046824
SBN20 SW	Jet black	53.7	155	20.6	90	1	25	13.300	2046825
SBN25 SW	Jet black	66.5	190	25.6	110	1.2	25	24.400	2046826
SBN32 SW	Jet black	86.5	254	32.7	150	1.2	20	41.000	2046827
SBN40 SW	Jet black	87.2	279	40.7	170	1.5	15	68.900	2046828
SBN50 SW	Jet black	131	358	51	200	1.5	5	111.800	2046829
SBN63 SW	Jet black	163	446	64	250	1.5	3	174.200	2046830

90° bend with moulded sleeves, for electrical installation pipes according to EN 61386-1. With burr-free inner wall.

Armoured steel pipe connection sleeve without thread, black



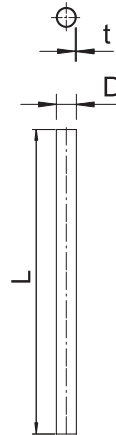
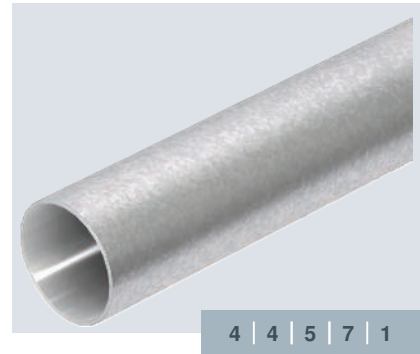
Type	Dim. D mm	Dim. d mm	Dim. L mm	Dim. l mm	Dim. t mm	Colour	Pack Piece	Weight kg/100 pc.	Item no.
SV16W SW	18.6	16.6	50	25	1	Jet black	25	2.400	2046582
SV20W SW	23.1	20.7	60	30	1.2	Jet black	50	3.200	2046583
SV25W SW	28.1	25.7	60	30	1.2	Jet black	50	5.500	2046584
SV32W SW	35.2	32.8	70	35	1.2	Jet black	50	7.900	2046585
SV40W SW	43.8	40.8	80	40	1.5	Jet black	25	13.200	2046586
SV50W SW	54	51	100	50	1.5	Jet black	10	20.000	2046587
SV63W SW	67	64	100	50	1.5	Jet black	5	28.000	2046588

Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.



Hot-dip galvanised steel pipe, without thread

Type	Dim.	Dim.	Dim.	Pack	Weight	Item no.
	D	L	t			
	mm	mm	mm	m	kg/100 m	
S16W FT	16	3000	1	30	37.000	2046593
S20W FT	20	3000	1	30	44.700	2046594
S32W FT	32	3000	1.2	21	91.200	2046596
S40W FT	40	3000	1.2	15	139.700	2046597



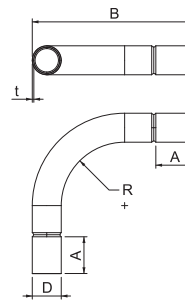
4 | 4 | 5 | 7 | 1

Electrical installation pipe without threaded ends according to EN 61386-1 for mechanical protection of cables. With burr-free inner wall. Corrosion protection class 4 (high).



Hot-dip galvanised steel bend, without thread

Type	Dim.	Dim.	Dim.	Dim.	Dim.	Pack	Weight	Item no.
	A	B	D	R	t			
	mm	mm	mm	mm	mm	Piece	kg/100 pc.	
SBN16 FT	43.7	103	16.6	50	1	15	7.400	2046816
SBN20 FT	53.7	155	20.6	90	1	25	13.300	2046817
SBN25 FT	66.5	190	25.6	110	1.2	25	24.400	2046818
SBN32 FT	86.5	254	32.7	150	1.2	20	41.000	2046819
SBN50 FT	131	358	51	200	1.5	5	111.800	2046821
SBN63 FT	163	446	64	250	1.5	3	174.200	2046822

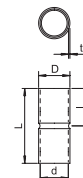


90° bend with moulded sleeves, for electrical installation pipes according to EN 61386-1. With burr-free inner wall.



Hot-dip galvanised steel sleeve, without thread

Type	Dim.	Dim.	Dim.	Dim.	Dim.	Pack	Weight	Item no.
	D	d	L	l	t			
	mm	mm	mm	mm	mm	Piece	kg/100 pc.	
SV16W FT	18.6	16.6	50	25	1	25	2.200	2046620
SV32W FT	35.2	32.8	70	35	1.2	50	7.500	2046623
SV40W FT	43.8	40.8	80	40	1.5	25	14.400	2046624



Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.

Stainless steel pipe, V2A

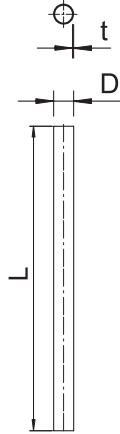
A2 2B
E30 E90



5 | 5 | 5 | 7 | 1

Electrical installation pipe without threaded ends to EN 61386-1 for mechanical protection of cables. With burr-free inner wall. Corrosion protection class 4 (high).
Classification according to DIN EN 61386-1: 555711404010

Type	Dim. D mm	Dim. L mm	Dim. t mm	Pack m	Weight kg/100 m	Item no.
S16W A2	16	3000	1	30	37.000	2046720
S20W A2	20	3000	1	30	46.900	2046721
S25W A2	25	3000	1	30	59.200	2046722
S32W A2	32	3000	1.2	21	91.200	2046723
S40W A2	40	3000	1.2	15	114.800	2046724
S50W A2	50	3000	1.5	15	179.400	2046725
S63W A2	63	3000	1.5	9	227.500	2046726



Stainless steel pipe, V4A

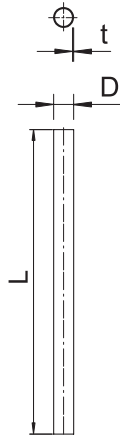
A4 2B
E30 E90



5 | 5 | 5 | 7 | 1

Electrical installation pipe without threaded ends to EN 61386-1 for mechanical protection of cables. With burr-free inner wall. Corrosion protection class 4 (high).

Type	Dim. D mm	Dim. L mm	Dim. t mm	Pack m	Weight kg/100 m	Item no.
S16W A4	16	3000	1	15	37.000	2046750
S20W A4	20	3000	1	15	46.900	2046751
S25W A4	25	3000	1	15	59.200	2046752
S32W A4	32	3000	1.2	15	91.200	2046753
S40W A4	40	3000	1.2	9	114.800	2046754
S50W A4	50	3000	1.5	9	179.400	2046755
S63W A4	63	3000	1.5	9	227.500	2046756

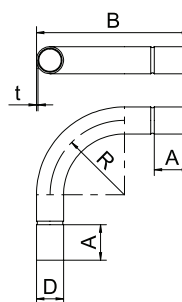


A4	2B
E30	E90

Stainless steel pipe bend, V4A

Type	Dim. A mm	Dim. B mm	Dim. D mm	Dim. R mm	Dim. t mm	Pack Piece	Weight kg/100 pc.	Item no.
SB16W A4	25	103	18.2	50	1	5	7.200	2046760
SB20W A4	30	155	22.2	90	1	10	13.300	2046761
SB25W A4	40	190.5	27.2	110	1	10	20.400	2046762
SB32W A4	40	254	34.7	150	1.25	10	42.000	2046763
SB40W A4	50	279	42.7	170	1.25	5	61.200	2046764
SB50W A4	60	358	52.7	200	1.25	5	79.500	2046765
SB63W A4	90	446.6	65.7	250	1.25	3	144.600	2046766

90° bend with moulded sleeves, for electrical installation pipes according to EN 61386-1.
With burr-free inner wall.





Aluminium pipes

Small weight – high protection.

Simple installation in any environment, both inside and outdoors.

- Less weight
- High resistance against compression and impact
- Corrosion resistant
- M16–M63
- Accessories: Bends and couplings
- Plug-in or threaded system

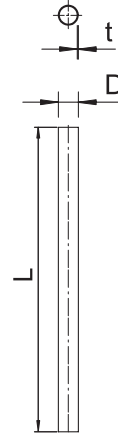
Alu

Aluminium pipe, without thread

Type	Dim. D mm	Dim. L mm	Dim. t mm	Pack m	Weight kg/100 m	Item no.
S16W ALU	16	3000	1.2	30	15.065	2046002
S20W ALU	20	3000	1.2	30	19.134	2046003
S25W ALU	25	3000	1.3	30	26.134	2046004
S32W ALU	32	3000	1.3	30	33.853	2046005
S40W ALU	40	3000	1.4	15	45.839	2046006
S50W ALU	50	3000	1.4	15	57.714	2046007
S63W ALU	63	3000	1.7	15	88.394	2046008



4 | 4 | 5 | 6 | 1

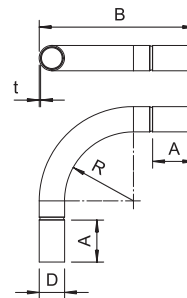


Electrical installation pipe without threaded ends to EN 61386-1 for mechanical protection of cables. With burr-free inner wall.

Alu

Aluminium pipe bend, without thread

Type	Dim. A mm	Dim. B mm	Dim. D mm	Dim. R mm	Dim. t mm	Pack Piece	Weight kg/100 pc.	Item no.
SB16W ALU	78	151	16	64	1.2	15	2.350	2046012
SB20W ALU	80	171	20	80	1.2	25	5.500	2046013
SB25W ALU	93	209	25	102.5	1.3	25	9.000	2046014
SB32W ALU	105	253	32	131	1.3	20	14.100	2046015
SB40W ALU	115	302	40	165	1.4	15	22.400	2046016
SB50W ALU	128	360	50	205	1.4	5	35.400	2046017
SB63W ALU	135	425	63	256.5	1.7	3	59.500	2046018

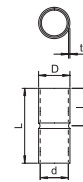


90° bend with moulded sleeves, for electrical installation pipes according to EN 61386-1. With burr-free inner wall.

Alu

Aluminium sleeve, without thread

Type	Dim. D mm	Dim. d mm	Dim. L mm	Dim. l mm	Dim. t mm	Pack Piece	Weight kg/100 pc.	Item no.
SV16W ALU	18.6	16.2	40	20	1.2	50	0.700	2046022
SV20W ALU	22.6	20.2	50	25	1.2	50	1.300	2046023
SV25W ALU	27.6	25.2	60	30	1.2	50	1.900	2046024
SV32W ALU	34.6	32.2	70	35	1.2	50	2.400	2046025
SV40W ALU	43	40.2	70	35	1.4	20	4.000	2046026
SV50W ALU	53	50.2	90	45	1.4	20	6.100	2046027
SV63W ALU	66.2	63.2	110	55	1.5	20	9.000	2046028



Accessory part: plug-in sleeve for the connections between electrical installation pipes. With burr-free inner wall.



Quick pipe

The Quick pipe system combines the benefits of cable ducts and conventional electrical installation pipes to produce a single, intelligent system for surface-mounted installations.



- 4 sizes – M16-M32
- Two colours: White and grey
- Simple installation
- Retroinstallation possible
- VDE-approved



Cables are inserted in the open Quick pipe electrical installation pipes in the same way as with open cable ducting.



After the cable has been laid the Quick pipe is turned in the Quick clip, and thereby closed tightly.

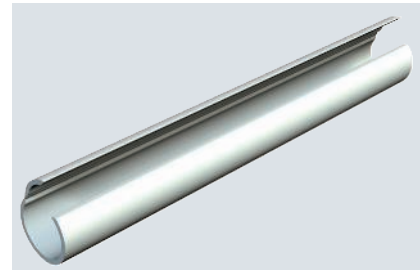
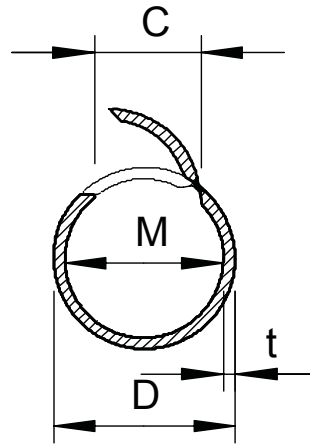


Retro-fittings are also possible because the Quick pipe can be opened easily by turning it.

PVC



Type	Size	Colour	Length mm	Pack m	Weight kg/100 m	Item no.
2953 M20 LGR	M20	Light grey	2000	40	11.500	2153912
2953 M25 LGR	M25	Light grey	2000	30	16.000	2153920
2953 M32 LGR	M32	Light grey	2000	20	21.500	2153939

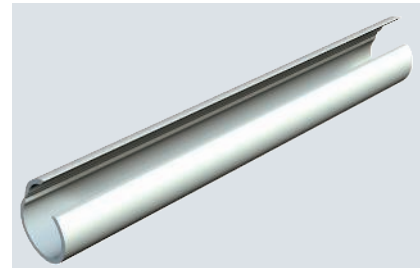
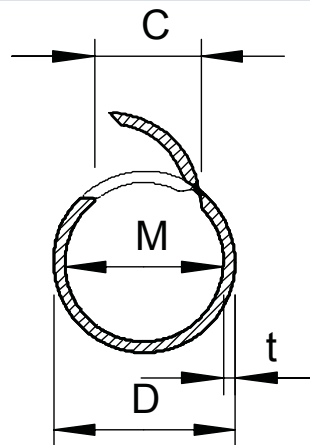


Open plastic Quick pipe pipe for surface-mounted routing of cables in interiors and protected outdoor areas. Mounting on wall and ceiling with Quick clip, starQuick clip and Multi-Quick clip. Toolless closing and opening through turning in the clip. Can be used in a temperature range of -25 to +60 °C.

PVC



Type	Size	Colour	Length mm	Pack m	Weight kg/100 m	Item no.
2953 M20 RW	M20	Pure white	2000	40	11.500	2153963
2953 M25 RW	M25	Pure white	2000	30	16.000	2153966

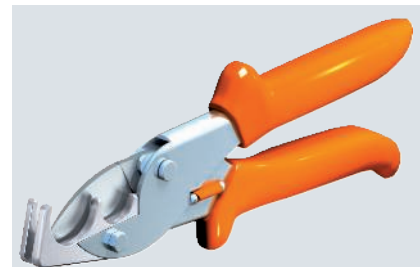


Open plastic Quick pipe pipe for surface-mounted routing of cables in interiors and protected outdoor areas. Mounting on wall and ceiling with Quick clip, starQuick clip and Multi-Quick clip. Toolless closing and opening through turning in the clip. Can be used in a temperature range of -25 to +60 °C.



Type	Cutting area mm	Pack Piece	Weight kg/100 pc.	Item no.
SQ 1632	16-32	1	40.000	2153572

Quick pipe shears



Shears for burr-free cutting of Quick Pipe electrical installation pipe Ø 16–32 mm.

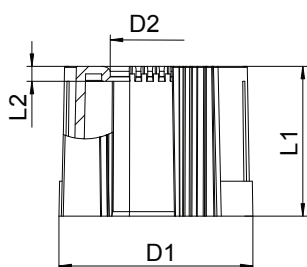
Pipe end cap, splittable, metric, black



Type	Size	Colour	Pack Piece	Weight kg/100 pc.	Item no.
129 TB M16 SW	M16	Black	50	0.400	2047936
129 TB M20 SW	M20	Black	50	0.440	2047944
129 TB M25 SW	M25	Black	50	0.500	2047952
129 TB M32 SW	M32	Black	50	0.656	2047971
129 TB M40 SW	M40	Black	30	0.790	2047979
129 TB M50 SW	M50	Black	30	0.935	2047987
129 TB M63 SW	M63	Black	20	1.140	2047995

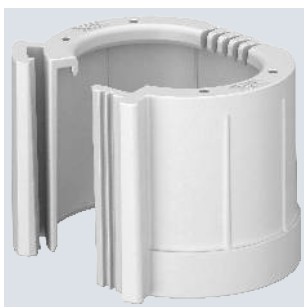
Separable pipe end cap to slot onto metric electrical installation pipes. The separable pipe end cap can be used for repairs on existing installations according to regulations. It is not necessary to disconnect the cables, allowing quick mounting.

Dimensions



Type	Dim. D1 mm	Dim. D2 mm	Dim. L1 mm	Dim. L2 mm
129 TB M16 SW	20	10	30	3
129 TB M20 SW	24	13.4	30	3
129 TB M25 SW	30	18.4	30	3
129 TB M32 SW	36	25.4	30	3
129 TB M40 SW	44	33.4	30	3
129 TB M50 SW	53	43	30	3
129 TB M63 SW	67	56	30	3

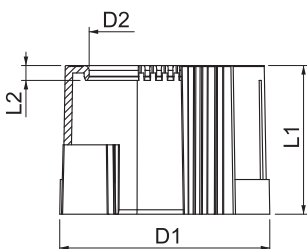
Pipe end cap, splittable, PG, light grey



Type	Size	Colour	Pack Piece	Weight kg/100 pc.	Item no.
129 TB PG9	PG9	Light grey	50	0.400	2044509
129 TB PG11	PG11	Light grey	50	0.430	2044511
129 TB PG13,5	PG13,5	Light grey	50	0.460	2044513
129 TB PG16	PG16	Light grey	50	0.500	2044516
129 TB PG21	PG21	Light grey	50	0.590	2044521
129 TB PG29	PG29	Light grey	50	0.700	2044529
129 TB PG36	PG36	Light grey	30	0.870	2044536
129 TB PG42	PG42	Light grey	30	0.980	2044542
129 TB PG48	PG48	Light grey	20	1.060	2044548

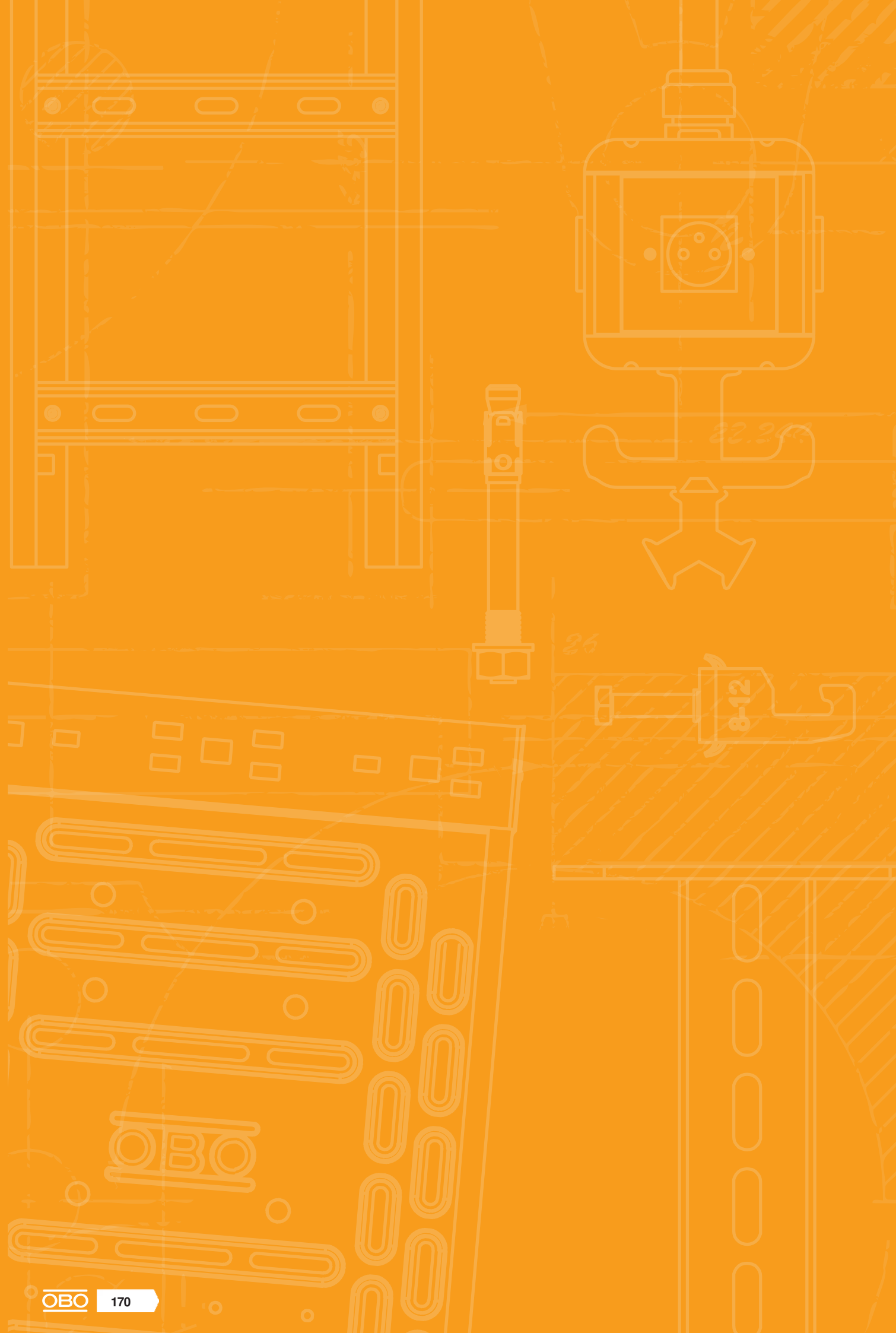
Separable pipe end cap to slot onto PG electrical installation pipes. The separable pipe end cap can be used for repairs on existing installations according to regulations. It is not necessary to disconnect the cables, allowing quick mounting.

Dimensions









Type	Dim. D1 mm	Dim. D2 mm	Dim. L1 mm	Dim. L2 mm
129 TB PG9	20	10	30	3
129 TB PG11	24	12.5	30	3
129 TB PG13,5	26	15	30	3
129 TB PG16	28	16	30	3
129 TB PG21	34	21.5	30	3
129 TB PG29	38	30	30	3
129 TB PG36	48	40.5	30	3
129 TB PG42	60	47.5	30	3
129 TB PG48	66	52	30	3































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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

 FS	Strip galvanised
 FSK	Strip galvanised/plastic-coated
 DD	Strip galvanised zinc/aluminium, double dip
 BK	Bright
 2B	Bright, reworked
 EL	Anodised
 F	Hot-dip galvanised
 G	Electrogalvanised
 GK	Electrogalvanised/plastic-coated
 GCL	Electrogalvanised, yellow-chromatised
 GGP	Electrogalvanised, yellow passivated
 GTP	Electrogalvanised, transparently passivated
 GR	Primed
 L	Painted
 SG	Welding primed
 FT	Hot-dip galvanised
 FT SO	Hot-dip galvanised 85 µm
 Cu	Copper-plated
 N	Nickel-plated
 ZD	Galvanised, Deltatone 500
 ZDM	Galvanised, MAGNI 565
 GA	Zinc-aluminium coated, Galfan
 ZL	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 mm ²
	Nominal cross-section 1.5–2.5 mm ²
	Nominal cross-section 2.5 mm ²
	Nominal cross-section 2.5–4 mm ²
	Nominal cross-section 4 mm ²
	Nominal cross-section 4–6 mm ²
	Nominal cross-section 6 mm ²
	Nominal cross-section 10 mm ²
	Nominal cross-section 16 mm ²

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 PC	Cellular polyethylene



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6582761	2005096	71	5682189	2007440	52				5782384	2046620	161	5155478	2049546	144
6582778	2005100	71	5682196	2007444	52	5446774	2024705	138	5782445	2046623	161	5161592	2049554	144
6582785	2005104	72	5682202	2007448	53	5447139	2024772	138	5782452	2046624	161	5228615	2049562	144
6580439	2005110	63	5286615	2007509	47	5447191	2024780	138		price/100				
6580484	2005114	63	5286622	2007517	47				5923640	2046720	162	5183259	2054019	130
6580491	2005118	64	5286660	2007525	48	5377412	2030616	146	5923657	2046721	162	5183310	2054086	131
6580507	2005122	64	5286677	2007533	48	5384076	2030624	146	5923664	2046722	162	5183372	2054094	131
6580514	2005126	65	5286684	2007541	49	5389118	2030626	146	5923671	2046723	162			
6580521	2005130	65	5286721	2007554	49	5402497	2030637	146	5923688	2046724	162	5702559	2056224	128
6580538	2005134	66	5286738	2007568	50				5923695	2046725	162	5702498	2056372	128
6580545	2005140	63	5985877	2007714	56	5426554	2033011	145	5923701	2046726	162	5702436	2056550	128
6580552	2005144	63	5985846	2007750	57	5426615	2033016	145	5923886	2046750	162			
6580569	2005148	64	5985969	2007756	57	5170471	2033151	145	5923923	2046751	162	5655626	2086227	152
6580606	2005152	64	5985976	2007758	57	5170594	2033291	145	5923947	2046752	162			
6580613	2005156	65	6478095	2007990	122				5923978	2046753	162	5372172	2088282	155
6580620	2005160	65				6595723	2034680	93	5923985	2046754	162			
6580675	2005164	66		/pc.					5923992	2046755	162	5193098	2089157	154
6584420	2005190	75	6465668	2008800	117		/100 pc.		5924036	2046756	162			
6584437	2005194	75	6465675	2008804	118	5172635	2036215	142		/100 pc.		5194774	2091151	154
6584444	2005198	76	6465682	2008808	119	5172758	2036290	142	5924050	2046760	163			
6584451	2005202	77	6465699	2008812	120				5924104	2046761	163		/pc.	
6584468	2005206	77	6465705	2008820	117	5178873	2043092	145	5924111	2046762	163	5028154	2153572	167
6584475	2005210	78	6465712	2008824	118	5178996	2043130	145	5924173	2046763	163		price/100	
6584482	2005214	79	6465729	2008828	119	5179054	2043165	145	5924180	2046764	163	5027799	2153912	167
6584499	2005220	80	6465736	2008832	120	5179115	2043211	145	5924197	2046765	163	5025214	2153920	167
6584505	2005222	81	6465743	2008840	117	5179177	2043297	145	5924203	2046766	163	5025153	2153939	167
6584512	2005224	82	6465750	2008844	118	5179238	2043351	145	6387816	2046808	159	5538639	2153963	167
6584529	2005240	83	6465767	2008848	119				6387823	2046809	159	5531739	2153966	167
6584550	2005244	84	6465774	2008852	120	6594092	2044509	168	6387830	2046810	159			
6584567	2005248	85	6465781	2008860	117	6594108	2044511	168	6387847	2046811	159		/100 pc.	
6585847	2005304	67	6465798	2008864	118	6594115	2044513	168	6387878	2046812	159	5228011	2340038	146
6585854	2005308	68	6465804	2008868	119	6594122	2044516	168	6387885	2046813	159			
6585861	2005312	69	6465811	2008872	120	6594139	2044521	168	6387892	2046814	159		price/pac	
6585878	2005316	69	6614295	2008931	92	6594146	2044529	168	6387953	2046816	161	5686354	2363015	98
6585885	2005320	69	6614301	2008935	92	6594153	2044536	168	6387960	2046817	161		/pc.	
6585892	2005324	69				6594160	2044542	168	6387991	2046818	161			
6577569	2005450	86	6286539	2010007	51	6594177	2044548	168	6388004	2046819	161	5864974	3010104	139
6577606	2005454	86							6388028	2046821	161			
6577613	2005458	87		/100 pc.					6388059	2046822	161	6594603	6105300	109
6577620	2005462	87	6030774	2011304	95	5925743	2046002	165	6388066	2046824	160	6594641	6105302	109
6577668	2005466	88	6030781	2011308	95	5925774	2046003	165	6388073	2046825	160			
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116 M25 SGR PA	5446651	2048787	144
116 M32 LGR PA	5944652	2048949	144
116 M32 LGR PS	5161592	2049554	144
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