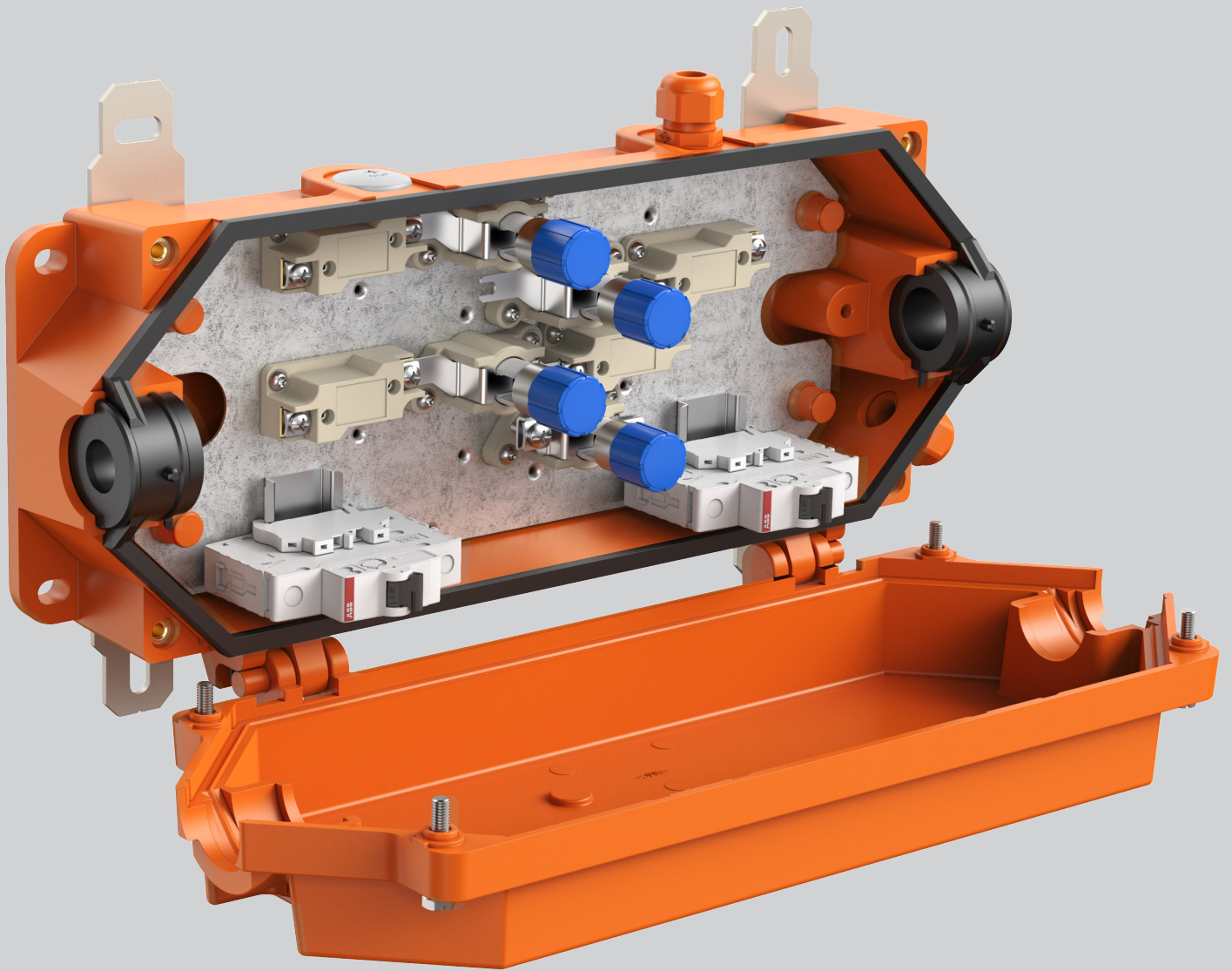


**ELECTRICAL FUNCTIONAL INTEGRITY
IN TUNNELS**





Rapid-Box^{HT}

- Switchgear combination according to EN 61439
- Contacting of uncut conductors up to 50 mm² - also possible afterwards
- Connecting of cut conductors up to 35 mm²
- Maintenance-free mantle terminal
- Junction per pole up to 2.5 mm²
- External fixing lugs allow assembly even when the lid is closed
- Flexible adaptation to different installation situations thanks to the **turnable mounting plate**
- Robust and UV resistant enclosure materials protect the interior installation
- Safe installation due to the high ratings **IP66/67** and **IK09**
- Specific customer solutions are possible thanks to the modular system.

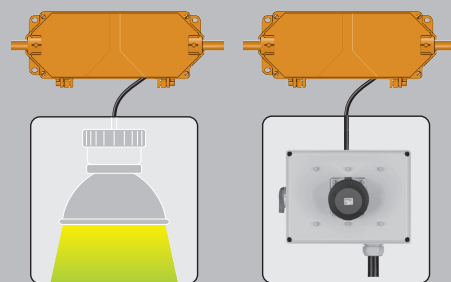
IP66
IP67
E30-
E90
50²
2,5²
IK09
400V
AC/DC
halogen-free
low
smoke
iQ



Rapid-Box^{HT} | WITH ELECTRICAL FUNCTIONAL INTEGRITY



Application examples:



The High Temperature Element (HTE) from Spelsberg is the only known temperature shutoff element on the market that can be used up to a limit temperature of **1000 °C**. Also well suited for technical fire protection applications. To prevent a short-circuit in event of a fire, the HTE is installed at the start point of the electric junction.

The HTE acts exclusively as temperature shutoff element. It disconnects the electric connection of the junction irreversible in case of a fire. Thanks to the shutoff element, an error in the junction does not impair the main line.

The junction is therefore separated safely and permanently, also in case of a fire. The continuous operating temperature of 80°C allows it to be used in conventional electrotechnical installations and switchgear combinations.



[www.spelsberg.com/
electrical-functional-integrity-in-tunnels](http://www.spelsberg.com/electrical-functional-integrity-in-tunnels)



Railway tunnel
Liefkenshoek Belgium

Special requirements apply to connection boxes and enclosures for installed electrical technology in tunnel systems. They must be able to reliably withstand the regularly occurring loads caused by suction and pressure forces due to cars, lorries and trains passing through. At the same time, the functionality of important technical installations must be maintained in the event of a fire. Spelsberg Rapid Boxes are the suitable choice for the line and cable junction in this case. As part

of a comprehensive railway project in Belgium, the products impressed thanks to their flexibility in handling and their resilience.

The Liefkenshoek Rail Link Project (LHSV), which has a 38-year duration, is one of the largest infrastructure projects ever carried out in Belgium. A railway line for freight traffic that connects two marshalling yards of the Port of Antwerp runs over a length of approx. 16.2 km. The river Scheldt as well

as the canal dock have to be bridged by tunnels in this case. ENGIE Fabricom, the company appointed with the project planning, required product solutions for the distribution and supply of consumers as well as for the provision of electrants as access points for maintenance and rescue forces. The electrical installation carried out by envie Solutions in line structure was to take place by means of uncut main cables within the tunnels.



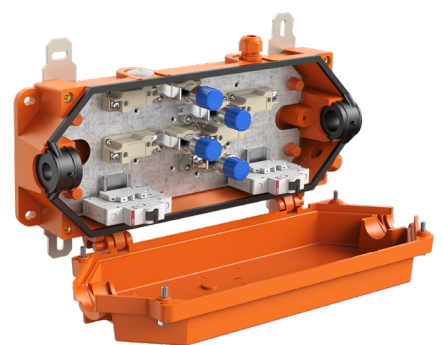


In addition to compliance with fire protection regulations with a functional integrity class of E90, a high protection class as well as corresponding impact and breaking resistance, the on-site installers attached particular emphasis to fast installation times and low maintenance requirements.

As the only fire protection enclosure for uncut lines on the market with certification in accordance with DIN 4102-12 as well as suitability especially for tunnel installations, the Rapid Boxes fully satisfy all requirements. The system distinguished itself by its high degree of customisation during the course of the project. This

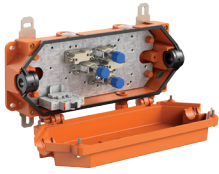
primarily involved the line connection, the junction cross-sections, the adaptability of the number of terminals as well as the fuse protection of the lines and connected consumers.

Those responsible expressed their appreciation for the good cooperation with Spelsberg, which was marked by an intensive personal exchange and goal-oriented problem solving from the very first enquiry through to the delivery of the products. The Rapid Boxes passed the factory acceptance test without any complaints and thereby once again demonstrated their functionality and quality.

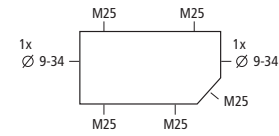


Rapid-Box HT 16²

190 x 447 x 105 mm



Cable junction and connection enclosure with IP66/67 in accordance with EN 61439, with electric intrinsic fire resistance E30 – E90 in accordance with DIN 4102 part 12. Pressure and suction tight in accordance with Gotthard guideline. Halogen-free enclosure made of special heat resistant plastic, terminals made of special high-temperature-resistant ceramic. External fixing lugs and cover screws made of stainless steel 1.4571



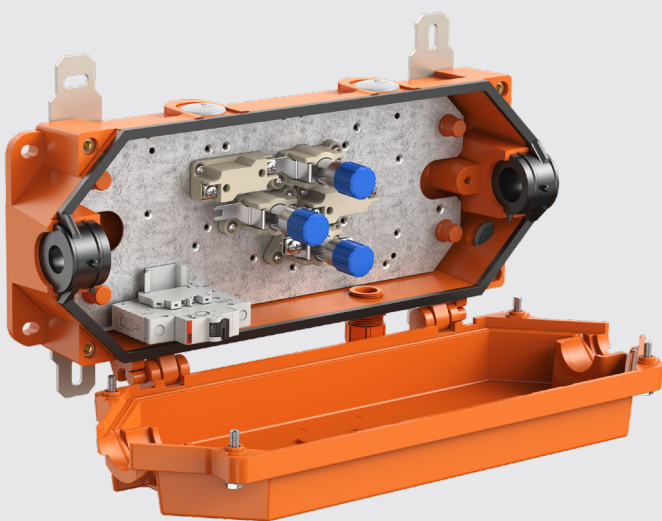
Accessories supplied:

- 2 off M25 cable gland, sealing range 9-16mm
- 4 off M25 locking screws

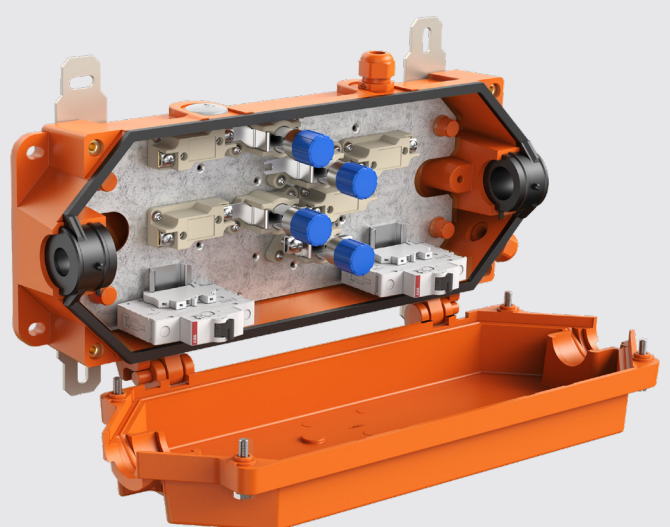
Description	Order no.
Rapid-Box HT 1x3 16² 1F Feed-through: 3-pole terminal for uncut wires, clamping range for uncut wire 2.5mm ² to 25mm ² , clamping range for cut wire 2.5mm ² to 16mm ² , rated current 63A. Fuse and feedback-free junction 3-pole up to 2.5mm ² , fuse protection with 1 x circuit breaker, unipolar B16, pre-wired, sealing area main cable: 17 - 22 mm (other sealing areas on request)	30232116
Rapid-Box HT 2x3 16² 2F Feed-through: 4-pole terminal for uncut wire, clamping range for uncut wire 2.5mm ² to 25mm ² , clamping range for cut wire 2.5mm ² to 16mm ² , rated current 63A. Fuse and feedback-free junction 4-pole up to 2.5mm ² , fuse protection with 2 x circuit breaker, unipolar B10, pre-wired, sealing area main cable: 17 - 22 mm (other sealing areas on request)	30244216

Rapid-Box^{HT} 1x3 16² 1F

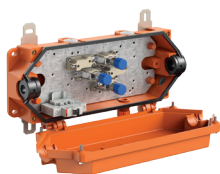
Rapid-Box^{HT} 2x3 16² 2F



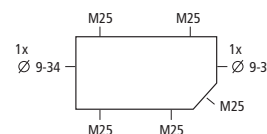
Art. 302 321 16



Art. 302 442 16



Cable junction and connection enclosure with IP66/67 in accordance with EN 61439, with electric intrinsic fire resistance E30 – E90 in accordance with DIN 4102 part 12. Pressure and suction-tight in accordance with Gotthard guideline. Halogen-free enclosure made of special heat resistant plastic, terminals made of special high-temperature-resistant ceramic. External fixing lugs and cover screws made of stainless steel 1.4571



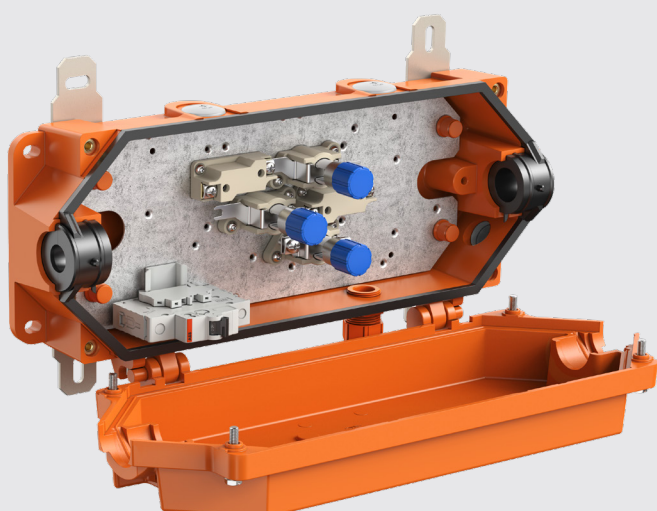
Accessories supplied:

- 2 off M25 cable gland, sealing area 9-16mm
- 4 off M25 locking screws

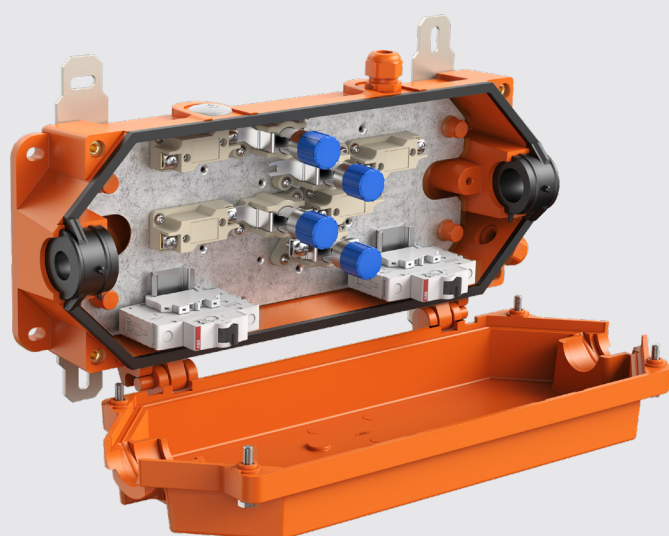
Description	Order no.
<p>Rapid-Box HT 1x3 50² 1F Feed-through: 3-pole terminal for uncut wire, clamping range for uncut wire 16mm² to 50mm², clamping range for cut wire 16mm² to 35mm², rated current 100A. Fuse and feedback-free junction 3-pole up to 2.5mm², fuse protection with 1 x circuit breaker, unipolar B16, pre-wired, sealing area main cable: 21 - 26 mm (other sealing areas on request)</p>	30232150
<p>Rapid-Box HT 2x3 50² 2F Feed-through: 4-pole terminal for uncut wire, clamping range for uncut wire 16mm² to 50mm², clamping range for cut wire 16mm² to 35mm², rated current 100A. Fuse and feedback-free junction 4-pole up to 2.5mm², fuse protection with 2 x circuit breaker, unipolar B10, pre-wired, sealing area main cable: 21 - 26 mm (other sealing areas on request)</p>	30244250

Rapid-Box^{HT} 1x3 50² 1F

Rapid-Box^{HT} 2x3 50² 2F



Art. 302 321 50



Art. 302 442 50



Testing the compressive strength according to specifications of Alp Transit



Spelsberg offers architects, planners and installers a unique fire protection system, which is based on an extremely comprehensive inspection and certificate portfolio. Areas of application are, in particular, special constructions according to MBO including specifications in accordance with MLAR. This portfolio allows the planning and installation to be kept to a low level of effort, which makes individual cost-intensive approvals redundant.

Being the only fire protection enclosure series, the **Rapidbox^{HT}** series allows the implementation of a cost-effective line installation with uncut cables. In use, on the one hand the enclosures offer the comfort as junction box with electrically safeguarded junction using circuit breakers or also D01 Neozed fusing elements. It also offers the simple extension of cables up to a cross-section of 35 mm².

The **WKE 6 T** and **Rapidbox^{HT}** are designed particularly for use in road as well as railway tunnels. The series comply with the pressure and suction test according to the specification of Alp Transit Gotthard AG. The fire protection system of the **WKE 6 T** and **Rapidbox^{HT}** is unique in all areas of electrotechnical fire protection installation enclosures.



SAFE | TESTED | CERTIFIED



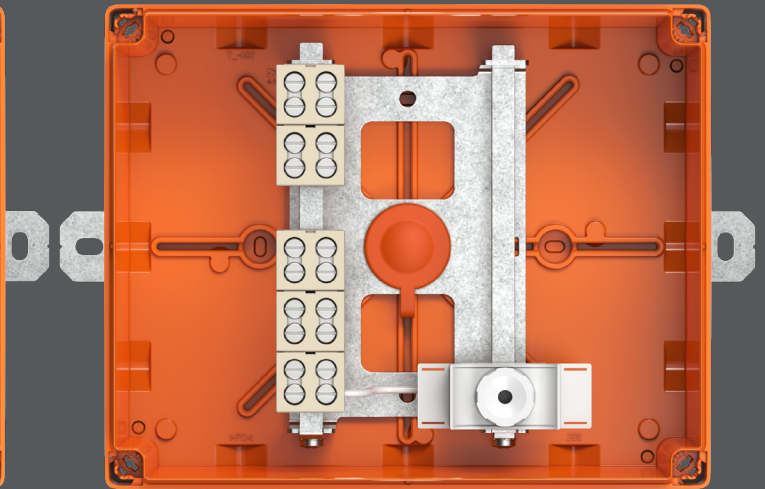
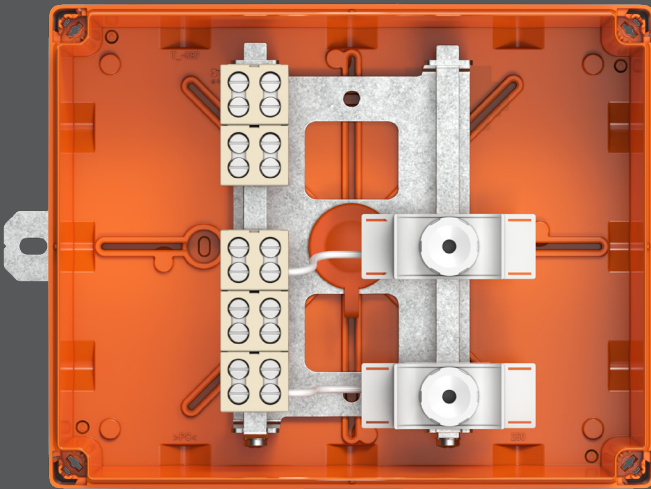
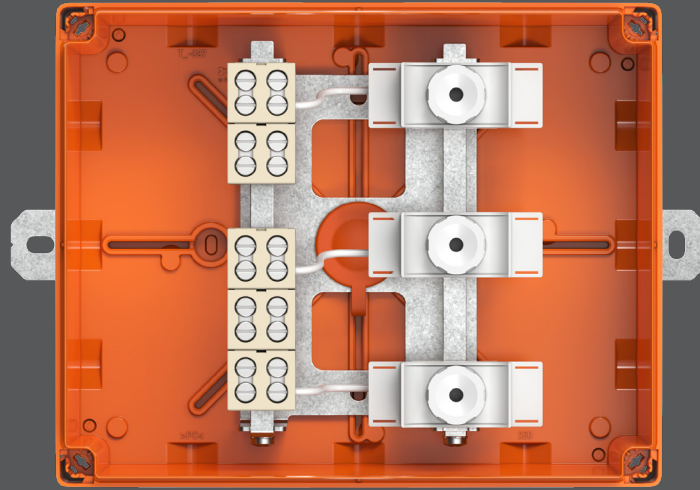
The certification in accordance with DIN 4102-12 and EN 61439 under special operating conditions was carried out by the DMT Dortmund and Underwriters Laboratories UL. Both enclosure series offer a fire protection classification according to DIN 4102-12 of E30 E60 E90.

Inspections and certifications at a glance

- MPA tested according to DIN 4102-12
- UL EU certified enclosure according to EN 61439-1-2
- RUAG tested pressure and suction test according to specifications of Alp Transit Gotthard AG
- VDE certified enclosure according to DIN EN 60670-1 and EN 60670-22

100% RELIABLE IN AN EMERGENCY CASE





When setting up fire protection systems in tunnel engineering, the special influences must be considered. Installed junction and connection boxes are exposed to moisture, dirt as well as pressure and suction forces. With the new WKE 6 T variants, there is a powerful successor to the proven WKE 54 junction box. Thanks to IP 66, protection is given against dust, contact and hose water.

With an impact class of IK08, the boxes can withstand high mechanical impacts.

What's new?

- Patented deflection diaphragms permit simple installation.
- Patented terminal holder system, can be positioned in steps of 90°

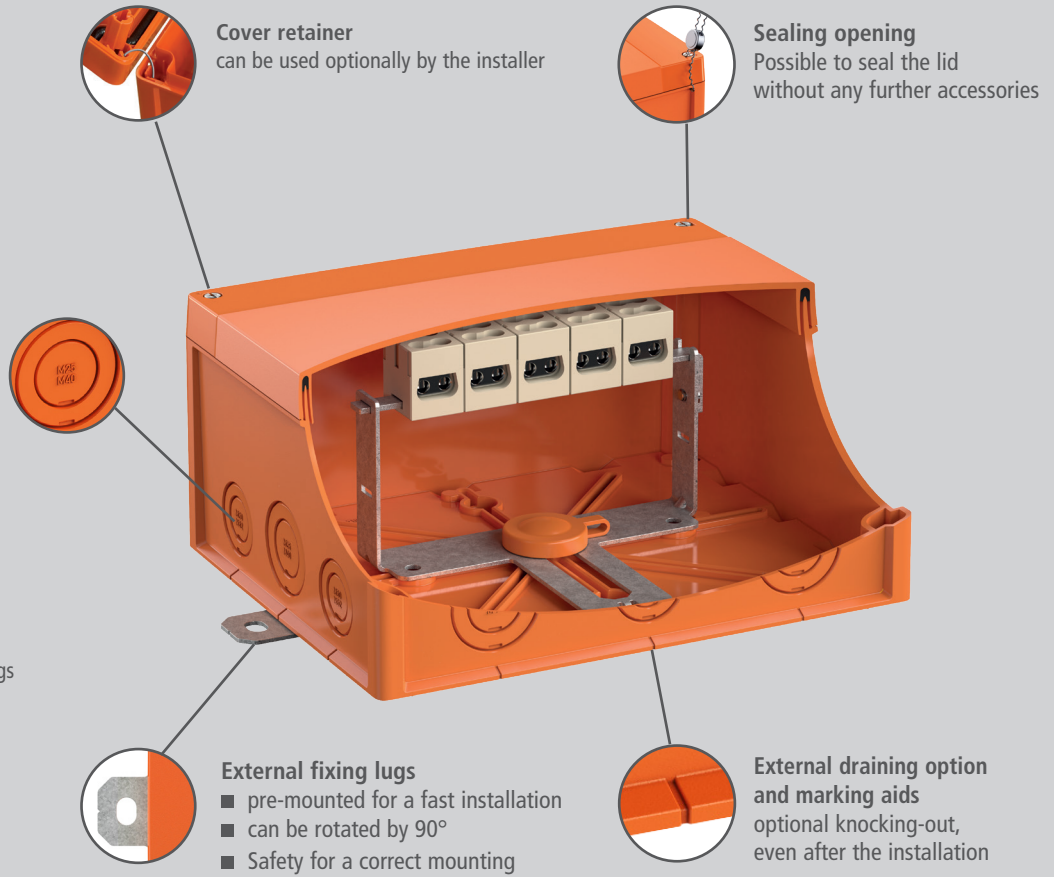
- Available in 4 variants, also without fuse
- The lid screws are made of stainless steel 1.4578 (V4A)
- External fixing lugs (ideal for quick assembly) are made of high corrosion-resistant stainless steel 1.4571 (V4A).
- Fuse in the junction up to 3 x D01



WKE 6 T | FOR USE IN TUNNELS

Knockouts with multiple knockout options

- optimised positioning of the knockouts
 - adjusted to the fixing systems
 - Easy locking of counter nuts
- Patented knockouts
 - Integrated knocking-out aid
 - easy and clean knocking-out
- continuous centre markings on the boxes and external fixing lugs



- Central fixing using one screw accessible at all times
- Use of all cable entries with raised terminal possible

Lifted position:

- easy handling of the wires
- **safe assembly of the cables possible by adhering to the bending radii**

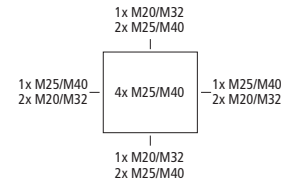
Bottom position:

- ideal for special solutions
- use of, e.g. D0 fuses (for WKE 6 T up to three fuse holders D01)





Cable junction and connection boxes with IP66 certified in accordance with EN 60670 and IEC 62208, with electric intrinsic fire resistance E30 – E90 in accordance with DIN 4102 part 12. Pressure/Suction tight according to Gotthard guideline. Halogen-free housing made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, adjustable clamp mounting (45° increments), quick assembly thanks to external fixing lug made of stainless steel 1.4571. Cover screws made of stainless steel 1.4578



Accessories supplied:

2 x cable gland M40, sealing range 16 - 28 mm,
 1 x cable gland M32, sealing area 11 - 21 mm,
 each 1 x double membrane seals M32 and M40 for sealing accidentally opened push-out membranes.

Description

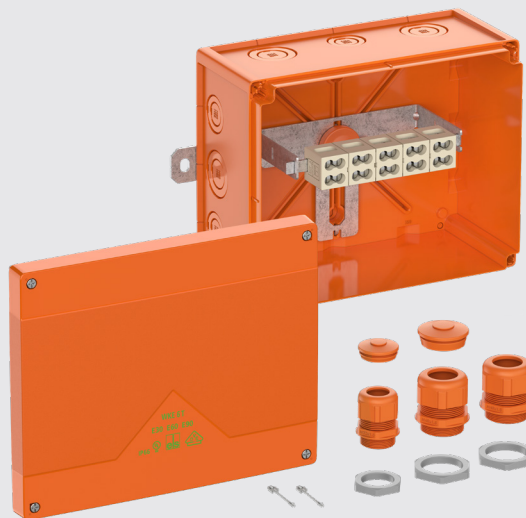
WKE 6 T Duo 5 x 16²

Connection box 5-pole 1.5 - 16 mm², junction box 5-pole 1.5 - 16 mm², no. of clamped wires per pole: 20 x 1.5² / 16 x 2.5² / 12 x 4² / 8 x 6² / 4 x 10² / 4 x 16²

Order no.

86763001

WKE 6 T DUO



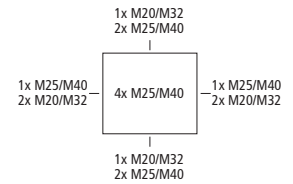
Art. 867 630 01

WKE 6 T with D01

200 x 250 x 120 mm



Cable junction and connection box with IP66, certified according to EN 61439 and IEC 62208 with electrical function integrity E30 - E90 according to DIN 4102 part 12. Pressure and suction-tight according to Gotthard guideline. Halogen-free housing made of special thermoplastic, terminals made of high-temperature resistant special ceramic, terminal bracket can be positioned in 90 ° steps, quick assembly using external mounting brackets made of stainless steel 1.4571. Cover screws made of stainless steel 1.4578.



Accessories supplied:

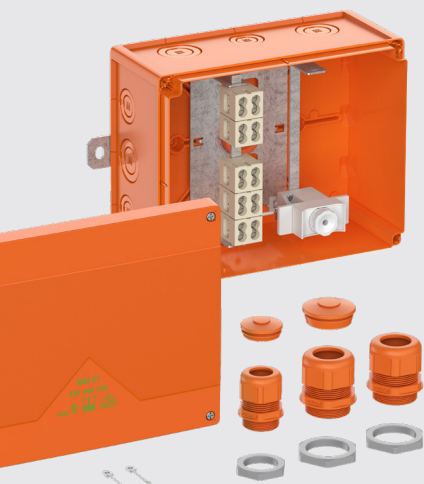
2 x cable gland M40, sealing area 16 - 28 mm,
 1 x cable gland M32, sealing area 11 - 21 mm,
 each 1 x double membrane seals M32 and M40 for sealing accidentally opened push-out membranes.

Description	Order no.
WKE 6 T 1D01 Connection box 5-pole 1.5 - 16 mm ² , junction box 3-pole 1.5 - 4 mm ² , fuse in junction 1 x socket D01 (without insert), max. no. of clamped wires per terminal point 5 x 1.5 ² / 4 x 2.5 ² / 2 x 4 ² / 2 x 6 ² / 1 x 10 ² / 1 x 16 ²	86963101
WKE 6 T 2D01 Connection box 5-pole 1.5 - 16 mm ² , junction box 4-pole 1.5 - 4 mm ² , fuse in junction 2 x socket D01 (without insert), max. no. of clamped wires per terminal point 5 x 1.5 ² / 4 x 2.5 ² / 2 x 4 ² / 2 x 6 ² / 1 x 10 ² / 1 x 16 ²	86963201
WKE 6 T 3D01 Connection box 5-pole 1.5 - 16 mm ² , junction box 5-pole 1.5 - 4 mm ² , fuse in junction 3 x socket D01 (without insert), max. no. of clamped wires per terminal point 5 x 1.5 ² / 4 x 2.5 ² / 2 x 4 ² / 2 x 6 ² / 1 x 10 ² / 1 x 16 ²	86963301

WKE 6 T 1D01

WKE 6 T 2D01

WKE 6 T 3D01



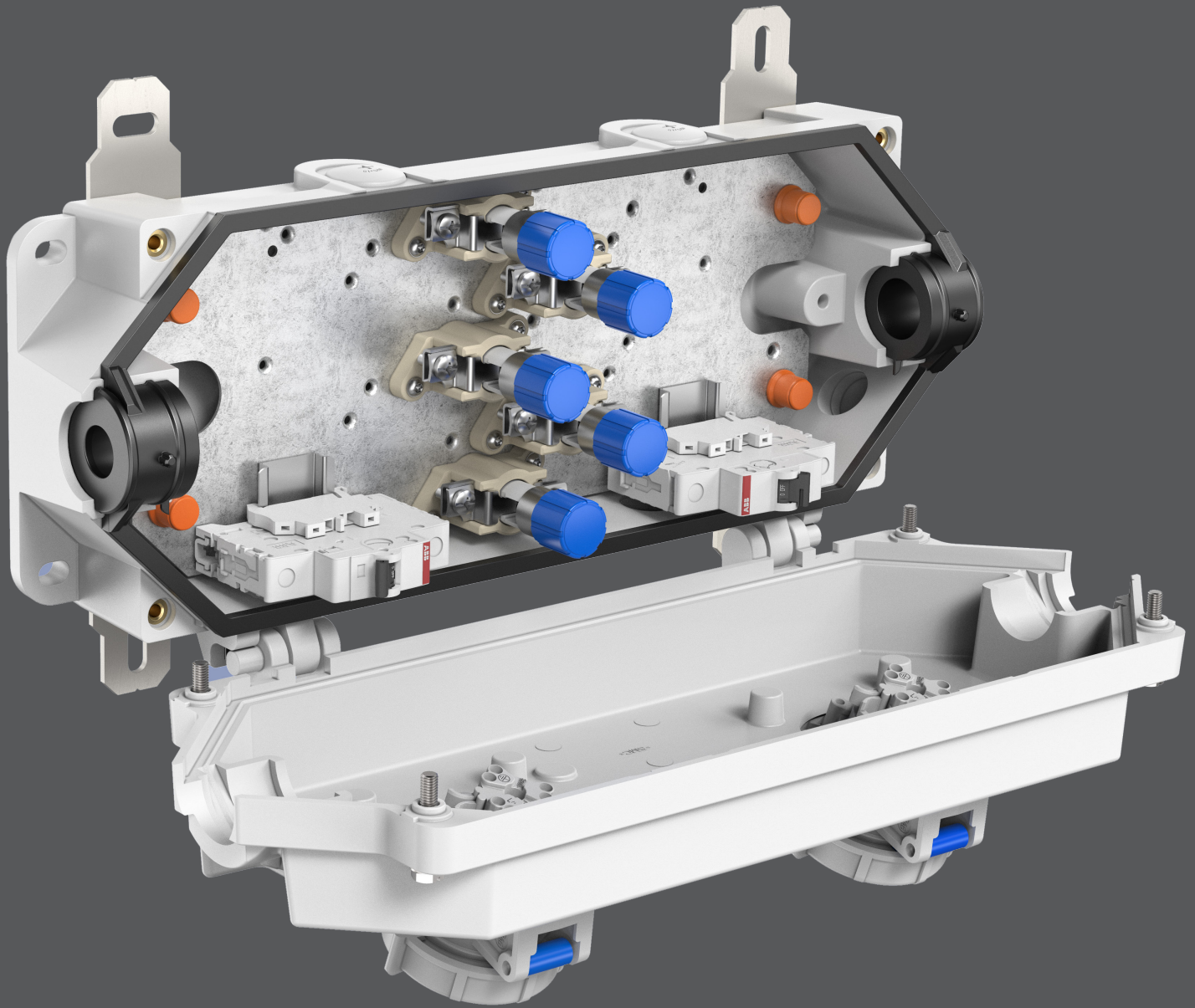
Art. 869 631 01



Art. 869 632 01



Art. 869 633 01



Rapid-Box STANDARD

- Switchgear combination according to EN 61439

Junction options:

- Safeguarded junction via M25 cable glands, maximum 16 A
- Safeguarded junction via M25 cable glands, maximum 40 A
- Junction per pole up to 6 mm²
- 3-pin CEE sockets mounted in the cover, 16 A fuse
- 5-pin CEE socket mounted in the cover, 10 A fuse
- Other versions available on request

IP66
IP67

50²

6²

IK09



halogen-free

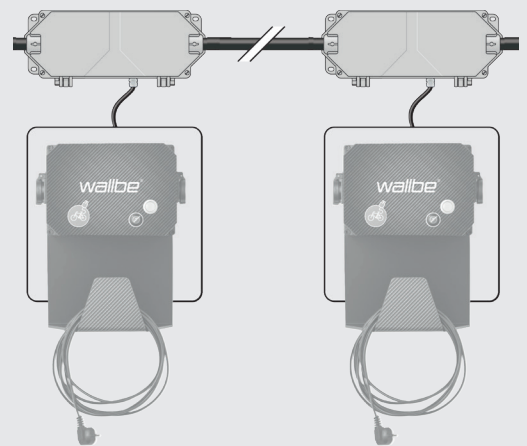
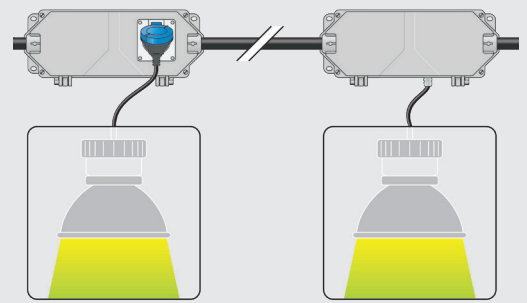
low
smoke

iQ

Rapid-Box STANDARD | THE SOLID BASIC VERSION



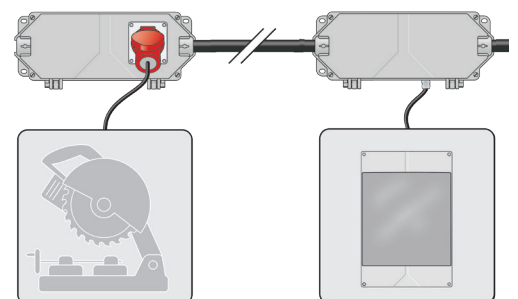
Application examples:

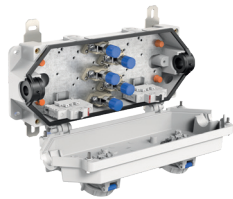


Rapid-Box STANDARD

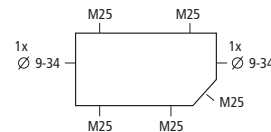
In large scale construction projects such as industrial halls or high-rise buildings, extensive cable systems are necessary. Here, with longer line routes, it is particularly economical if you can tap-off for sockets or lamps in a comfortable and a safe manner, for example. The Rapid-Box from Spelsberg is optimally designed for this purpose.

The robust enclosure is developed especially for the safeguarded tapping of uncut conductors up to 50 mm² (Cu). The safeguarded tapping is carried out either with a line (up to 6 mm²) or a CEE socket (3-pin or 5-pin) mounted in the enclosure cover. The Rapid-Box is supplied completely pre-wired with fuses and sockets. You do not need any longer than 15 minutes for the assembly, which significantly reduces the effort for assembly and installation.





Cable junction and connection housing with IP66/67 in accordance with EN 61439. Pressure/Suction tight in accordance with Gotthard guideline. Halogen-free housing made of special thermosetting plastic, terminals made of special high-temperature-resistant ceramic. External fixing lugs and cover screws made of stainless steel 1.4571

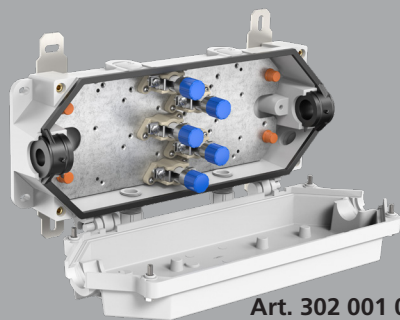


Accessories supplied:

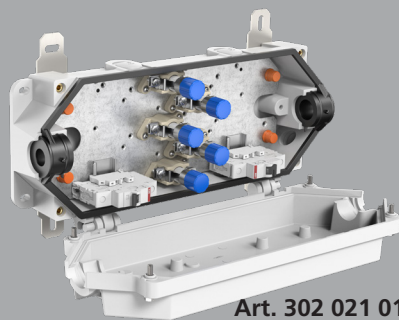
- 2 off M25 cable gland, sealing range 9-16mm
- 4 off M25 locking screws

Description	Order no.
<p>Rapid-Box 16² 2x5 Feed-through: 5-pole terminal for uncut wire, clamping range for uncut wire 2.5mm² to 25mm², clamping range for cut wire 2.5mm² to 16mm², rated current 63A. T-piece 5-pole 2 x 2.5 - 6 mm², rated current 40A, sealing area, main cable: 17 - 22 mm (other sealing areas on request)</p>	30200101
<p>Rapid-Box 16² 2x3 2F Feed-through: 5-pole terminal for uncut wire, clamping range for uncut wire 2.5mm² to 25mm², clamping range for cut wire 2.5mm² to 16mm², rated current 63A. Fused T-piece 4-pole up to 6mm², fused by 2 x circuit breakers unipolar B10, pre-wired, sealing area, main cable: 17 - 22 mm (other sealing areas on request)</p>	30202101
<p>Rapid-Box 16² 2x3 STV Feed-through: 5-pole terminal for uncut wire, clamping range for uncut wire 2.5mm² to 25mm², clamping range for cut wire 2.5mm² to 16mm², rated current 63A. Mounted in cover, 2 off CEE socket 3-pole 16A, fused by 2 x circuit breakers, unipolar B10, pre-wired, sealing area, main cable: 17 - 22 mm (other sealing areas on request)</p>	30204101
<p>Rapid-Box 16² 1x5 STV Feed-through: 5-pole terminal for uncut wire, clamping range for uncut wire 2.5mm² to 25mm², clamping range for cut wire 2.5mm² to 16mm², rated current 63A. Mounted in cover, 1 off CEE socket 5-pole 16A, fused by 3 x circuit breakers, unipolar B10, pre-wired, sealing area, main cable: 17 - 22 mm (other sealing areas on request)</p>	30205101

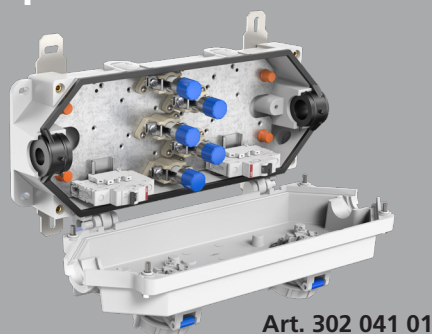
Rapid-Box 16² 2x5



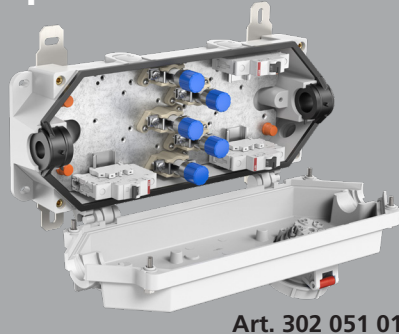
Rapid-Box 16² 2x3 2F

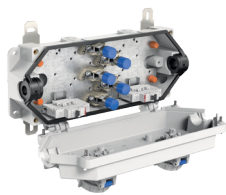


Rapid-Box 16² 2x3 STV

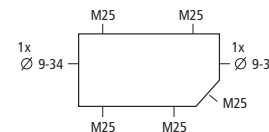


Rapid-Box 16² 1x5 STV





Cable junction and connection housing with IP66/67 in accordance with EN 61439. Pressure/Suction tight in accordance with Gotthard guideline. Halogen-free housing made of special thermosetting plastic, terminals made of special high-temperature-resistant ceramic. External fixing lugs and cover screws made of stainless steel 1.4571

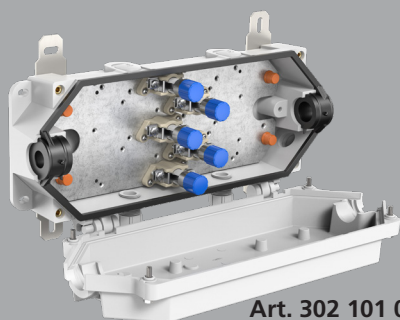


Accessories supplied:

- 2 off M25 cable gland, sealing range 9-16mm
- 4 off M25 locking screws

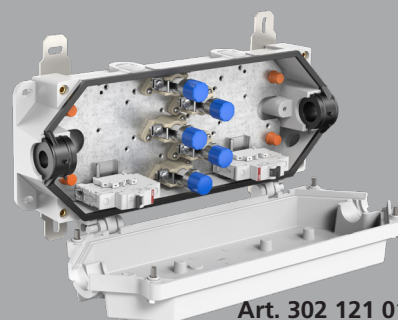
Description	Order no.
<p>Rapid-Box 50² 2x5 Feed-through: 5-pole terminal for uncut wire, clamping range for uncut wire 16mm² to 50mm², clamping range for cut wire 16mm² to 35mm², rated current 100A. T-piece 5-pole 2 x 2.5 - 6 mm², rated current 40A. Sealing area, main cable: 21 - 26 mm (other sealing areas on request)</p>	30210101
<p>Rapid-Box 50² 2x3 2F Feed-through: 5-pole terminal for uncut wire, clamping range for uncut wire 16mm² to 50mm², clamping range for cut wire 16mm² to 35mm², rated current 100A. Fused T-piece 4-pole up to 6mm², fused by 2 x circuit breakers unipolar B10, pre-wired. Sealing area, main cable: 21 - 26 mm (other sealing areas on request)</p>	30212101
<p>Rapid-Box 50² 2x3 STV Feed-through: 5-pole terminal for uncut wire, clamping range for uncut wire 16mm² to 50mm², clamping range for cut wire 16mm² to 35mm², rated current 100A. Mounted in cover, 2 off CEE socket 3-pole 16A, fused by 2 x circuit breakers, unipolar B10, pre-wired. Sealing area, main cable: 21 - 26 mm (other sealing areas on request)</p>	30214101
<p>Rapid-Box 50² 1x5 STV Feed-through: 5-pole terminal for uncut wire, clamping range for uncut wire 16mm² to 50mm², clamping range for cut wire 16mm² to 35mm², rated current 100A. Mounted in cover, 1 off CEE socket 5-pole 16A, fused by 3 x circuit breakers, unipolar B10, pre-wired. Sealing area, main cable: 21 - 26 mm (other sealing areas on request)</p>	30215101

Rapid-Box 50² 2x5



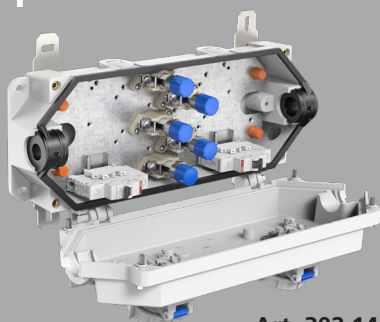
Art. 302 101 01

Rapid-Box 50² 2x3 2F



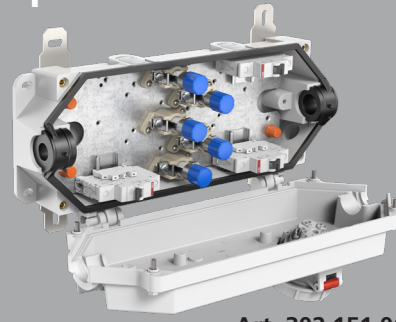
Art. 302 121 01

Rapid-Box 50² 2x3 STV

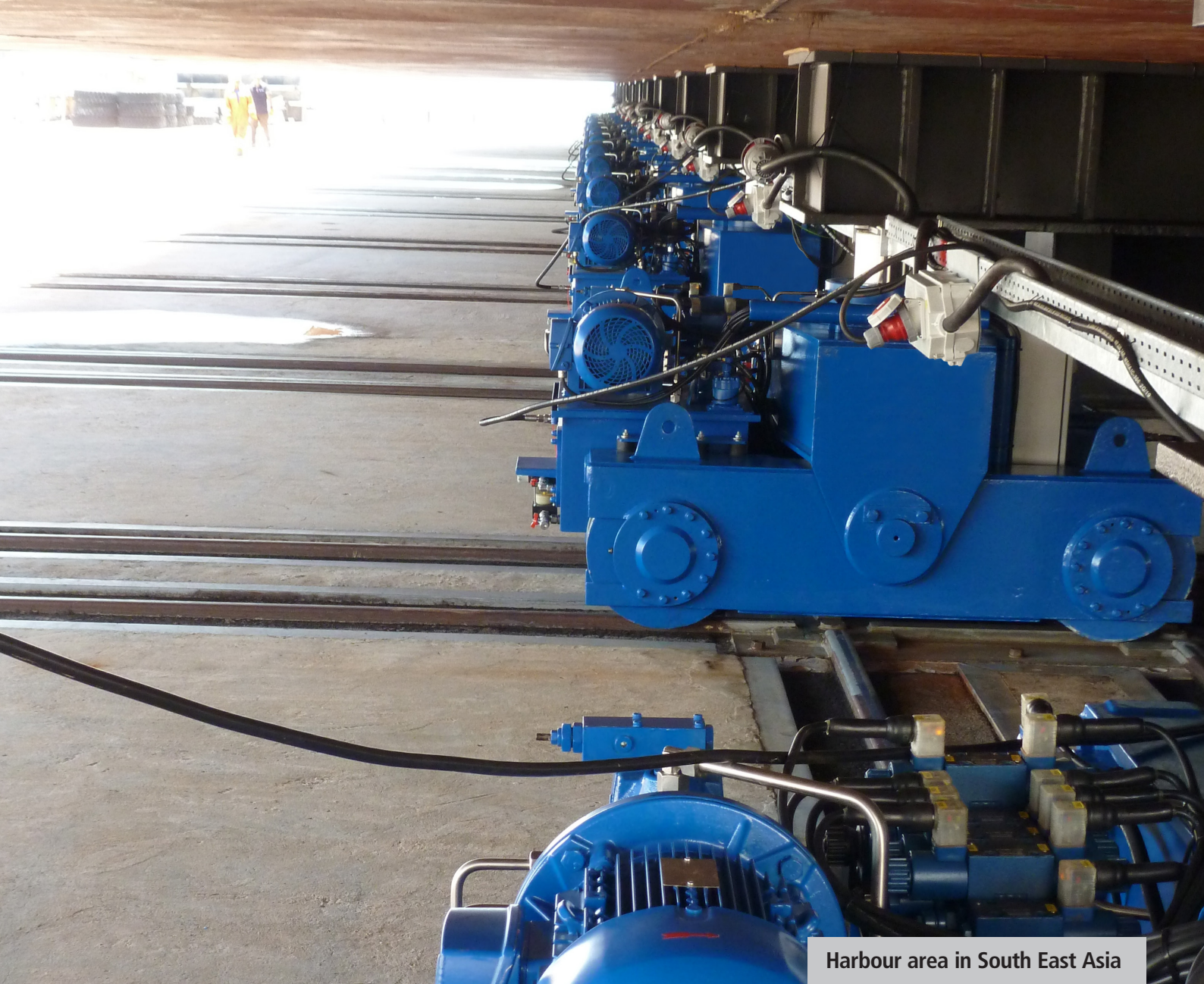


Art. 302 141 01

Rapid-Box 50² 1x5 STV



Art. 302 151 01



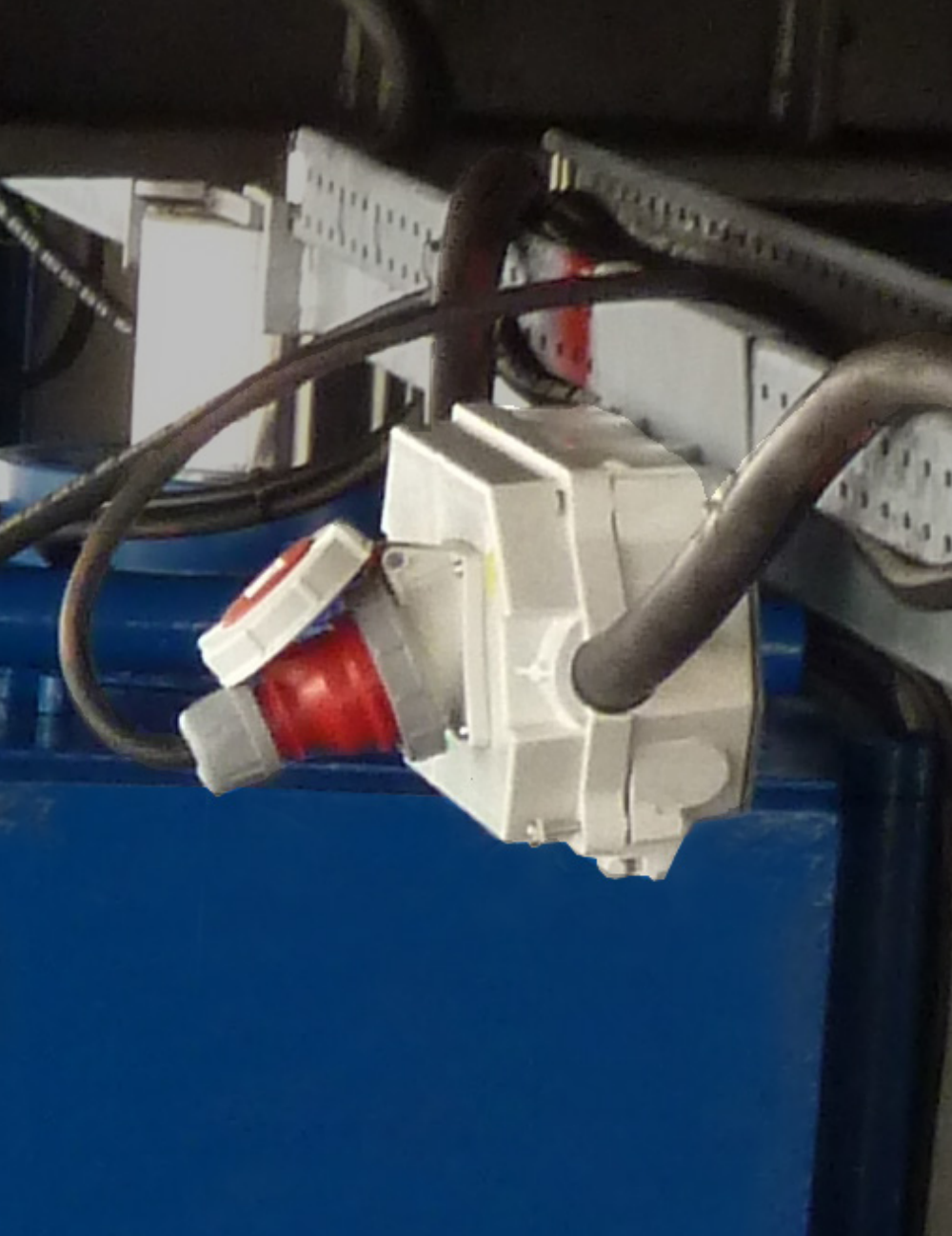
Harbour area in South East Asia

Even under utmost individual and demanding conditions, the Rapid boxes from Spelsberg show their strengths such as resilience, flexibility and easy handling. An example for this is their use in a harbour area in South East Asia: For the construction of a heavy-duty transport system, the WETEC Group from Mülheim an der Ruhr, Germany, the leading supplier of switchgear and control systems as well as electrical, automation and system

solutions, required a reliable enclosure system especially for the fused branching of uncut conductors.

The system in the harbour basin serves the loading and unloading as well as the movement of ships. For this purpose, a floating platform is initially lowered and then raised above the waterline to allow a ship above it to rest safely on mobile heavy-duty transport trolleys.

As each transport trolley can carry a maximum load of 130 tonnes, further systems have to be added or disconnected depending on the size and weight of the ship. For the WETEC Group, the highest level of flexibility was therefore a decisive factor in the cable junction. Moreover, due to the circumstances on site, a solution with a high level of IP protection was required.



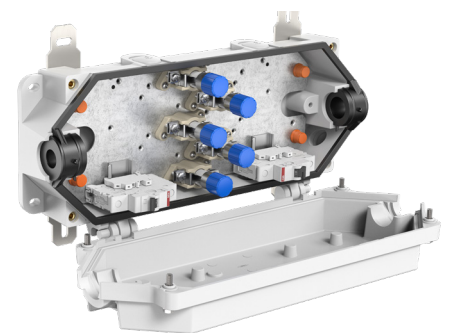
“We are more than satisfied with the product solutions as well as consultation provided by Spelsberg.

The Rapid-Boxes fully meet our requirements. Moreover, the Spelsberg team always provided us with competent support and made a significant contribution to the fast implementation of the project” said Uwe Wilmschen, CEO of the WETEC Group.



The long lasting good cooperation between the **WETEC Group** and **Spelsberg** made the expert for enclosure technology and electrical installations the first point of contact for finding a solution. In a very short time, Spelsberg provided an initial sample with Rapid-Boxes and consulted its customer with regard to technology and functionality.

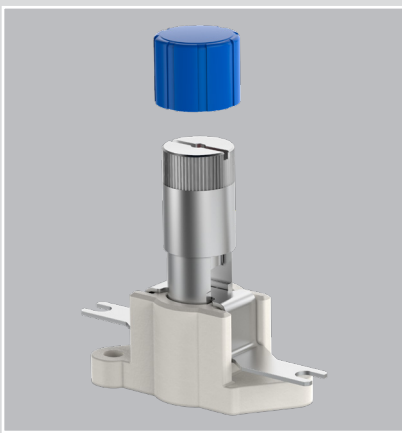
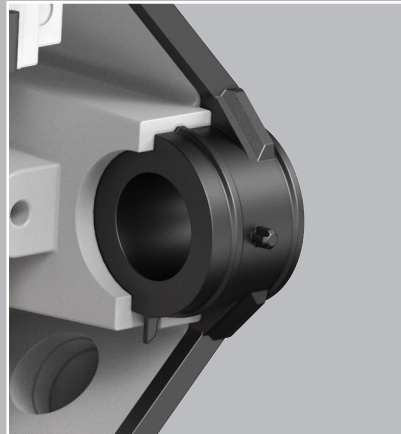
Due to the Rapid-Box system, which enables the installation of uncut cables, the effort for installation was reduced to a minimum. In the meantime, the Rapid-Boxes from Spelsberg are in daily use in the heavy-duty transport system for connecting the individual transport trolleys. The products convinced the responsible persons of the WETEC Group in particular with regard to their robustness, tightness and easy handling during assembly.



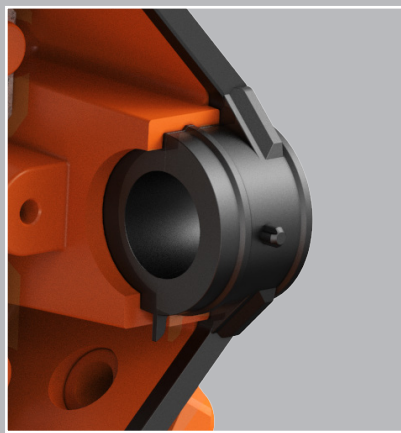
Rapid-Box STANDARD | WAS ABLE TO CONVINC



Terminal Rapid-Box Standard



Terminal Rapid-Box^{HT}



Connection terminals

- Variable terminal allocation 2 - 5 pin
- Maintenance-free terminals with spring-loaded mantle nut
- **Screw terminals 6 mm² for junction (2 per pole)**
- With Rapid-Box^{HT} junction via HTE up to 2.5 mm²

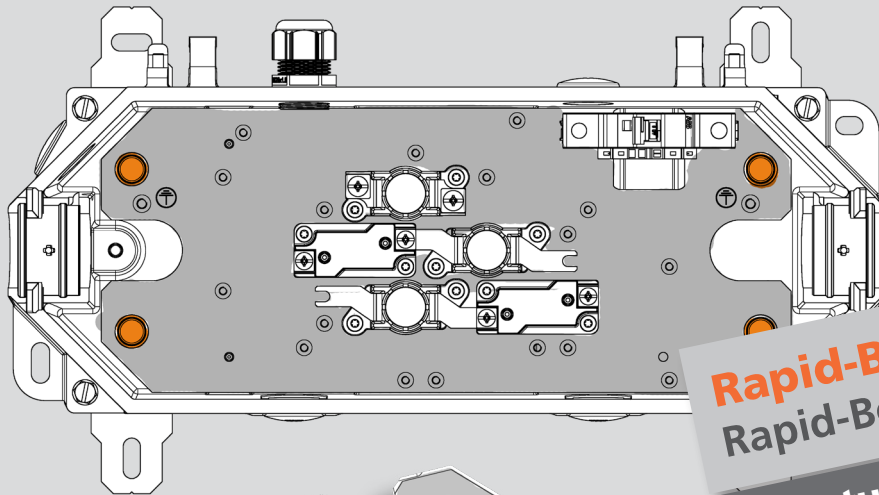
One part silicone seals

- Silicone seals including cable entry
- Flexible cable entries from Ø 9 - 34 mm possible
- Seal for optional wire diameter:
 - 9 - 14 mm
 - 13 - 18 mm
 - 17 - 22 mm
 - 21 - 26 mm
 - 25 - 30 mm
 - 29 - 32 mm
 - 32 - 34 mm

Optional external ground terminal

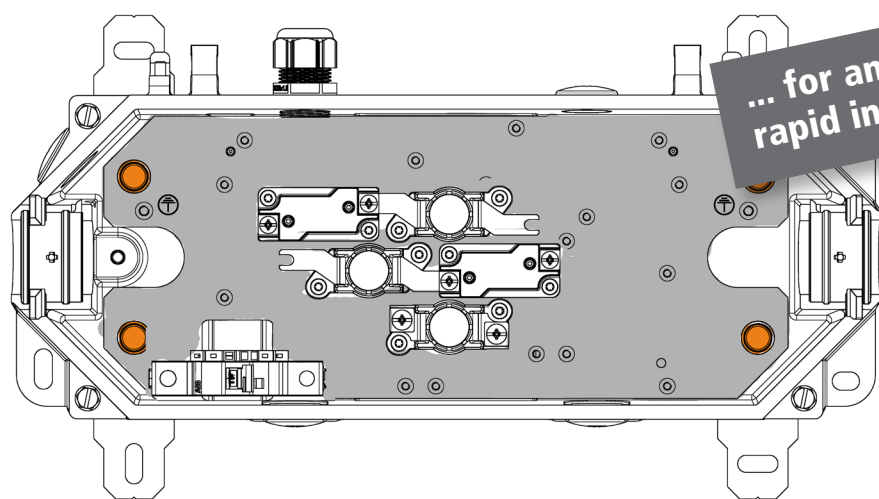
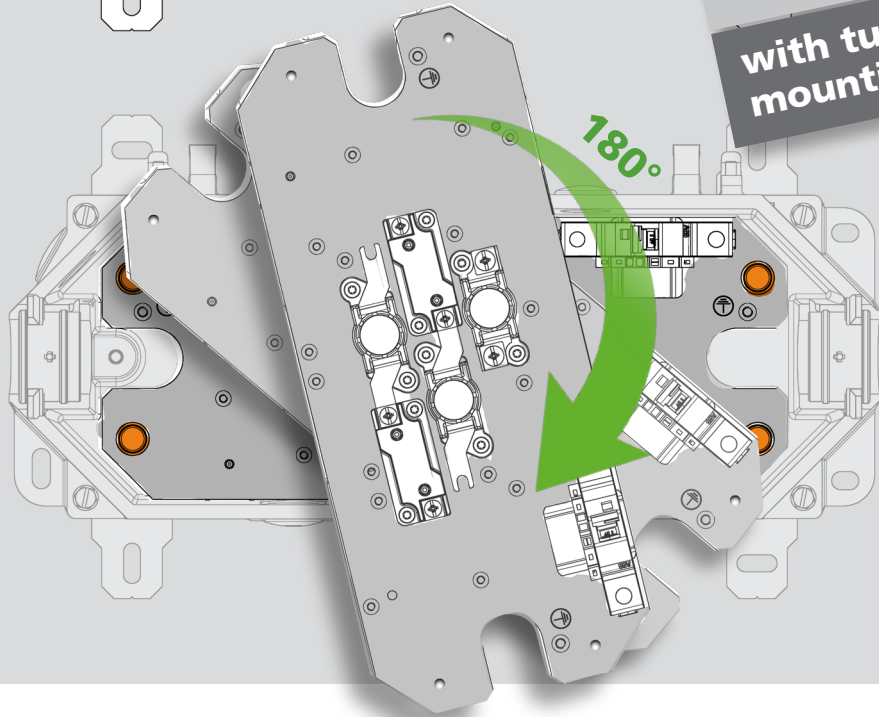
- Equipping of each variant with an external ground terminal possible through the assembly of a PE contact on the enclosure.
- Protection class I
- Grounding of all metal parts within the enclosure through contacting with external PE contact

1



Rapid-Box^{HT} +
Rapid-Box STANDARD
with turnable
mounting plate

2



... for an easy &
rapid installation





Rapid-Box^{HT} – guarantees the function



[www.spelsberg.com/
electrical-functional-integrity-in-tunnels](http://www.spelsberg.com/electrical-functional-integrity-in-tunnels)

of **life-saving** electrical systems



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