

FireBox

Versatile solutions for fire-tested connections

Maintenance of the electrical supply

for safety-relevant electrical systems

The maintenance of electrical function is required in any structure in which large numbers of people congregate, for example, hospitals, hotels, underground railway systems or tunnels. Maintenance of the electrical function exists when the current flow is not interrupted during a fire. This allows, for example, emergency lighting, ventilation and fire alarm systems to continue working and emergency and escape routes to remain usable. The longer these technical systems work, the greater the chances of rescue.

A key component here is the connection and branching of safety cables in appropriate junction boxes – the FireBoxes from OBO Bettermann. As a part of the cable system that maintains electrical function, they help to ensure that safety-relevant electrical systems function reliably over a defined period of time in the event of fire.

Maintenance of electrical function for evacuation and rescue

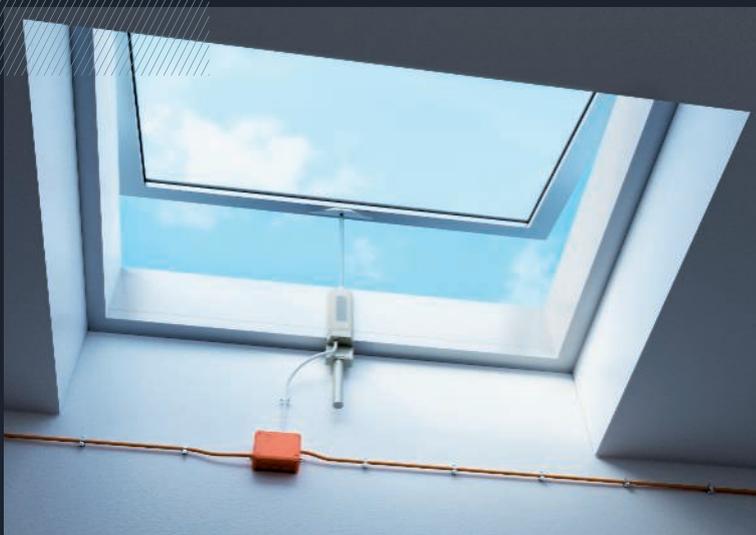
The first minutes after the start of a fire play an important role in the evacuation of a building. During this period*, OBO systems for the maintenance of electrical function to E30 maintain the flow of energy for:

- Safety lighting systems
- Lifts with fire control
- Fire alarm systems
- Alarm systems and systems for issuing instructions
- Natural smoke extraction systems

Maintenance of electrical function for firefighting

To support firefighting operations, it is imperative that certain technical equipment is supplied with power for a sufficient period of time after a fire breaks out. For example, OBO systems for the maintenance of electrical function to E60 and E90 ensure:

- Pressure increase systems for fire water supply
- Mechanical smoke extraction systems
- Smoke protection pressure systems
- Fire brigade lifts
- Safety power supply



* Requirements regarding the length of the maintenance of electrical function are dependent on the local construction regulations.

The fire test

Without compromises

E30

E60

E90



There can be no compromises in fire protection. In an emergency, every product used must function absolutely reliably and also comply with legal and construction regulations. As an OBO customer, you can rely on tested quality. Our fire protection experts subject every newly developed product to comprehensive tests in accredited testing institutes. In doing so, we orientate ourselves to national and international testing standards.

Independent testers inspect the results and assign the appropriate proofs of suitability, such as approvals, evaluations or test certificates, to our products. Thus, our FireBoxes are also tested according to DIN 4102 Part 12 and approved in the classes E30, E60 and E90. The corresponding general Building Authorities' General Test Certificate no. P-MPA-E-20-00 can be downloaded in the download area at www.obo-bettermann.com



Time	Fire room temperature
E30	840 °C
E60	945 °C
E90	1006 °C

All the FireBoxes have passed the fire tests. Here, a test was carried out to see if the electrical connections can withstand temperatures of up to 1,000 °C and continue to function. Often, we even carry out such fire tests in the development phase of a product. The results are then taken into account when further developing the product. In the end, we have absolutely safe and practical solutions, which meet the construction law requirements and possess the appropriate approvals.



FireBox application

Extending safety cables and branching them reaction-free

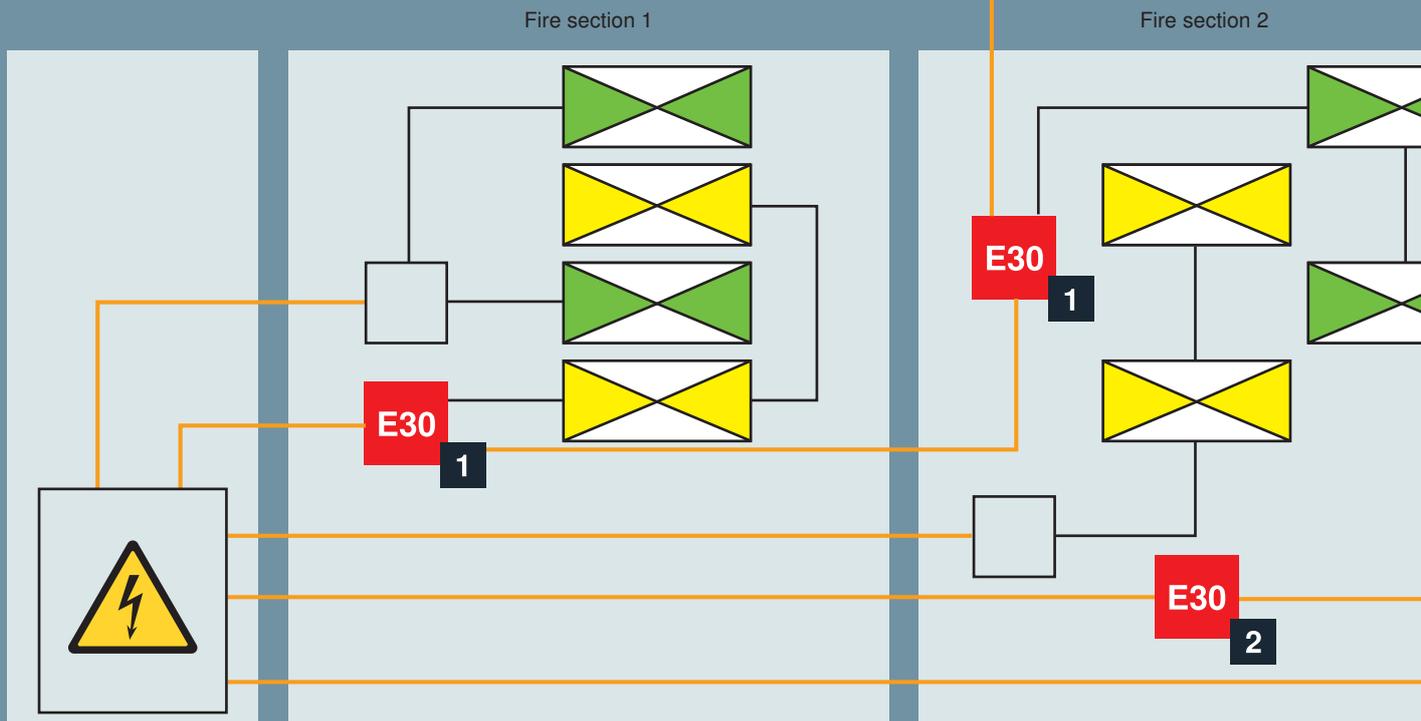
If fire alarm systems are installed in the building, it is possible to waive cabling that maintains the electrical function to class E30 in certain areas. These include, for example, branch cables to fire alarms located in a fire section. Here, routing of E30 cables to the first fire alarm is sufficient. If the fire alarm system was created with loop technology, then no E30 safety cables are required at all. If cables fail during a fire, the system detects interruptions and automatically switches the signal paths.

If cables of the fire alarm system are run through monitored areas into a final fire section, then there is no need for E30 cabling. If the bridged fire sections are not monitored, then safety cables with the maintenance of electrical function class E30 must be installed.



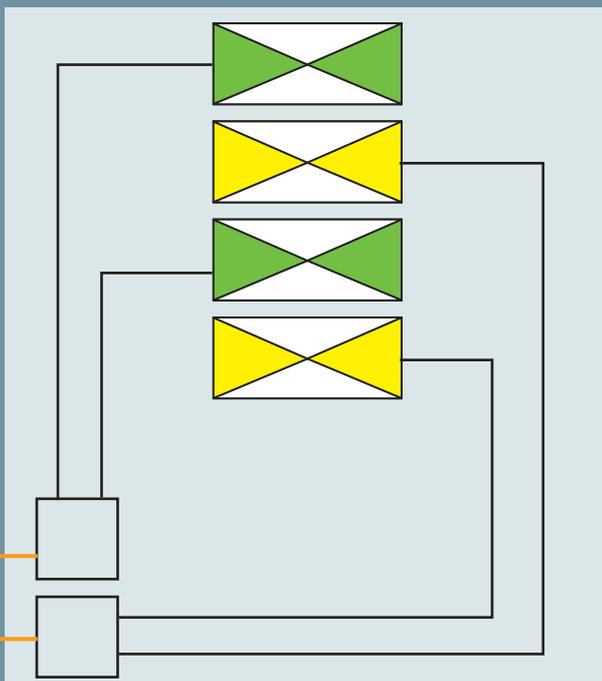
The exceptions described above have no influence on the supply of safety-relevant electrical systems with the maintenance of electrical function classes E60 and E90. The higher-level classes must be given the appropriate safety cables.

Cable routing with the maintenance of electrical function:
Example of a safety lighting system





Fire section n (end of fire section)



Main safety power distributor



Junction box with maintenance of function to E30 (incl. fuse)



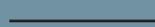
Junction box



Safety lamp with escape route pictogram



Safety lamp



Standard cable



Cable with maintenance of function to E30



Extension and branching



Extension

Clear portfolio, wide range of uses

Six variants for all applications

The FireBox is available in a number of variants, which can reliably cover any area of use and all applications. The distribution over only six product groups means that it still remains clear. All the junction boxes have practical external fastening.

The junction boxes are available in pre-terminated form with soft plug-in seals, allowing simple, quick mounting that meets the conditions of the approval. Further processing of the junction box is not required. These FireBox variants are available in three sizes.

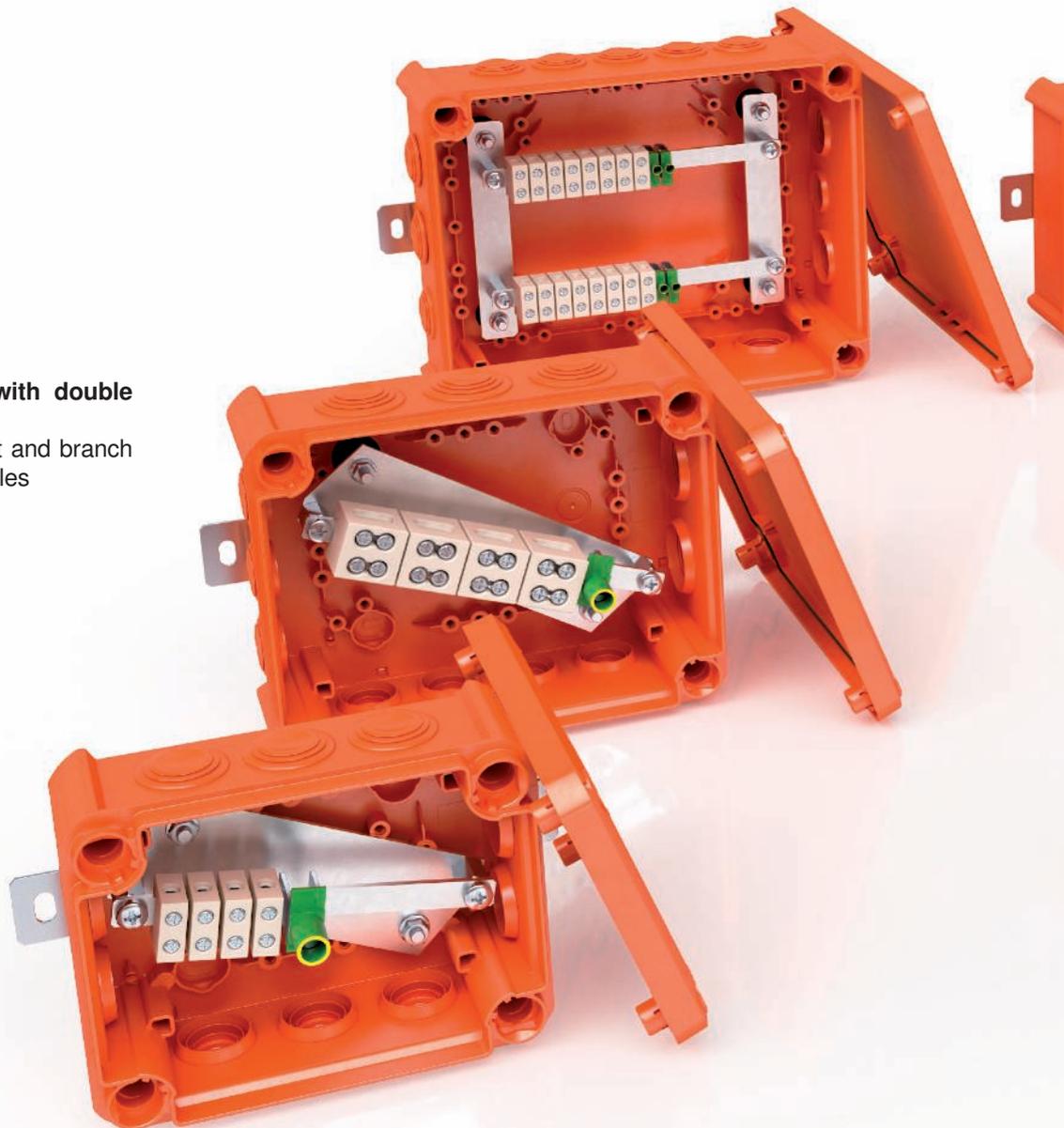
In addition, empty boxes with a VA fastening are available, allowing completely free termination. There are as many as 4 sizes here.

FireBox for data technology

Ceramic terminals aligned for paired connection of data cables, terminals incl. wire protection

FireBox with double terminals
to connect and branch safety cables

FireBox with single terminals
to connect safety cables



IP
66

HALOGEN
FREE

The FireBox stands out through the halogen-free material, meaning that in the event of fire, no toxic gases are created, thus reducing injury to people and keeping damage to property to a minimum. All the junction boxes have the protection rating IP66.



Closed FireBox, empty
with support rail and external
fastening made of stainless
steel, for free termination

FireBox with 1 fuse holder
to protect a branch, with single and
double terminals

**FireBox with 2 fuse hold-
ers**
to protect two branches,
with single and double ter-
minals



Accessories

V-TEC cable gland, plug-in seals, single and double terminals, protective conductor terminals and fuse holders (also available separately)

Connection technology

The ceramic connection terminals as the core of the FireBox

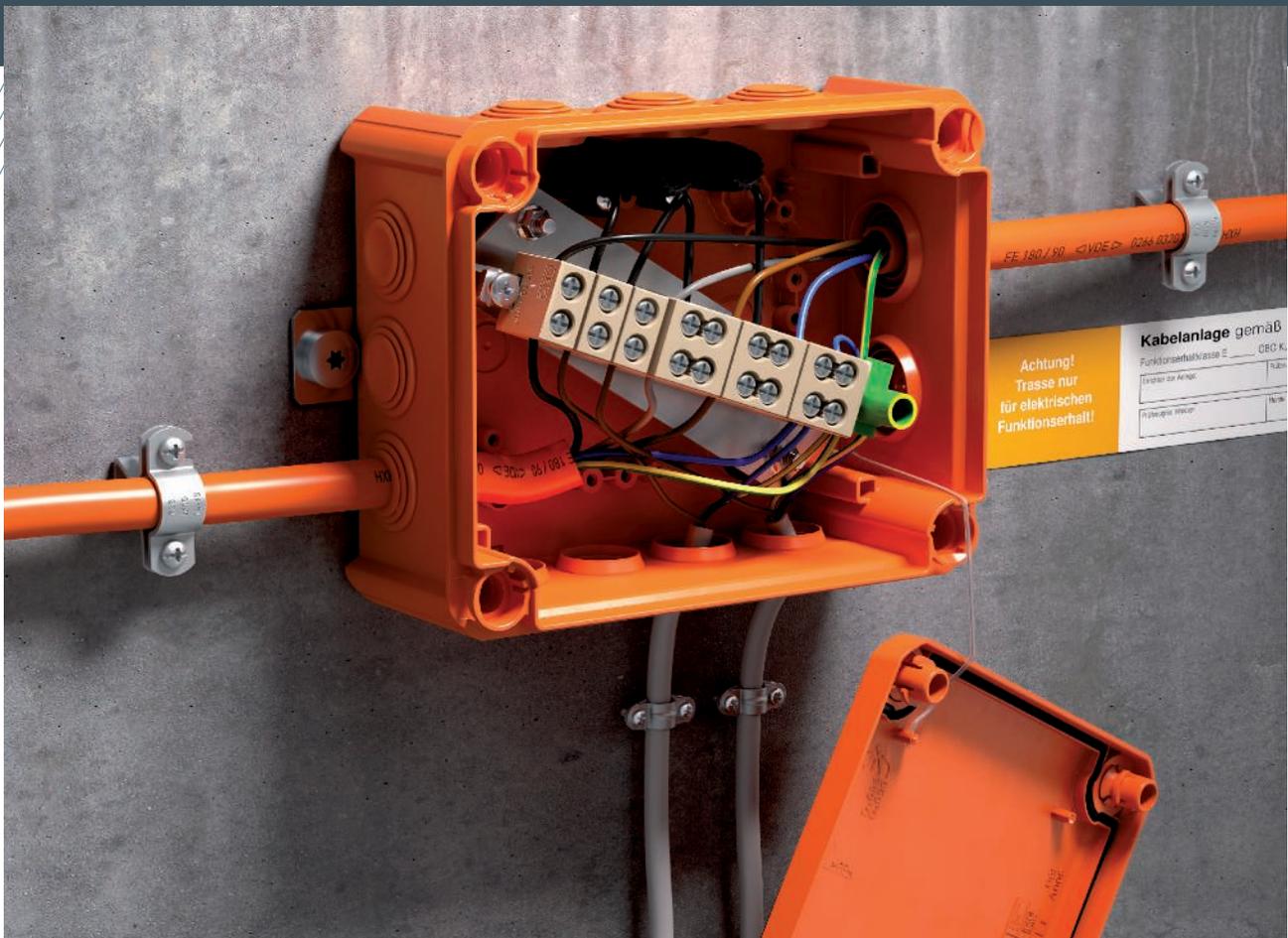
The heart of the OBO FireBox is the ceramic connection terminal. It is available as a single and double terminal. The housing of the terminal block is made of high-temperature-resistant ceramic materials and is the basis for a secure mechanical and electrical connection. In combination with the thermoplastic housing, the ceramic connection terminal forms a system with fire protection testing.

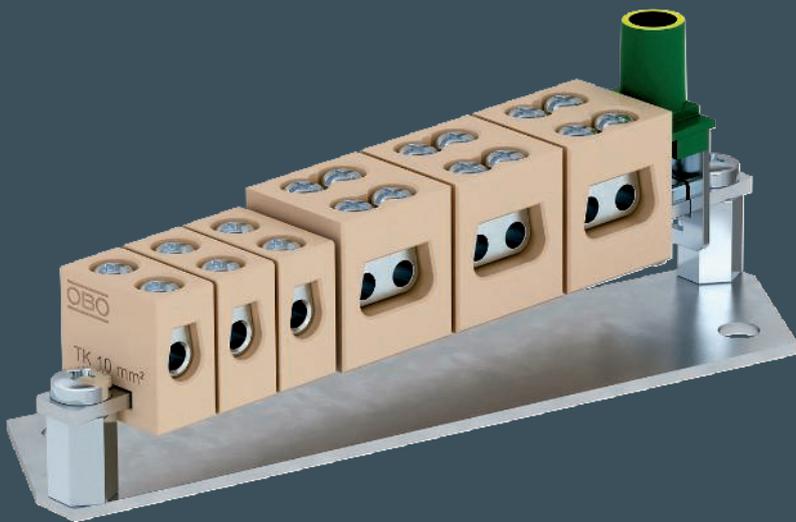
The different junction box sizes are adapted to the appropriate nominal cross-sections of the terminals: The FireBox T100 for a cable cross-section of 6 mm², the T160 for 10 mm² and the T250 for 16 mm².



As an empty variant, the FireBox T350 offers even more space for equipment with different terminals.

Diagonally mounted terminal units mean that there is always sufficient space available. The version as a double terminal allows the branching of different cable cross-sections, as required. Such a branch can be protected using a separate fuse holder.





Benefits

- Versions as single and double terminal
- Branching of different cable cross-sections with the double terminals
- Protection of the branch possible using separate fuse holder
- Protective conductor terminal directly on support rail – no covering of the metal parts required

Volume of the ceramic terminals per connection

Nominal cross-section of wires

			0,5	1,5	2,5	4	6	10	16
mm ²	mm	max. Nm	n x						
4	6	0,5		-	-	-	-	-	-
6*	7	0,7	-					-	-
10*	10	1,5	-						-
16*	10	2,2	-						

* -2 = 2 x n

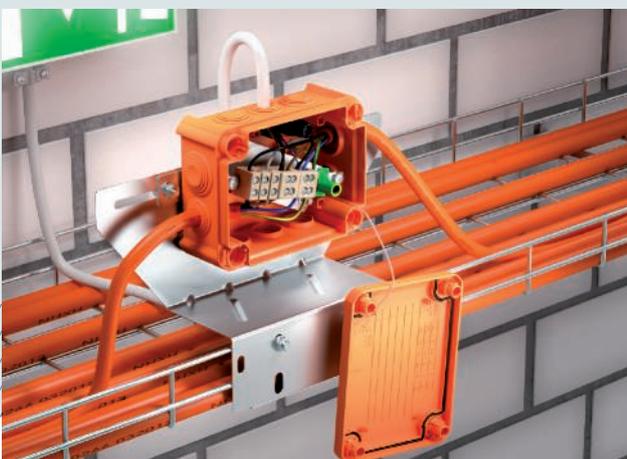
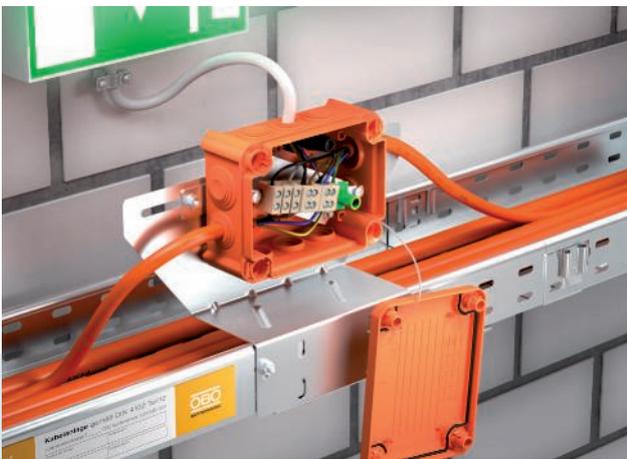
When using the double terminal, the capacity doubles.

Minimum mounting work for maximum safety and security

Accessories and mounting options

Mounting plates

Two universal, specially angled, beading-stiffened mounting plates are available for fastening the FireBoxes to cable support systems: Type F for mounting on the front side of the cable support system and type B for mounting on the rear side. In both cases, the opening of the junction box is always accessible and the cables do not need to be run over the edge of the cable support system. The mounting plates are suitable for cable trays and ladders, as well as mesh cable trays.



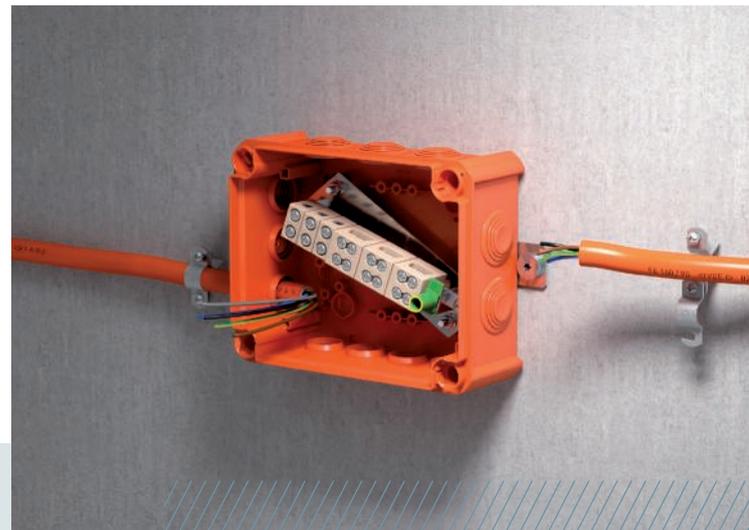


Bolt ties

The supplied bolt ties are approved for fastening the junction boxes to concrete and various types of masonry, allowing mounting on walls and ceilings in line with the approval.

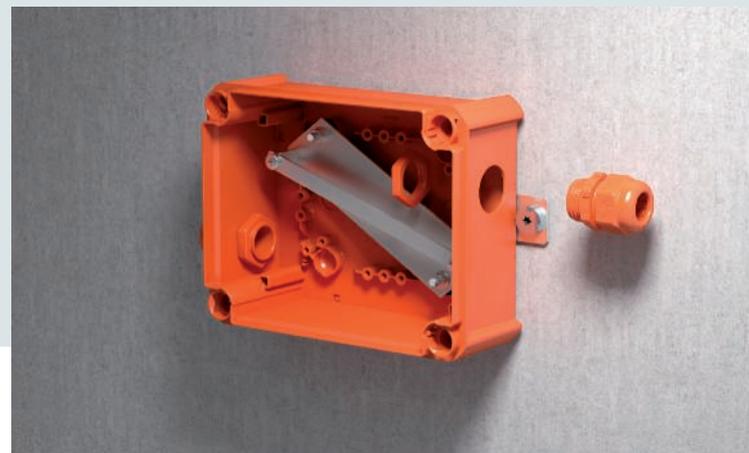
Plug-in seals

Just as simple as the mounting of the FireBox is the cable entry: The cables are inserted or run out through the pre-mounted elastic plug-in seals. The soft seals adjust themselves to the cable in a flexible manner and make it dust-proof and water-proof.



V-TEC cable gland

In combination with the closed FireBox, cables can also be installed with a robust cable gland. They can be positioned freely. The V-TEC cable gland offers secure torsion protection over the entire clamping range, a high tightness level and strain relief, and is available in the sizes M16 and M40 in a set with the matching locknut.



OBO Support: Help from the fire protection experts

A first consultation, a concrete question or a comprehensive problem: Via OBO's Customer Service, you can reach a direct contact who can help you with any matter connected with fire protection. Our technically qualified Customer Service is in constant contact with our product managers and developers and can offer rapid help with practical solutions.

In the case of more comprehensive enquiries or tricky challenges, you will be forwarded to the appropriate fire protection expert. Or we can organise a member of our field service to develop solutions with you on-site. You can obtain basic knowledge and information on the latest developments in fire protection at our seminars, during which OBO experts and external speakers will share their knowledge with you.

International service

Fire protection regulations differ from country to country. This is why our fire protection experts are in constant contact with our foreign subsidiary companies. You can also rely on our help in international construction projects!

Some 40 years of experience in fire protection make OBO a reliable partner. We want to pass on our theoretical and practical knowledge to our customers and have developed a wide range of offers to do this:

Personal service:

- Telephone consultation and e-mail support
- Field service around the world
- Fire protection seminars

Online offer:

- Fire protection guide and catalogue
- Mounting instructions and films
- Selection aids
- Certificates
- Online seminars

Customer Service
+49 23 73 89 - 17 00



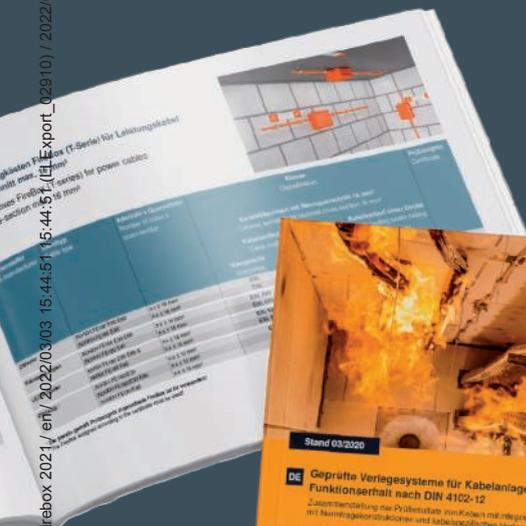
Our fire protection guide offers general and specific information about the topic of fire protection.

In the guide, our OBO experts explain key basic principles, present problems with matching solution approaches and provide information on testing methods and certificates. Of course, we have included current developments, standards and legal requirements in the revised version. Make use of our expert knowledge gathered over 40 years of OBO fire protection.

You can order the fire protection guide online at www.obo-bettermann.com.

More information on “Tested installation systems for cable systems with integrated maintenance of electrical function according to DIN 4102 Part 12” can be found in the brochure of the same name.

The brochure describes the various standard support structures for the maintenance of electrical function as well as cable-specific support structures, for which OBO can provide valid test certificates or surveyor’s comments. The maintenance of electrical function classes, certificates and mounting parameters for the different systems are presented in a clear overview. In addition, manufacturers and the types of cables for the maintenance of electrical function that have been tested in conjunction with the cable-specific routing systems are listed in table form.



FireBox with plug-in seals, single terminals

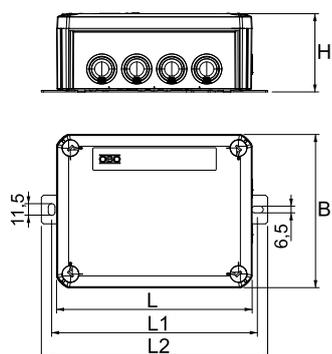


Type	Nominal cross-section mm ²	Single terminals	Protective terminal	Entries	Pack Piece	Weight kg/100 pc.	Item no.
T100ED 06A	6	4	1	8x M25 2x M32	1	42.730	7205740
T160ED 10A	10	4	1	7x M25 5x M32	1	62.918	7205742
T250ED 16A	16	4	1	9x M25 7x M32	1	92.919	7205744

Connection box with soft plug-in seals. Sufficiently large wiring compartment through diagonally arranged connection unit with completely pre-mounted, high-temperature-resistant ceramic terminals. Green-yellow labelled protective conductor terminal. Fastening on easily accessible external flaps. Approved for cable systems that maintain the electrical function according to DIN 4102 Part 12 with the classes E30, E60 and E90. Ceramic clamps have been tested according to DIN EN 60998-2-1:2004.

Including 2 x MMSplus P 6x35 screw ties.

Dimensions



Type	Dim. L mm	Dim. B mm	Dim. H mm	Dim. L1 mm	Dim. L2 mm
T100ED 06A	150	116	67	162	182
T160ED 10A	190	150	77	200	220
T250ED 16A	240	190	95	250	270

FireBox with plug-in seals, double terminals

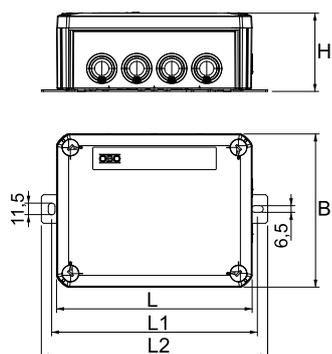


Type	Nominal cross-section mm ²	Double terminals	Protective terminal	Entries	Pack Piece	Weight kg/100 pc.	Item no.
T100ED 06-2A	6	4	1	8x M25 2x M32	1	49.210	7205746
T160ED 10-2A	10	4	1	7x M25 5x M32	1	71.998	7205748
T250ED 16-2A	16	4	1	9x M25 7x M32	1	105.679	7205750

Junction box with ceramic double terminals and soft plug-in seals. Sufficiently large wiring compartment through diagonally arranged connection unit with completely pre-mounted, high-temperature-resistant ceramic terminals. Green-yellow labelled protective conductor terminal. Fastening on easily accessible external flaps. Approved for cable systems that maintain the electrical function according to DIN 4102 Part 12 with the classes E30, E60 and E90. Ceramic clamps have been tested according to DIN EN 60998-2-1:2004.

Including 2 x MMSplus P 6x35 screw ties.

Dimensions



Type	Dim. L mm	Dim. B mm	Dim. H mm	Dim. L1 mm	Dim. L2 mm
T100ED 06-2A	150	116	67	162	182
T160ED 10-2A	190	150	77	200	220
T250ED 16-2A	240	190	95	250	270

PP

FireBox with plug-in seals, 1 fuse holder

Type	Nominal cross-section mm ²	Single terminals	Double terminals	Protective terminal	Entries	Pack Piece	Weight kg/100 pc.	Item no.
T100ED 06AF	6	3	2	1	8xM25 2xM32	1	48.650	7205752
T160ED 10AF	10	3	2	1	7xM25 5xM32	1	70.513	7205754
T250ED 16AF	16	3	2	1	9xM25 7xM32	1	104.854	7205756

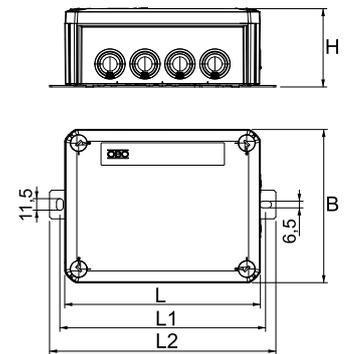


Junction box with one fuse holder and soft plug-in seals. Sufficiently large wiring compartment through diagonally arranged connection unit with completely pre-mounted, high-temperature-resistant ceramic terminals. Green-yellow labelled protective conductor terminal. Fastening on easily accessible external flaps. Approved for cable systems that maintain the electrical function according to DIN 4102 Part 12 with the classes E30, E60 and E90. Ceramic clamps have been tested according to DIN EN 60998-2-1:2004.

Including 2 x MMSplus P 6x35 screw ties.

Type	Dim. L mm	Dim. B mm	Dim. H mm	Dim. L1 mm	Dim. L2 mm
T100ED 06AF	150	116	67	162	182
T160ED 10AF	190	150	77	200	220
T250ED 16AF	240	190	95	250	270

Dimensions



PP

FireBox with plug-in seals, 2 fuse holders

Type	Nominal cross-section mm ²	Single terminals	Double terminals	Protective terminal	Entries	Pack Piece	Weight kg/100 pc.	Item no.
T100ED 06A2F	6	3	3	1	8xM25 2xM32	1	52.950	7205758
T160ED 10A2F	10	3	3	1	7xM25 5xM32	1	77.188	7205760
T250ED 16A2F	16	3	3	1	9xM25 7xM32	1	113.054	7205762

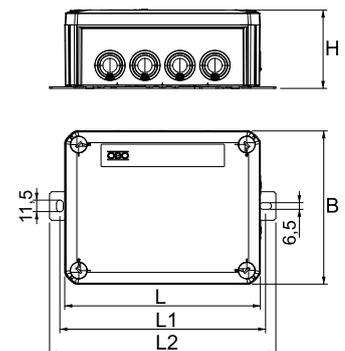


Junction box with two fuse holders and soft plug-in seals. Sufficiently large wiring compartment through diagonally arranged connection unit with completely pre-mounted, high-temperature-resistant ceramic terminals. Green-yellow labelled protective conductor terminal. Fastening on easily accessible external flaps. Approved for cable systems that maintain the electrical function according to DIN 4102 Part 12 with the classes E30, E60 and E90. Ceramic clamps have been tested according to DIN EN 60998-2-1:2004.

Including 2x MMSplus P 6x35 screw ties.

Type	Dim. L mm	Dim. B mm	Dim. H mm	Dim. L1 mm	Dim. L2 mm
T100ED 06A2F	150	116	67	162	182
T160ED 10A2F	190	150	77	200	220
T250ED 16A2F	240	190	95	250	270

Dimensions



FireBox, with plug-in seals, for data technology

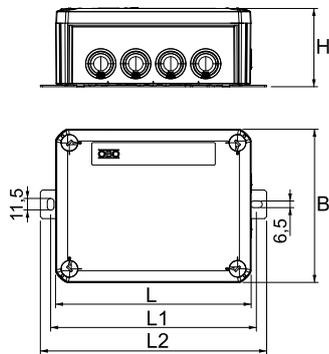


Type	Nominal cross-section mm ²	Single terminals	Protective terminal	Entries	Pack Piece	Weight kg/100 pc.	Item no.
T100ED 4x4AD	0.5-4	4	1	8xM25 2xM32	1	41.690	7205764
T100ED 4x8AD	0.5-4	8	1	8xM25 2xM32	1	45.210	7205766
T250ED 4x16AD	0.5-4	16	4	9xM25 7xM32	1	91.441	7205768
T250ED 4x24AD	0.5-4	24	4	9xM25 7xM32	1	101.643	7205770
T350ED 4x32AD	0.5-4	32	4	16xM32 8xM40	1	158.251	7205772

Connection box for data technology with soft plug-in seals. Pairs of high-temperature-resistant ceramic terminals, suitable for data cables. Green-yellow labelled protective conductor/shield terminal. Fastening on easily accessible external flaps. Approved for cable systems that maintain the electrical function according to DIN 4102 Part 12 with the classes E30, E60 and E90. Ceramic clamps have been tested according to DIN EN 60998-2-1:2004.

Including 2x MMSplus P 6x35 screw ties.

Dimensions



Type	Dim. L mm	Dim. B mm	Dim. H mm	Dim. L1 mm	Dim. L2 mm
T100ED 4x4AD	150	116	68	162	182
T100ED 4x8AD	150	116	68	162	182
T250ED 4x16AD	240	190	95	250	270
T250ED 4x24AD	240	190	95	250	270
T350ED 4x32AD	285	201	120	205	230

PP

Closed FireBox, empty

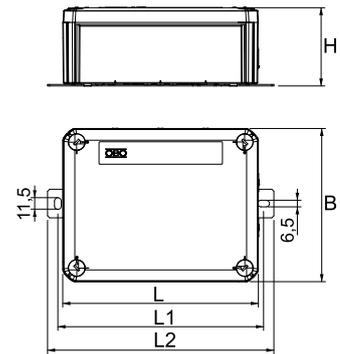
Type	Nominal cross-section mm ²	Equipment	Dim. A mm	Pack Piece	Weight kg/100 pc.	Item no.
T100E OVA	0.5-6	Supportrail	101	1	33.890	7205780
T160E OVA	0.5-10	Supportrail	130	1	49.203	7205782
T250E OVA	0.5-16	Supportrail	286	1	74.084	7205784
T350E OVA	0.5-16	Supportrail	386	1	121.611	7205786



Unequipped, closed connection or junction box for free termination with ceramic terminals and cable glands. Dimension A indicates the available support rail length for the wiring terminals. Sufficiently large wiring compartment through diagonally arranged support rail. Fastening on easily accessible external flaps made of stainless steel. Approved for cable systems that maintain the electrical function according to DIN 4102 Part 12 with the classes E30, E60 and E90.

Type	Dim. L mm	Dim. B mm	Dim. H mm	Dim. L1 mm	Dim. L2 mm
T100E OVA	150	116	67	162	182
T160E OVA	190	150	77	200	220
T250E OVA	240	190	95	250	270
T350E OVA	285	201	120	205	230

Dimensions



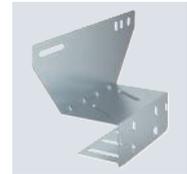
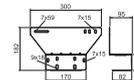
Ceramic terminals and accessories

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Mounting plate for FireBox T series, front side

Type	Width mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
MP-T6-F	300	182	1	46.134	7205790

Universal mounting plate to fasten the FireBox T series to the front side of cable trays and mesh cable trays as well as cable ladders of max. 60 mm side height. Enables the secure mounting of cables that maintain electrical functionality, without having to bend it over the side rail. Suitable for all FireBoxes.

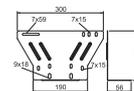


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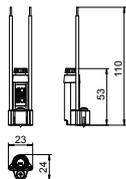
Mounting plate for FireBox T series, rear side

Type	Width mm	Height mm	Pack Piece	Weight kg/100 pc.	Item no.
MP-T6-B	300	175	1	36.566	7205792

Universal mounting plate to fasten the FireBox T series to the rear side of cable trays and mesh cable trays as well as cable ladders of max. 60 mm side height. Enables the secure mounting of cables that maintain electrical functionality, without having to bend it over the side rail. Suitable for all FireBoxes.



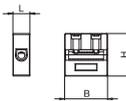
Fuse holder for FireBox T series



Type	Pack Piece	Weight kg/100 pc.	Item no.
TE-FH 520	1	1.800	7205570

Fuse holder with bayonet lock for fine-wire fuse for dimensions Ø 5 x 20 mm. Connection wires that maintain electrical functionality with nominal cross-section 2.5 mm², ready-stripped. For mounting on one of the exposed domes in the junction box of the FireBox T series using the supplied screw.

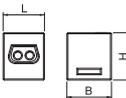
Ceramic terminal



Type	Nominal cross-section mm ²	Dim.			Pack Piece	Weight kg/100 pc.	Item no.
		L mm	B mm	H mm			
TK 04	0.5-4	8.5	21.5	21.5	5	0.880	7205700
TK 06	6	8.5	21.5	21.5	5	0.880	7205702
TK 10	10	12.5	24	24	5	1.840	7205704
TK 16	16	15	28	28	5	3.160	7205706

High-temperature-resistant ceramic terminal for refitting of the FireBox T series. Tested according to DIN EN 60998-2-1:2004.

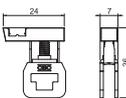
Ceramic terminal, double



Type	Nominal cross-section mm ²	Dim.			Pack Piece	Weight kg/100 pc.	Item no.
		L mm	B mm	H mm			
TK 06-2	6	19.5	21	22.5	5	2.500	7205703
TK 10-2	10	24.5	26.5	26	5	4.200	7205705
TK 16-2	16	27	29.5	30.5	5	6.400	7205707

High-temperature-resistant ceramic terminal with four connection options for refitting of the FireBox T series. Tested according to DIN EN 60998-2-1:2004.

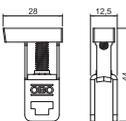
Protective conductor terminal



Type	Nominal cross-section mm ²	Dim.			Pack Piece	Weight kg/100 pc.	Item no.
		B mm	H mm	L mm			
TPE 04	4	24	26	7	5	0.540	7205709

Protective conductor terminal for retro-fitting the FireBox T series with green-yellow identification.

Protective conductor terminal



Type	Nominal cross-section mm ²	Dim.			Pack Piece	Weight kg/100 pc.	Item no.
		B mm	H mm	L mm			
TPE 35	35	28	44	12.5	5	1.870	7205714

Protective conductor terminal for refitting of the FireBox T series with green-yellow identification.

PA

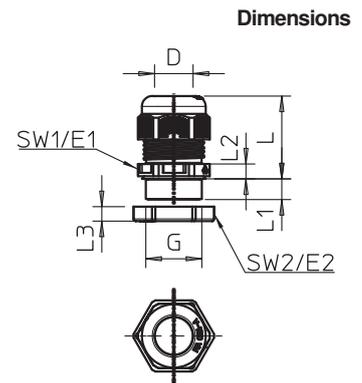
Cable gland with locknut as a set

Type	Thread	Pack Piece	Weight kg/100 pc.	Item no.
V-TEC VM16+ OR	M16x1,5	10	0.771	7205657
V-TEC VM20+ OR	M20x1,5	10	1.106	7205660
V-TEC VM25+ OR	M25x1,5	10	1.710	7205663
V-TEC VM32+ OR	M32x1,5	10	2.840	7205666
V-TEC VM40+ OR	M40x1,5	10	5.150	7205669



Robust cap nut cable gland with metric connecting thread to IEC 423, including pre-mounted locknut. For high tightness requirements. Strain relief, torsion protection and tightness over the whole clamping area. Sealing ring made of polychloroprene/acrylonitrile butadiene rubber. Moulded shaped sealing lip on intermediate support, no connection thread sealing ring required. VDE-tested according to DIN EN 50262, protection rating IP68 at 5 bar for 1 hr. For maintenance of electrical function according to DIN 4102 Part 12 in connection with the closed junction boxes of the FireBox T series. Colour: Pastel orange.

Type	Dim. G	Sealing range D	Dim. L min.	Dim. L max.	Dim. L1	Dim. L2	Dim. L3	SW 1	Dim. E1	SW 2	Dim. E2
V-TEC VM16+ OR	M16x1,5	4.5-10	21.5	23.5	8	5	5	20	22	22	25
V-TEC VM20+ OR	M20x1,5	6-13	23.5	30.5	9	5	6	24	27	24	27
V-TEC VM25+ OR	M25x1,5	9-17	26	35	10	6	6.5	29	32	32	36
V-TEC VM32+ OR	M32x1,5	15-21	29	40	11	6	7	36	41	41	46
V-TEC VM40+ OR	M40x1,5	16-28	36	46	11	7	7.5	44	50	50	56



TPE

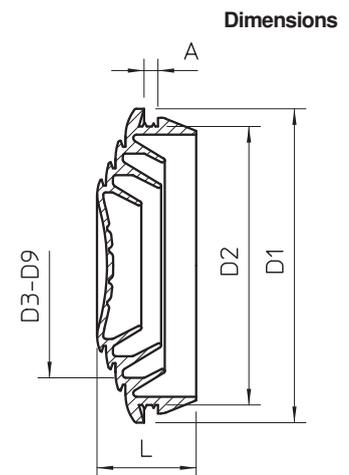
Plug-in seal for FireBox T series

Type	For Ø Size	Colour	Pack Piece	Weight kg/100 pc.	Item no.
EDK 25 OR	M25 0-22	Pastel orange	10	0.214	7205675
EDK 32 OR	M32 0-27	Pastel orange	10	0.328	7205677
EDK 40 OR	M40 0-34	Pastel orange	10	0.534	7205679



The soft plug-in seal can be cut back step by step to suit the relevant cable diameter. Colour: Pastel orange.

Type	Dim. L	Dim. A	Dim. D1	Dim. D2	Sealing range D
EDK 25 OR	10.1	2.2	29.5	25.4	0-22
EDK 32 OR	11.4	2.2	36.4	32.3	0-27
EDK 40 OR	13.4	2.2	44.1	40.2	0-34

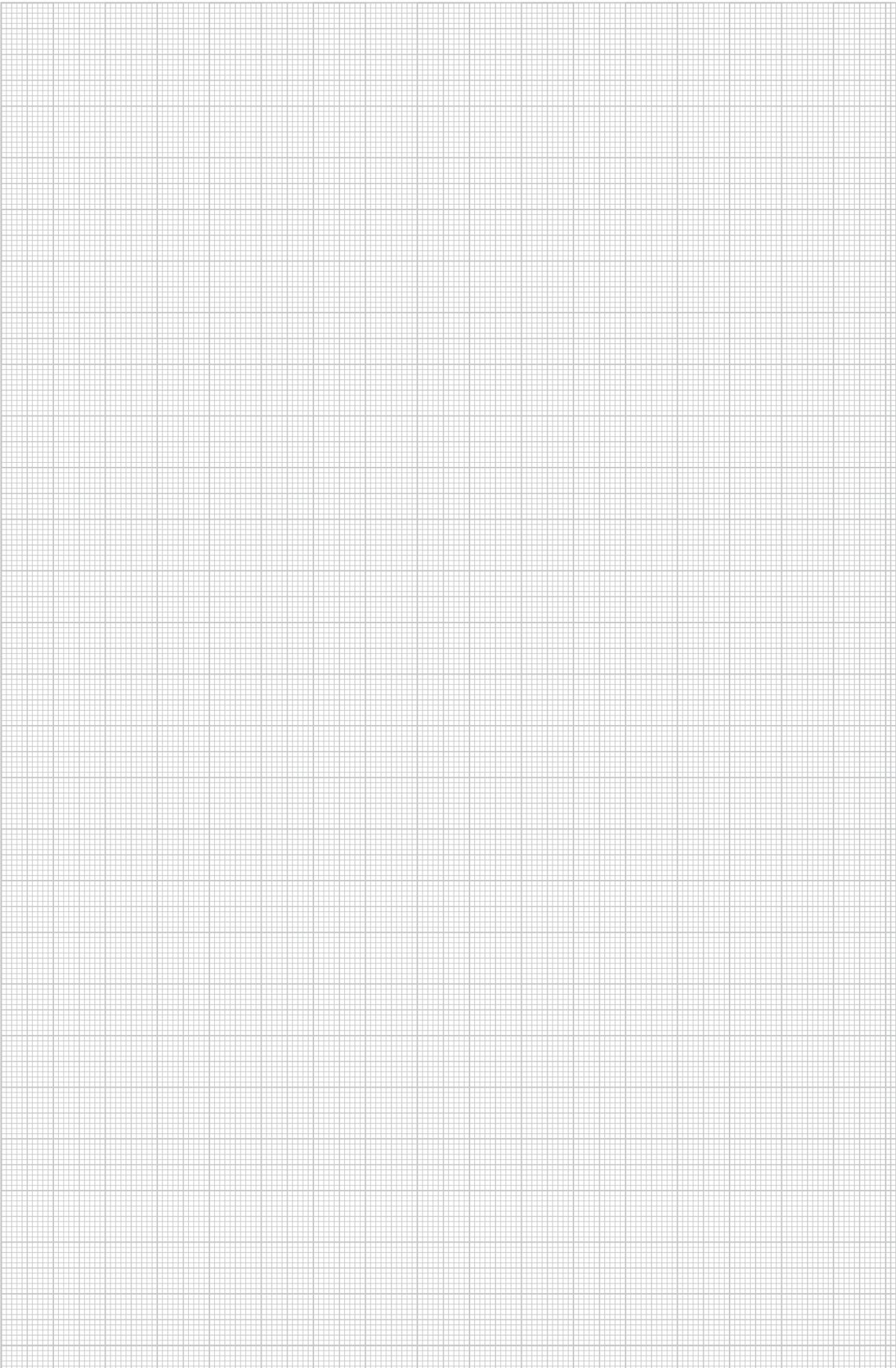


Identification plate for maintenance of electrical function



Type	Language	Pack Piece	Weight kg/100 pc.	Item no.
KS-E EN	English	10	0.600	7205432

Self-adhesive identification plate for approved cable system labelling for maintenance of electrical function as required by DIN 4102 part 12.



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Building Connections

