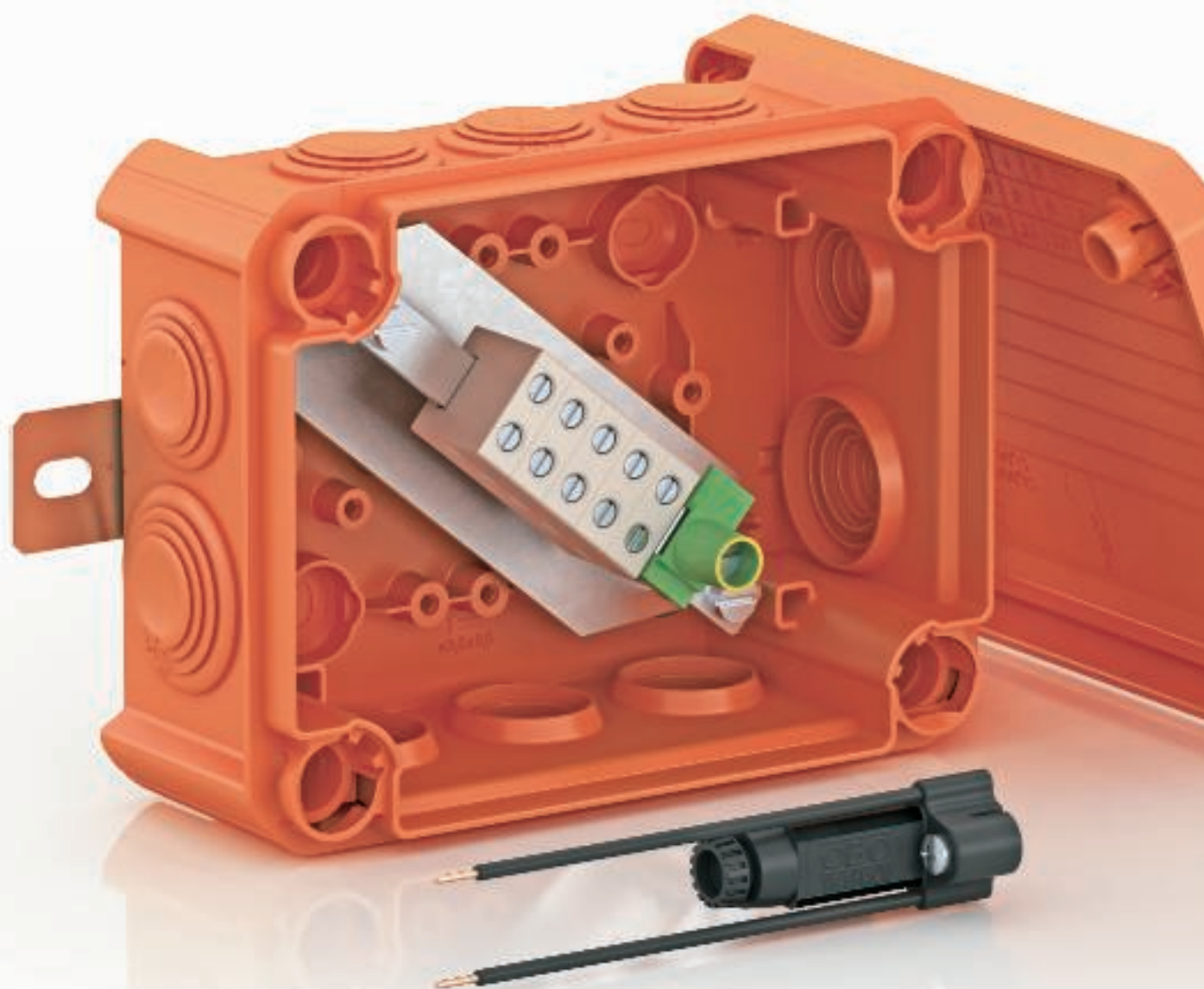


FireBox T series
The evolution of
electrical function maintenance

OBO
BETTERMANN



THINK CONNECTED.

Function

Function maintenance for electrical systems

Electrical function maintenance is required in any structure in which large numbers of people congregate, for example, hospitals, hotels, underground railway systems or tunnels. Function maintenance exists when the current flow is not interrupted during a fire. This allows emergency lighting, ventilation and 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.

OBO systems for the electrical installation of cable systems with function maintenance are tested according to the most important standards. They open up a unique range of cable routing options and ensure that safety-relevant systems continue to function reliably over a defined period of time in the case of fire.

E30

30 minutes: Function maintenance for safe evacuation and rescue

The first 30 minutes after the start of a fire play an important role in the evacuation of a building. During this period, OBO systems for function maintenance E30 maintain the flow of energy for:

- Emergency lighting
- Lifts with fire control
- Fire alarm systems
- Alarm systems and acoustic systems
- Natural smoke extraction systems

E90

90 minutes: Function maintenance for fire-fighting

To support fire-fighting operations, it is imperative that certain technical equipment is supplied with power for up to 90 minutes after a fire breaks out. For example, OBO E90 systems ensure:

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



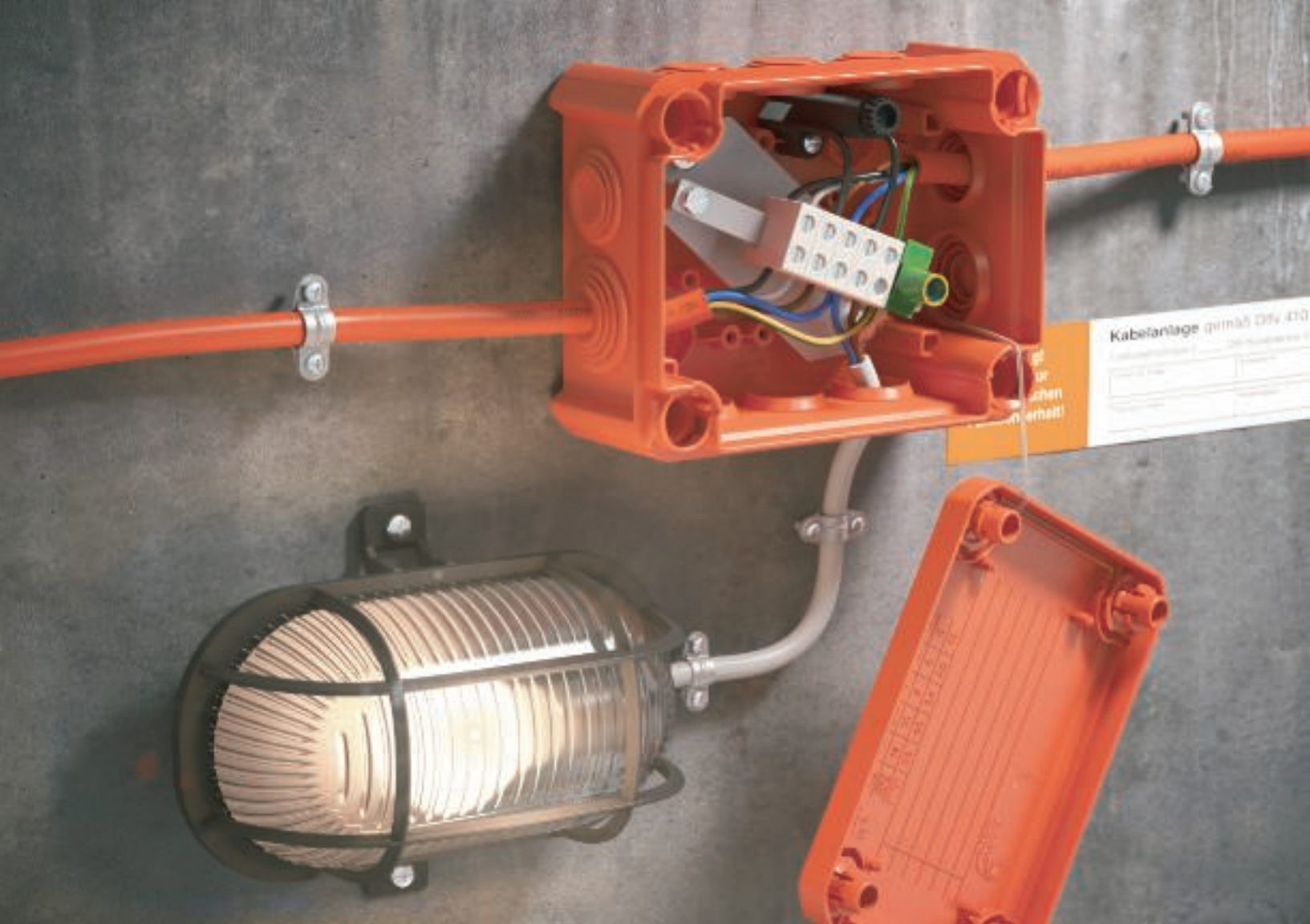
Requirements for junction boxes with function maintenance



Connections with function maintenance

Many larger buildings contain electrical systems relevant for safety. The routed cables cross firewalls and thus different fire sections. If a function maintenance cable ends in a fire section, but needs to supply a further fire section, the connection must be made with tested and approved clamping technology. If branches are created from this function maintenance cable for individual consumers, e.g. safety lamps, then this consumer must be supplied with an upstream, re-action-free fuse.

The T series of the FireBoxes possesses all the benefits of normal cable junction boxes and is made of a thermoplastic polymer. These include the resistance to breakages, resistance to knocks and the high IP protection rating. The FireBox T is tested and approved as a connection and junction box for electrical function maintenance to DIN 4102 Part 12 with the classes E30 to E90.



FireBox T for installations with secured branch

Economic application in challenging structures: the OBO FireBox T, with internal fuse, protects each electrical function area separately. Cables can be branched simply to each individual fire section using the box. In particular, in large buildings, this flexible cabling type considerably reduces the amount of materials used. If there is damage during a fire, the upstream fuse trips, thus preventing the reaction of short-circuits. The fuse unit is fixed simply to a fastening mandrel with a screw.



Tested and approved system



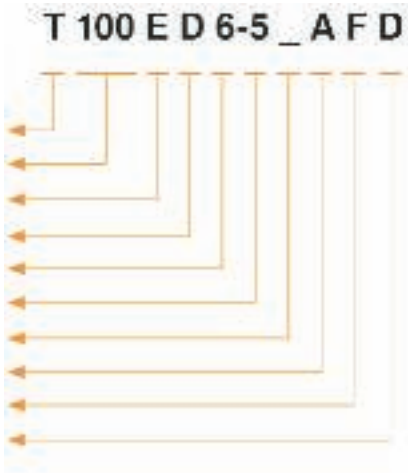
Proven connection

The connection technology of the FireBox T series was proven in a fire test at the Materials Testing Institute MPA NRW in Erwitte. Based on the test results of the old B series, it was also possible to confirm the comparative values for the thermoplastic version. The test certificate P-MPA-E-08-016, together with the surveyor's report, can thus be used as a proof of application.

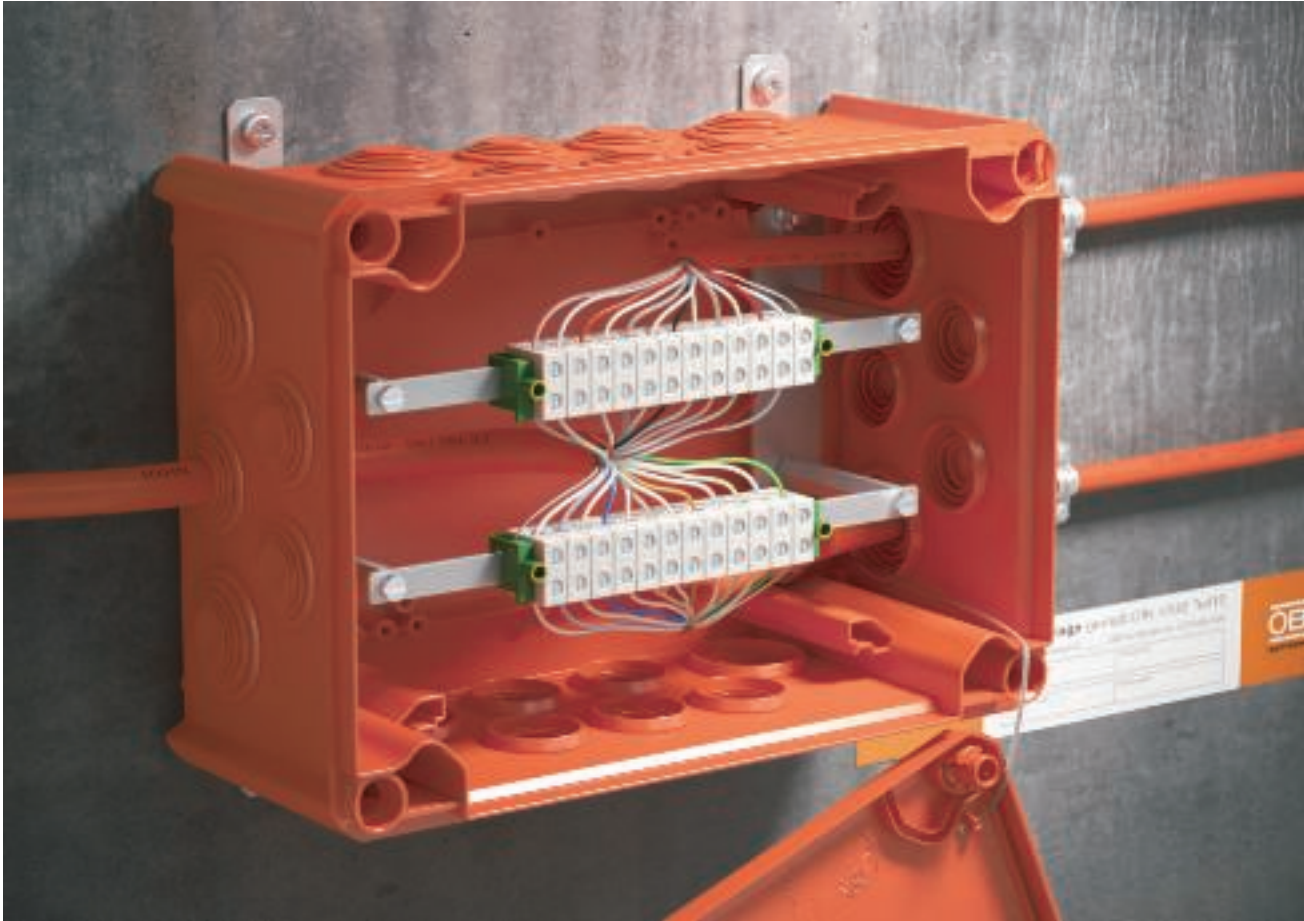
System benefits

- Cable-specific routing variant to DIN 4102 Part 12
- Function maintenance classes E30 and E90
- Wall and ceiling mounting permitted
- Box made of elastic, yet impact-resistant, thermoplastic
- Cable entry with soft plug-in seals or with freely positionable V-TEC cable glands
- Various wire cross-sections for power and data cables
- Complete scope of delivery with equipped connection unit and fire protection bolt ties
- Internal or external fastening
- Optionally with fuse holder for secured branches
- Quick lid fastening through 90° rotation of the corner screws

T:	Thermoplast
100:	Size
E:	Function maintenance
D:	Plug-in seal
6:	Nominal cross-section
5:	Number of terminals, including PE
_:	Internal fastening (empty slot)
A:	External fastening
F:	Fuse holder included
D:	Data cables



The core of the FireBox T: The ceramic connection unit

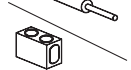
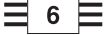
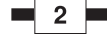
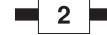
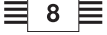
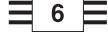
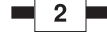
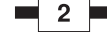
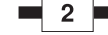
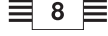
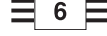
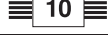
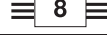


Ceramics vs. heat

The high temperature-resistant terminals to connect the individual cable wires are pre-mounted to form a connection unit. The protective conductor terminal is connected to the support clamp, meaning that covers of the metal parts are not required. This means that a dangerous contact voltage cannot occur.

The construction, made up of the steel support clamp and base plate, offers the ideal combination for secure connections in case of fire. The ceramic terminals are kept in position, even at high temperatures, meaning that no additional tensile forces can affect the cables.

Clamping capacity of the ceramic terminals

	0.5 mm²	1.5 mm²	2.5 mm²	4 mm²	6 mm²	10 mm²	16 mm²
4 mm²					-	-	-
6 mm²						-	-
10 mm²	-						-
16 mm²	-						

FireBox T, with plug-in seals and internal fastening



Halogen-free junction box with soft plug-in seals, including pre-mounted connection unit made of high temperature-resistant special ceramic and labelled protective conductor terminal. Supplied with 2 fire protection screw ties MMS 6x50 for anchorless fastening through the box bottom. High protection rating IP65, impact resistance class T100ED... IK08; T160ED... IK05.

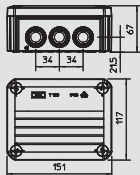
Terminals with nominal cross-section 6/10/16 mm², specially tested and approved for power cables. Multiple wires possible per terminal (see mounting instructions). Details on the cable types and manufacturers can be found in the general construction test certificate of the material testing institute MPA NRW, Erwitte.

FireBox T100ED with internal fastening



Type	Nominal cross section mm²	Number of terminals	Entries	Colour		Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 ED 6-5	6	5	8 x M25 2 x M32	Pastel orange		1	34.000	7205 53 0
T 100 ED 10-5	10	5	8 x M25 2 x M32	Pastel orange		1	35.900	7205 53 3

PP Polypropylene /pc.
Number of terminals including protective conductor terminal
Internal clearance: 136 x 102 x 57 mm

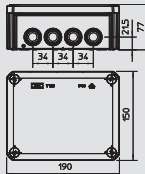


FireBox T160ED with internal fastening



Type	Nominal cross section mm²	Number of terminals	Entries	Colour		Pack. pcs	Weight kg/100 pcs.	Item No.
T 160 ED 16-5	16	5	7 x M25 5 x M32	Pastel orange		1	62.500	7205 53 6

PP Polypropylene /pc.
Number of terminals including protective conductor terminal
Internal clearance: 176 x 135 x 67 mm

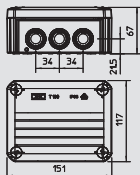


FireBox T100ED with internal fastening and fuse holder



Type	Nominal cross section mm²	Number of terminals	Entries	Colour		Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 ED 6-6 F	6	6	8 x M25 2 x M32	Pastel orange		1	38.650	7205 55 0
T 100 ED 10-6 F	10	6	8 x M25 2 x M32	Pastel orange		1	38.650	7205 55 3

PP Polypropylene /pc.
Number of terminals including protective conductor terminal
Internal clearance: 136 x 102 x 57 mm

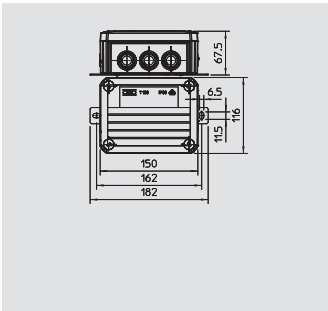


FireBox T, with plug-in seals and external fastening



Halogen-free junction box with soft plug-in seals, including completely mounted connection unit made of high temperature-resistant special ceramic and labelled protective conductor terminal for external fastening. Supplied with 2 fire protection screw ties MMS 6x50 for anchorless fastening on the external shackles. High protection rating IP65, impact resistance class T100ED... IK08; T160ED... IK05.

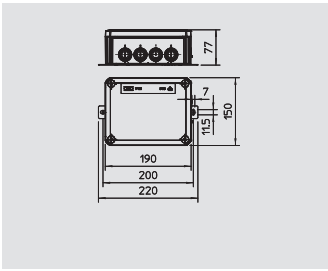
Terminals with nominal cross-section 6/10/16 mm², specially tested and approved for power cables. Multiple wires possible per terminal (see mounting instructions). Details on the cable types and manufacturers can be found in the general construction test certificate of the material testing institute MPA NRW, Erwitte.



FireBox T100ED with external fastening

Type	Nominal cross section mm²	Number of terminals	Entries	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 ED 6-5 A	6	5	8 x M25 2 x M32	Pastel orange	1	38.500	7205 54 0
T 100 ED 10-5 A	10	5	8 x M25 2 x M32	Pastel orange	1	40.600	7205 54 3

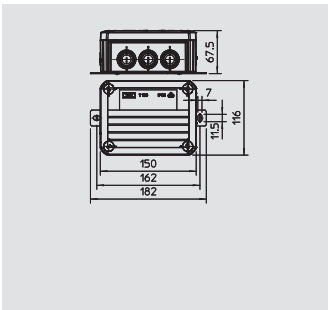
PP Polypropylene /pc.
Number of terminals including protective conductor terminal
Internal clearance: 136 x 102 x 57 mm



FireBox T160ED with external fastening

Type	Nominal cross section mm²	Number of terminals	Entries	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
T 160 ED 16-5 A	16	5	7 x M25 5 x M32	Pastel orange	1	60.000	7205 54 6

PP Polypropylene /pc.
Number of terminals including protective conductor terminal
Internal clearance: 176 x 135 x 67 mm



FireBox T100ED with external fastening and fuse holder

Type	Nominal cross section mm²	Number of terminals	Entries	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 ED 6-6 AF	6	6	8 x M25 2 x M32	Pastel orange	1	43.330	7205 56 0
T 100 ED 10-6 AF	10	6	8 x M25 2 x M32	Pastel orange	1	43.340	7205 56 3

PP Polypropylene /pc.
Number of terminals including protective conductor terminal
Internal clearance: 136 x 102 x 57 mm



FireBox T, with plug-in seals for data technology



Halogen-free junction box with soft plug-in seals, including connection unit made of high temperature-resistant special ceramic and labelled protective conductor terminal for internal and external fastening. Supplied with 2 fire protection screw ties MMS 6x50 for anchorless fastening. High protection rating IP65, impact resistance class T100ED... IK08; T350ED... IK06.

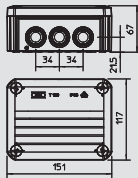
Terminals with nominal cross-section 4 mm², specially tested and approved for multi-wire data cables with a wire diameter 0.8 mm (0.5 mm²). Multiple wires possible per terminal (see mounting instructions). Details on the cable types and manufacturers can be found in the general construction test certificate of the material testing institute MPA NRW, Erwitte.

FireBox T100ED for data technology with internal fastening



Type	Nominal cross section mm²	Number of terminals	Entries	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 ED 4-10 D	4	10	8 x M25 2 x M32	Pastel orange	1	38.300	7205 58 0

PP Polypropylene /pc.
Number of terminals, including 2 protective conductor terminals
Internal clearance: 136 x 102 x 57 mm

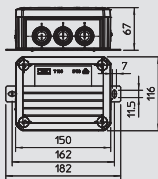


FireBox T100ED for data technology with external fastening



Type	Nominal cross section mm²	Number of terminals	Entries	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 ED 4-10 AD	4	10	8 x M25 2 x M32	Pastel orange	1	45.600	7205 58 3

PP Polypropylene /pc.
Number of terminals, including 2 protective conductor terminals
Internal clearance: 136 x 102 x 57 mm

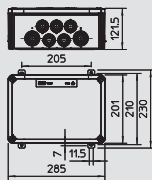


FireBox T350ED for data technology with external fastening



Type	Nominal cross section mm²	Number of terminals	Entries	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
T 350 ED 4-28 AD	4	28	16 x M32 8 x M40	Pastel orange	1	163.000	7205 59 0

PP Polypropylene /pc.
Number of terminals, including 4 protective conductor terminals
Internal clearance: 267 x 182 x 110 mm

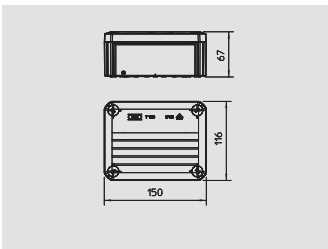


FireBox T, closed version



Halogen-free junction box, closed version, including pre-mounted connection unit made of high temperature-resistant special ceramic and labelled protective conductor terminal. Supplied with 2 fire protection screw ties MMS 6x50 for anchorless fastening through the box bottom. High protection rating IP65, impact resistance class T100ED... IK08; T160ED... IK05. Freely positionable cable outlets with V-TEC glands in the side walls.

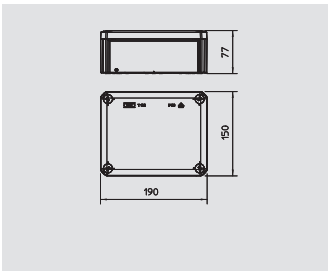
Terminals with nominal cross-section 6/10/16 mm² and wire diameter 0.8 mm. Multiple wires possible per terminal (see mounting instructions). Details on the cable types and manufacturers can be found in the general construction test certificate of the material testing institute MPA NRW, Erwitte.



FireBox T100E with internal fastening

Type	Nominal cross section mm²	Number of terminals	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
T 100 E 4-5	4	5	Pastel orange	1	27.400	7205 51 0
PP Polypropylene						/pc.

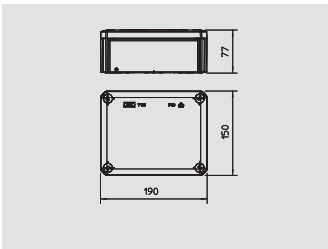
Number of terminals including protective conductor terminal
Internal clearance: 136 x 102 x 57 mm



FireBox T160E with internal fastening

Type	Nominal cross section mm²	Number of terminals	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
T 160 E 10-5	10	5	Pastel orange	1	48.700	7205 52 4
T 160 E 16-5	16	5	Pastel orange	1	53.800	7205 52 8
PP Polypropylene						/pc.

Number of terminals including protective conductor terminal
Internal clearance: 176 x 135 x 67 mm



FireBox T160E for data technology with internal fastening

Type	Nominal cross section mm²	Number of terminals	Colour	Pack. pcs	Weight kg/100 pcs.	Item No.
T 160 E 4-8D	4	8	Pastel orange	1	46.500	7205 52 0
PP Polypropylene						/pc.

Number of terminals without protective conductor terminal
Internal clearance: 176 x 135 x 67 mm



Accessories for FireBox T

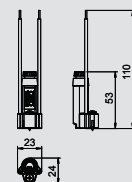
Fuse holder for FireBox T



Type	Pack.	Weight	Item No.
	pcs	kg/100 pcs.	
TE-FH 520	1	1.800	7205 57 0

/pc.

Fuse holder with bayonet lock for fine-wire fuse for dimensions Ø 5 x 20 mm. Function maintenance connection wires 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.



Cable gland with locknut as a set

Type	Thread	Colour	Shipping box	Pack.	Weight	Item No.
			pcs	pcs	kg/100 pcs.	
V-TEC VM20+ OR	M20 x 1,5	Pastel orange	100	10	1.106	7205 66 0
V-TEC VM25+ OR	M25 x 1,5	Pastel orange	100	10	1.710	7205 66 3
V-TEC VM32+ OR	M32 x 1,5	Pastel orange	100	10	2.840	7205 66 6
V-TEC VM40+ OR	M40 x 1,5	Pastel orange	120	10	5.150	7205 66 9

PA/GF Polyamide, fibreglass reinforced

price/100 pc.

Robust cap nut cable gland with metric connecting thread to IEC 423, including pre-mounted locknut.

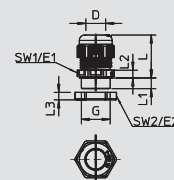
For high tightness requirements. Strain relief, wringing protection and tightness over the whole clamping area. Sealing ring made of polychloroprene/acrylonitrile butadiene rubber. Moulded shaped sealing lip on intermediate support, no connection thread sealing ring required.

VDE-tested according to DIN EN 50262, protection rating IP68 at 5 bar 1 h.

For electrical function maintenance according to DIN 4102 Part 12 in connection with the junction boxes of the FireBox T series.

Important dimensions, V-TEC cable gland

G	D	SW1	E1	SW2	E2	L min.	L max.	L1	L2	L3
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
M20 x 1.5	6 - 13	24	27	24	27	23.5	30.5	9	5	6
M25 x 1.5	9 - 17	29	32	32	36	26	35	10	6	6.5
M32 x 1.5	15 - 21	36	41	41	46	29	40	11	6	7
M40 x 1.5	16 - 28	44	50	50	56	36	46	11	7	7.5



Identification plate for cable system

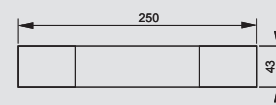


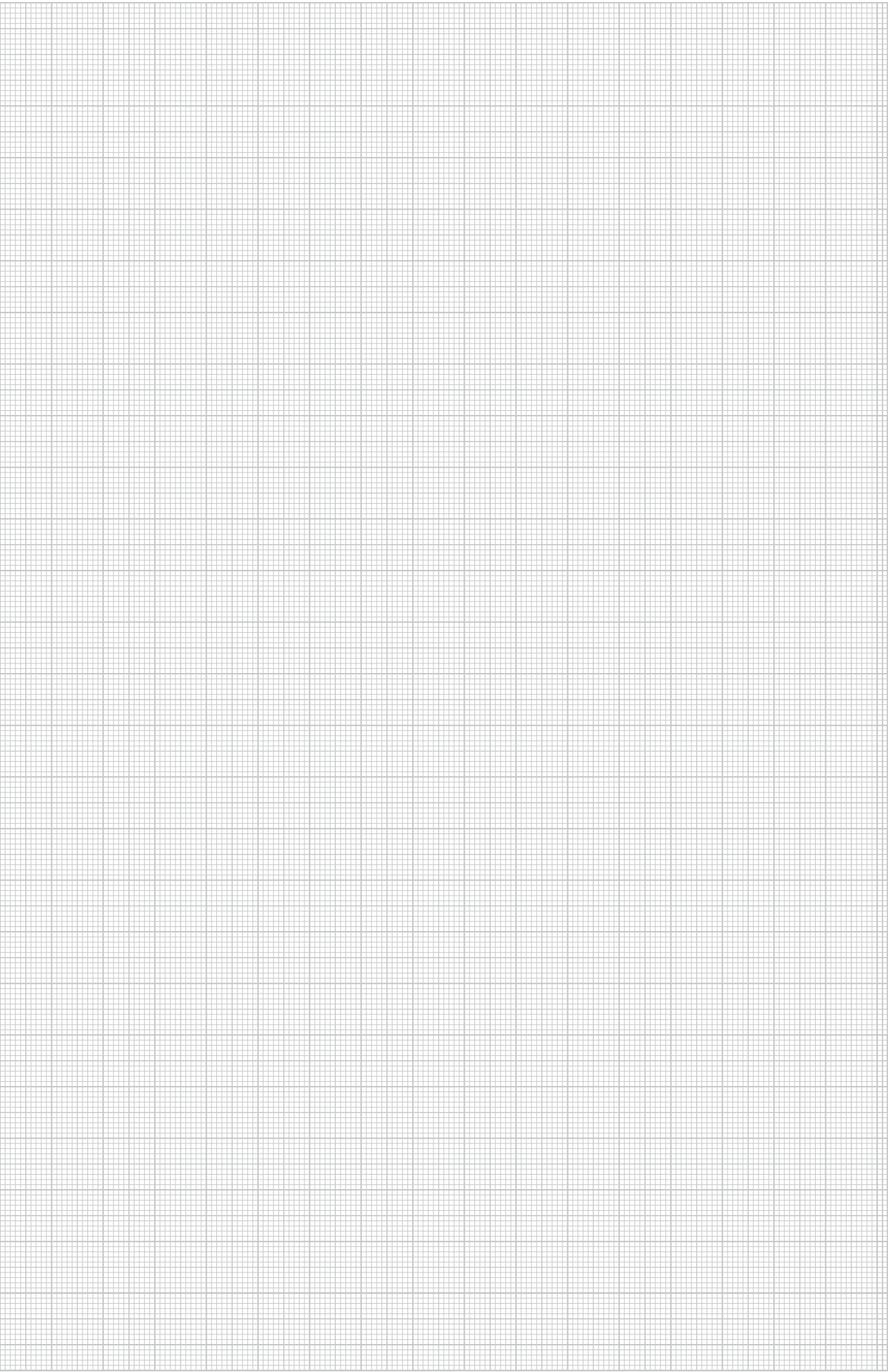
Type	Language	Pack.	Weight	Item No.
		pcs	kg/100 pcs.	
KS-E DE	German	10	0.600	7205 42 3
KS-E EN	English	10	0.600	7205 43 2
KS-E HU	Hungarian	10	0.600	7205 43 4
KS-E PL	Polish	10	0.600	7205 43 6

PVC Polyvinylchloride

/pc.

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





Running, distributing, maintaining function

As one of few manufacturers to do so, OBO offers systems for the connecting, fastening and distribution of power and data cables in cable systems with function maintenance from a single source. Refer to the current BSS catalogue for details of all the routing systems.

Routing cables

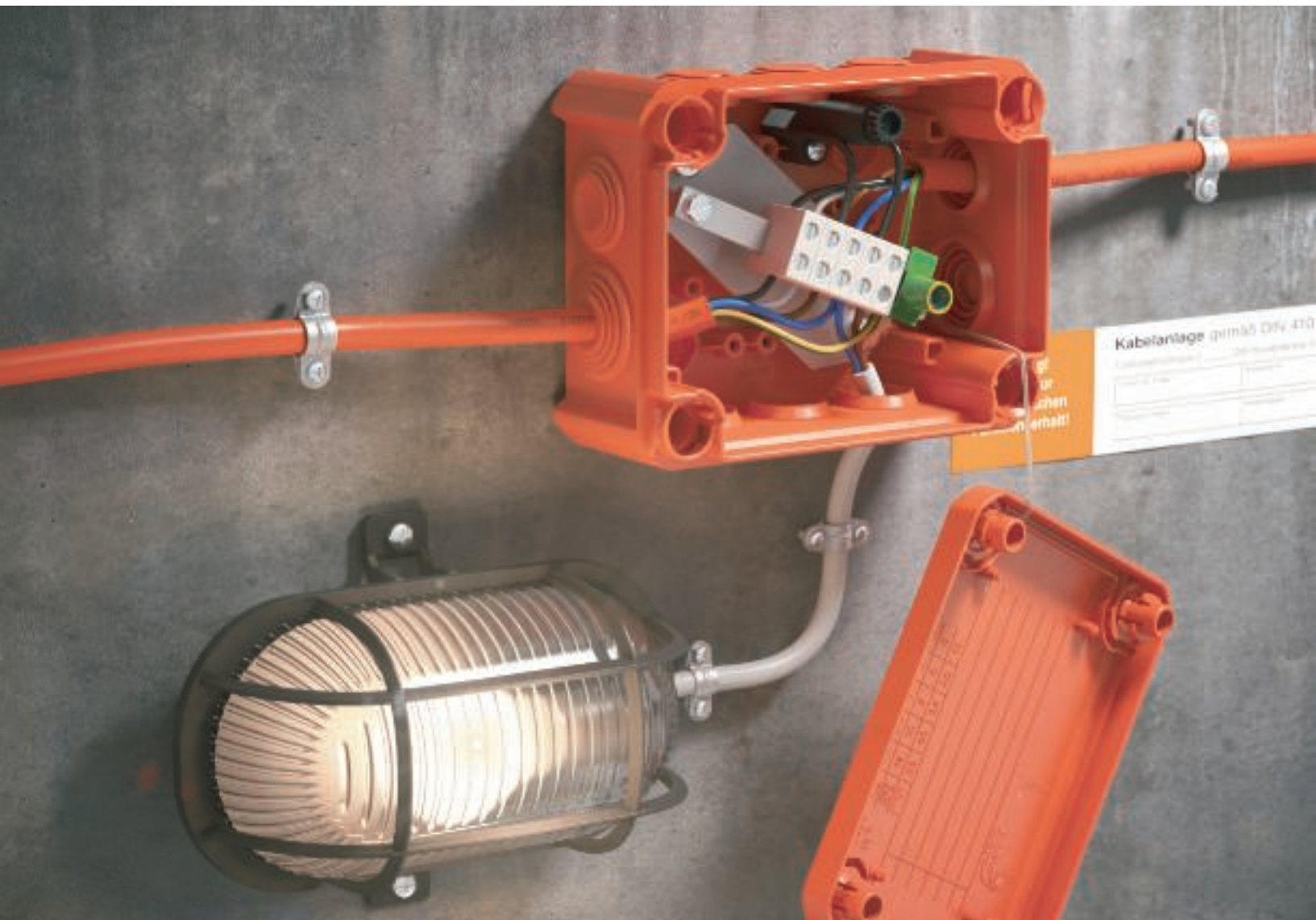
Products for individual function maintenance routing, such as spacer clips, clamp clips, profile rails, pressure clips or grouped supports, are key components for the function maintenance of power and data cables in case of fire.

Distributing power and data

The new generation of the OBO FireBox T, with pre-mounted connection unit, makes the safe extension or branching of function maintenance cables child's play. Versions with internal or external fastening, with a V-TEC cable gland or plug-in seal, open up countless areas of application. Both power cables and data cables can be branched. Optionally, a fuse holder is provided for installations with secured branches.

Maintaining the function

OBO FireBox T and OBO products for individual function maintenance routing offers a unique range of cable routing options with function maintenance of between 30 minutes (E30) and 90 minutes (E90). All the elements are approved and allow secure cable routing according to DIN 4102 Part 12.







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