els spelsberg



CATALOGUE 2020 I 21

safe.inspiring.green.

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The publication of the catalogue invalidates all previous prices. Prices as of 01/01/2020. Illustrations are non-binding, particularly as regard the design, size and colour of the products. We reserve the right to make modifications in price, technology and design. Errors in this catalogue are due to formatting errors and do not provide the right to reductions or similar.



When you turn to Spelsberg, you are choosing a partner who is always a step ahead thanks to several decades of experience with state-of-the-art technology. High-quality, refined products and a strong focus on customers assures maximum assurance for everyone involved.

This applies for the functionality of the components - all process steps from consultation and offer preparation to delivery and service, which guarantees that our customers will feel secure with us. In the process, we keep everyone in mind: the assembler who installs our products quickly and easily and our partners in retail, for whom ordering and stocking of products are made easy with modular designs and accompanying accessories.

The enthusiasm and knowledge of our employees are the essential key to our success. Consequently, unique, high-quality products and tailored solution are only possible with the commitment and passion of our staff. Our customers value us as a series supplier with a comprehensive catalogue and finely tuned systems.

We are also an expert consultant for demanding questions involving the housing. We develop, test and produce tailor-made, comprehensive solutions - but we also make small adjustments according to customer wishes.

Our founder, Ernst Spelsberg would certainly be proud that his values still guide our company after four generations and our staff has the same pioneering spirit of the early years of the company.

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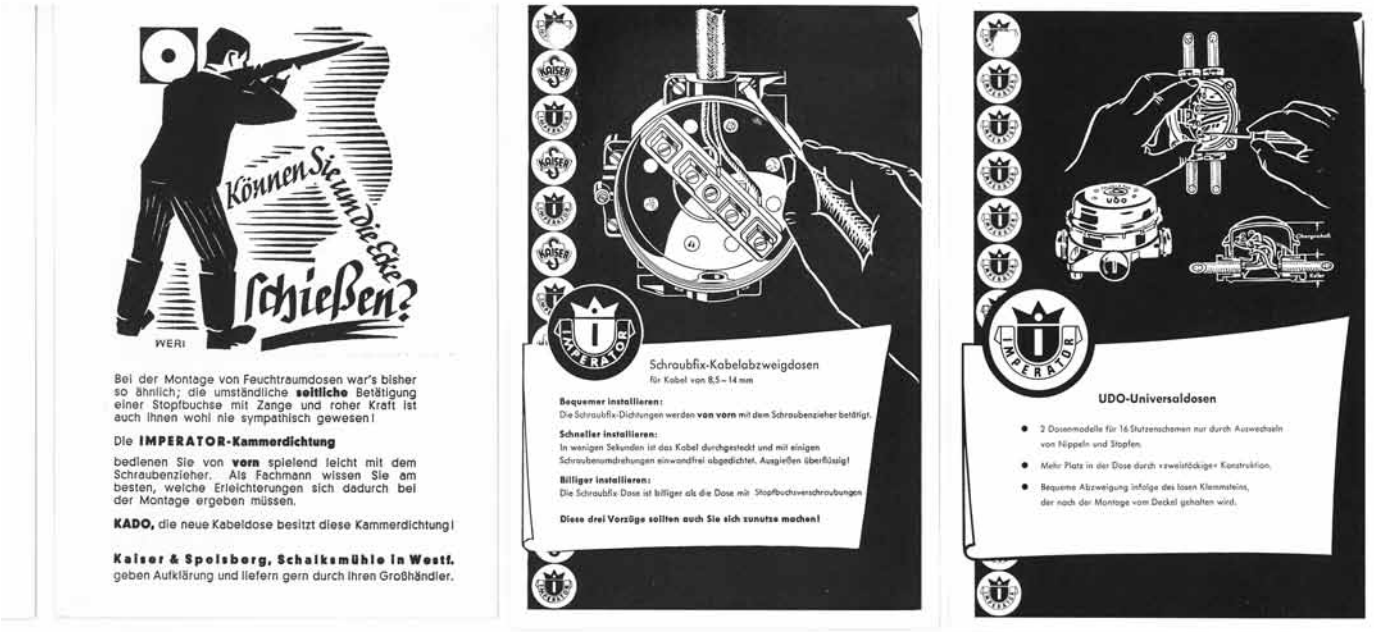
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Southern Europe





What began with the **vision** of the founding father, Ernst Spelsberg - of making electrical installation **easier** and **safer** - is still being rigorously pursued today in the fourth generation of the family business.

Practical brand-name products for the branching, protection and distribution of electrical power have long been part of our daily business. But we have never lost sight of our **pioneering spirit** and make every effort to develop safer, user-specific products. **Spelsberg makes life easier for customers.**

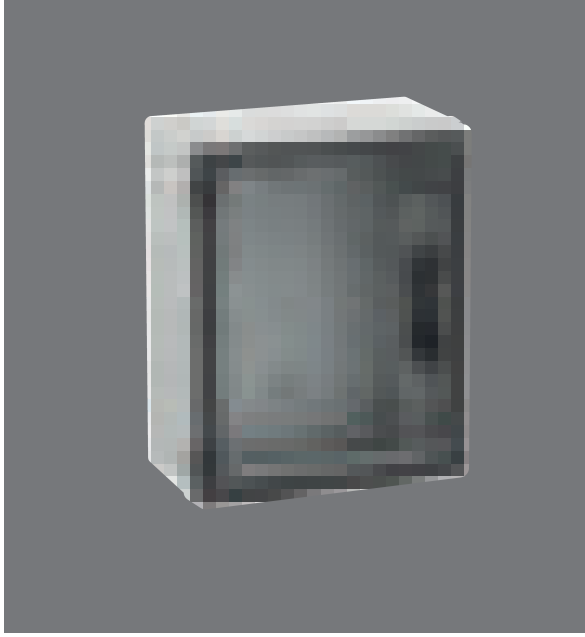


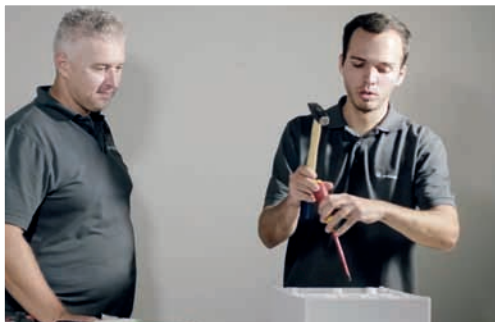
Founding father **Ernst Spelsberg**

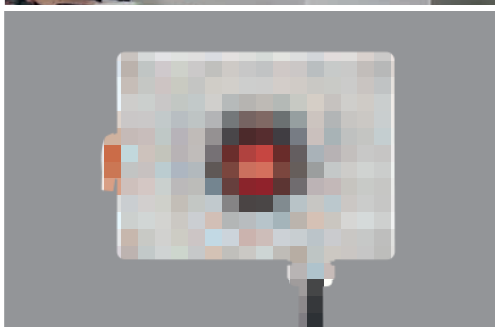


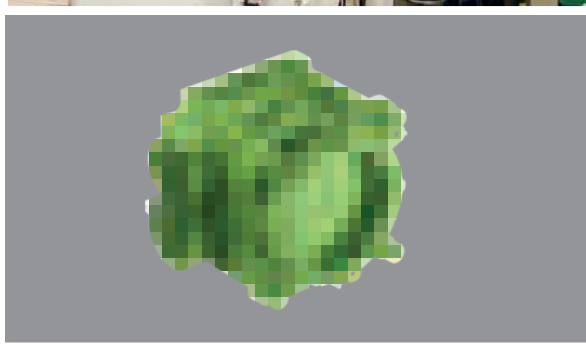
Gave his name **Günther Spelsberg**









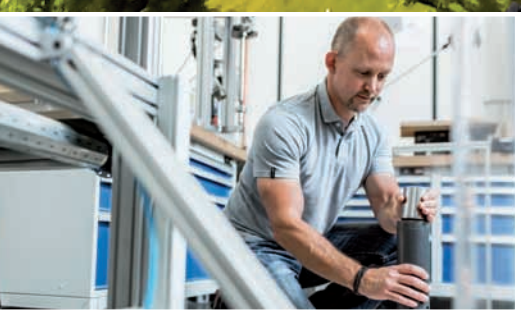
Regardless of whether non-standard small enclosure, customised enclosure or complete modules – we are a committed development partner as regards the implementation of customer wishes. By focusing on the project business, we create tailor-made, individual solutions for industry every day.

Located fully, at the site in Schalksmühle, a consistent process chain – from project management through development, construction, prototyping, tool design, tool making and production – enables fast, high-quality implementation of projects. Testing and certifications in accordance with VDE and UL are carried out in our in-house testing laboratory.

More than 700 active tools weighing up to 8.9 tons. Use of more than 2,500 tons of material per year.

Our eyes on the future





IK level impact testing



Enclosure production



Tool production

Customers who purchase products from Spelsberg receive brand-name quality that is developed, manufactured and tested in Germany. In addition to our headquarters in Schalksmühle, we have a production facility in Buttstädt, Thüringen. Spelsberg is also represented by a dense network of company-owned subsidiaries and sales offices worldwide.

Schalksmühle – where it all began!

Spelsberg is still headquartered in the city where the first insulating tubes were developed and manufactured in 1904. The company grew continuously and increasingly expanded its production facilities until it outgrew the city centre. As a result, the company relocated to an industrial area in the 1990s, where the new administrative and production centre was built. All technical departments work together closely and are interlinked there. This is the driving force behind the innovative power and short reaction times. Therefore, it is only natural to always remain a step ahead within the sector.

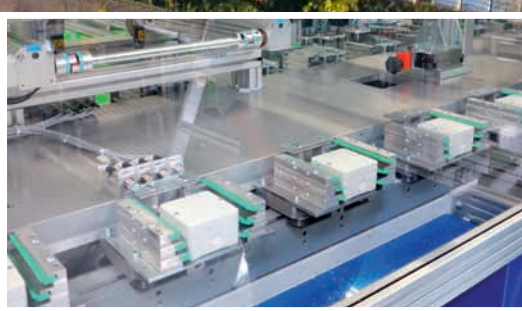




Small distribution board production



Silos



Automation Abox junction boxes

Buttstädt – Production facility

The more than 100 million plastic parts produced by Spelsberg each year do not originate from Schalksmühle alone. The company has also a production location in Buttstädt, Thüringen, where the high-quality enclosures are manufactured.

Whether a two-component injection mould, seal foam or a custom mix of materials, Buttstädt also provides the expected variety and quality with state-of-the-art machinery park and a large supply of tools.

Production facility Buttstädt (Thuringia)



UL impact testing

When you are looking for tested safety and brand-name quality, Spelsberg is the answer. We only use high-quality brand-name European raw materials for the more than 100 million injection-moulded parts that we produce each year. We use a total of 400 raw material types – 95 per cent of which are produced according to our own recipe.

Our products with especially high durability bear the iQ mark for industrial quality. Spelsberg operates an in-house test laboratory at its headquarters in Schalksmühle for certification purposes. The laboratory and devices are not just VDE-certified, they are also UL-certified, thus enabling all of the necessary inspections for the international use of series products and special solutions to be conducted in-house.

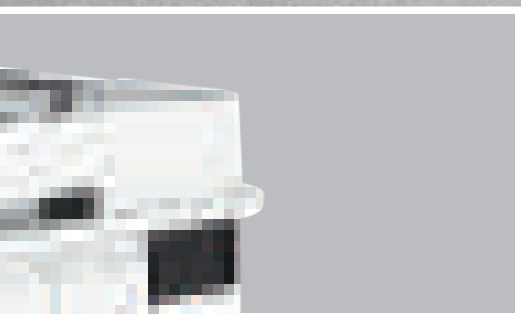
This possibility is especially important when developing tailor-made solutions together with our partners. The aim here is to help our customers get their products to market readiness as rapidly as possible.



Water protection testing

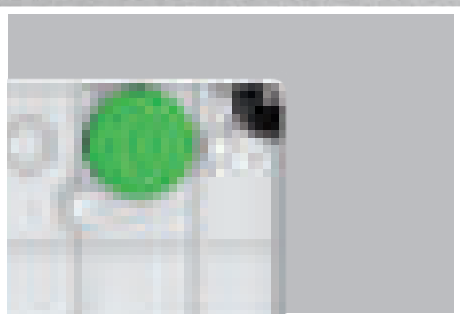
The test laboratory is equipped to state-of-the-art standards and is the subject of ongoing further development. UL conducts and annual audit as part of the Client Test Data Program to assure that work continues to be carried out at a consistently high standard.





All-Round protection through „Drain Protect“

- Lasting protection against moisture
- High protection class IP66 / IP67



Protection against condensate water

- Preparation for BEL Air M40 ventilation elements (protection class IP65)



Extremly durable plastic enclosure with low weight

- For fast and easy machining with low weight
- Extremely durable: No corrosion after mechanical processing
- High impact resistance - IK09

NEW!



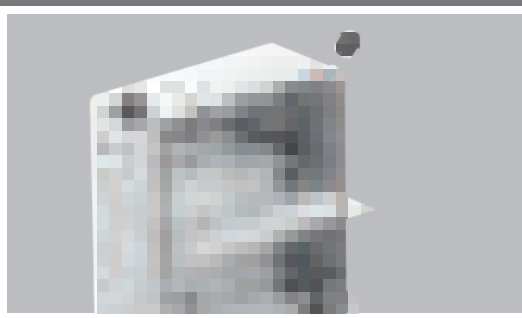
Customized solutions

- Drilling and milling
- Customised printing
- Wiring
- Testing
- Customised packaging



Varied closure systems

- Free choice between screw closure and quick-release closure or triangular screws

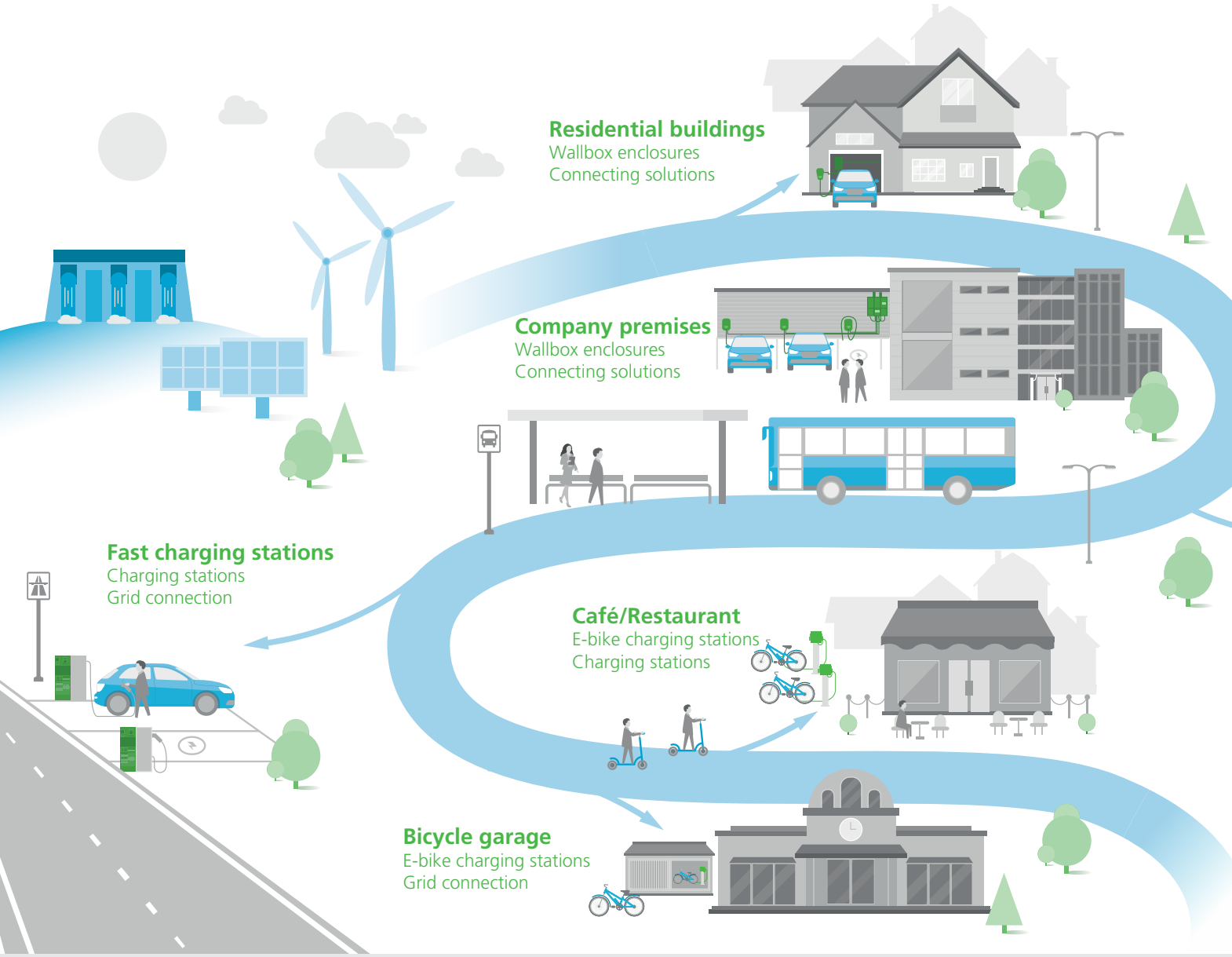


Flexible use of the components

- Flexible use of the components
- Modular installation system

IP66 IP67 | TYPE 4X | IK09 | 1000V AC | 1500V DC | halogen-free | iQ

TOUGH. FLEXIBLE. SAFE.



Spelsberg makes power accessible for e-mobility - for everyone at any time

The innovative and certified wallboxes for both semi-public and residential areas make e-mobility accessible for companies and private users. Different versions of charging stations with outdoor enclosures and grid connection or including power distribution for the semi-public and public area reliably supply e-cars, e-buses, e-bikes and e-scooters with sustainable energy. Even with the fast charging variant Spelsberg offers solutions including transducer current measuring following regional requirements for power connection.

The Spelsberg e-bike charging system offers four charging points, an operator portal as well as an app to easily locate the next charging station.



NEW!

From now on, Spelsberg will unite its first-class solutions for electrical functional integrity under a new brand: LIFELINE stands for the intelligent integration of innovative product designs with high quality heat and fire resistant materials and components. Consequently, it is ensured that in case of fire all the relevant safety systems continue to work without interruption even under the toughest conditions.

More fire protection. More safety. More trust.

LIFELINE is the technology for life. With the knowledge and experience of our competent staff, we take responsibility every day to make the world a little safer. The smart fire safety solutions of LIFELINE offer first-class quality, which can be relied upon in emergencies. LIFELINE protects all life and assets without compromises and guarantees the best form of sustained fire safety.

High technical performance.

Only reliable products can ensure the electrical functional integrity and protect life in case of a fire. LIFELINE guarantees the function of life-saving electrical systems in buildings and tunnels, such as emergency lighting and smoke extraction systems in escape and rescue routes. As a leading manufacturer of high quality junction and connection boxes and robust surface-mounted small distribution boards, Spelsberg has always been strongly positioned with the LIFELINE brand for the development of fire protection solutions, particularly in these product segments.

Electrical function integrity E30 to E90

The junction boxes as well as the WKE-AK small distributors of LIFELINE provide electrical functional integrity between 30 and 90 minutes in the event of a fire. In doing so, the classes E30 to E90 identify the minimum duration for the functional integrity of the electrical systems.
LIFELINE ensures that the function of fire alarm systems, acoustic systems, emergency lighting or elevators with evacuation function is maintained for at least 30 minutes during an emergency. And in the case of pressure boosting systems for the extinguishing water supply, smoke and heat exhaust ventilation systems or for fire brigade lifts for at least 90 minutes. Guaranteed.



LIFELINE - Smart fire protection solutions

NEW!



Class of protection (IP code) acc. to DIN EN 60529 (VDE 0470-1)



Maximum number of **modules**



Electrical functional integrity acc. to DIN 4102-12
"E" stands for functional integrity, "30-90" stands for the duration in minutes.



Tested acc. to DIN 4102-2. **Functional integrity F90** (according to E90)
for protecting the electrical installations as per MLAR 2005.
Can be individually equipped with type-tested operating materials.



Tested acc. to DIN 4102-2. **Fire load insulation F90** (according to E90)
for protecting the exit and escape routes as per MLAR 2005.



Nominal cross section The biggest permissible wire cross-section that can be connected acc. to DIN EN 60998 (VDE 0613) and DIN EN 60999 (VDE 0609)



Level of protection (IK code) to mechanical impact acc. to
DIN EN 50102 (VDE 0470-100)



Protection class II operating materials with protective insulation
acc. to DIN VDE 0100-410



Maximum **voltage DC** (DC voltage) as per product standard
(system voltage in the PV sector)



Nominal AC voltage (AC voltage).
Highest permissible voltage on the junction as per product standard



Rated current (maximum current in continuous operation) as per product standard



Products for **installation in cavity walls or furnishings** acc. to DIN VDE 0606-1



Products for **use in concrete construction** acc. to DIN VDE 0606-1



Suitable for the installation of lamps in which dichroic reflector lamps **(cool beam reflectors)** can be used. Reduces the thermal load in the light bundle.



Suitable for LED lights



Suitable for use in concrete. **Resistant to temporary temperatures of up to +90 °C** during the hardening process.



The **VDE symbol** stands for the tested safety of the product with regard to electrical, mechanical, thermal and other hazards.



c UL us (Underwriters Laboratories) **approved**
(American and Canadian approval)



UL EU New European test certificate for certification recognised across Europe.



DLG FokusTest for special innovations of machines and technical products - predominantly in agricultural and forestry applications.



AK Air Ventilation elements to prevent accumulation of condensate while maintaining protection class IP65.



Vattenfall approval



Suitable for the installation of an **electronic domestic supply meter**



Halogen-free enclosure, without halogens such as fluorine, chlorine and bromine



Industrial quality

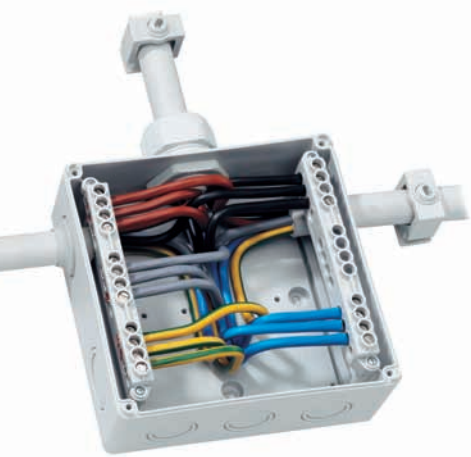


DNV-GL
The approved products are from the DNV-GL for installation on all classified ships

Standard quality

Industrial quality





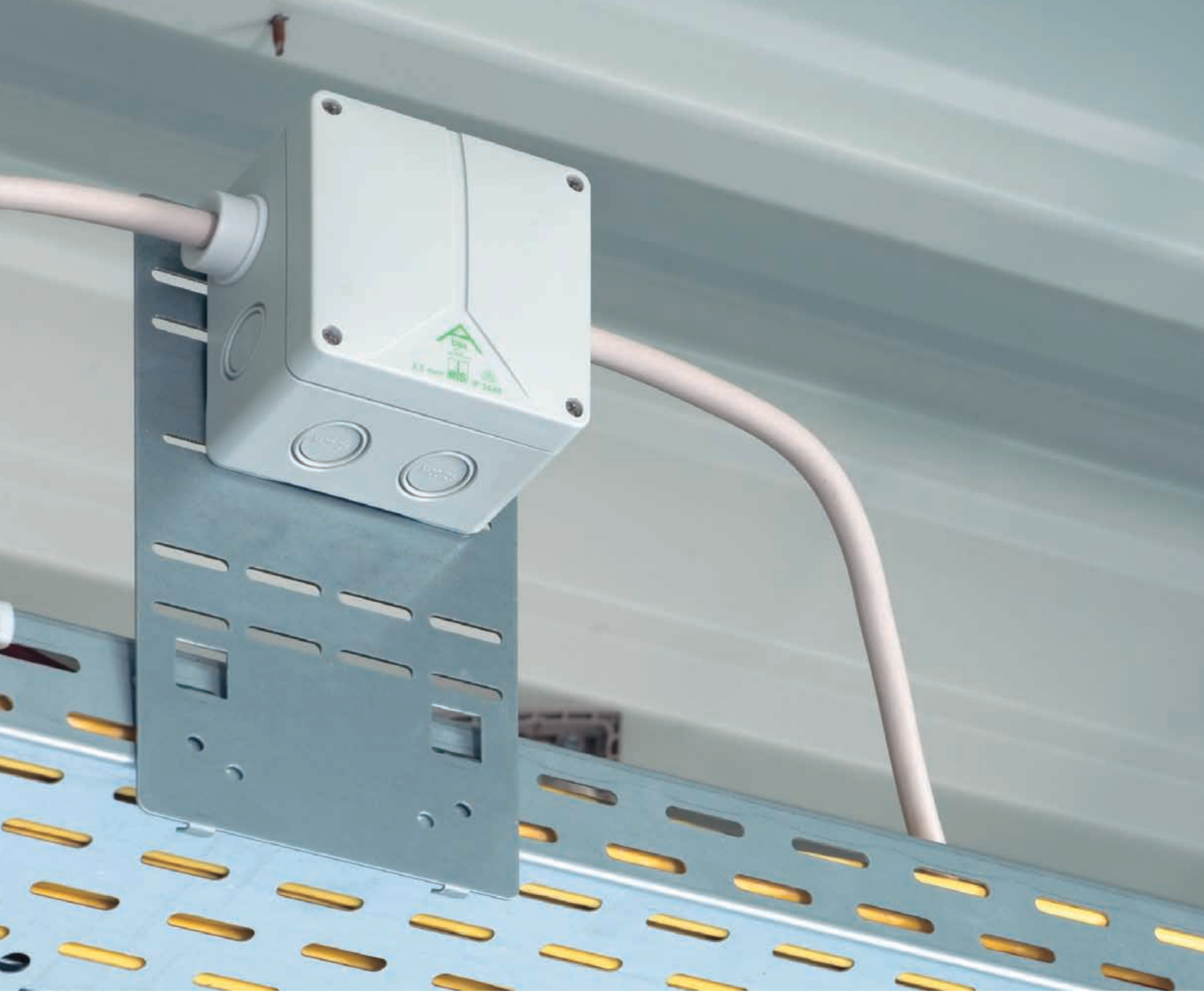
Our junction boxes offer lots of space for installation. For example, our popular Abox series with raised terminals. They allow quick and orderly wiring.

From the classic wet room installation about waterproof versions with IP68 up to junction boxes with functional integrity to E90. We have the right solution for every application.

Junction Boxes

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	**Junction boxes** IP54/IP65, protected installation, with screwless plug-in terminal	Abox SL	**42**
	Junction boxes IP65, weather-resistant, with screwless plug-in terminal	Abox-i SL	**47**
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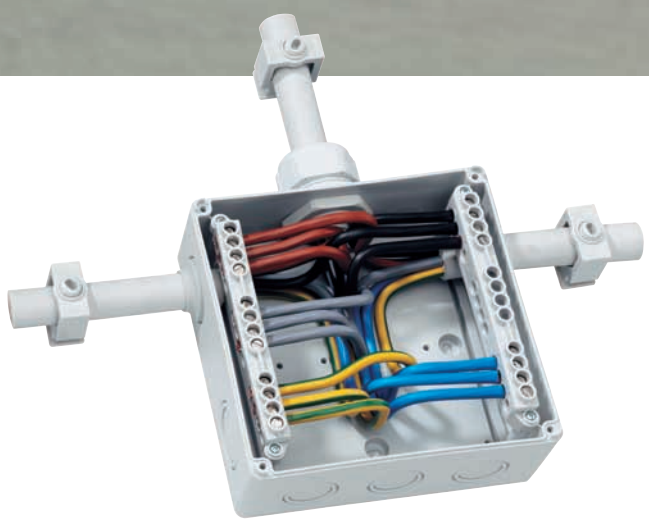


- Large room for connection
- Simple test method
- Raised terminals for quick and orderly wiring (from Abox-i 060)
- Quick installation with self-sealing membrane entries (on Abox-i 025 and 040)
- With red cover for identifying circuits for safety lighting
- Also suitable for use under extreme conditions

IP65 | 70° | IK07 | 690V AC

Junction Boxes Abox 025 to 700





- Impact-resistant and shatterproof (e.g. in sports halls)
- With red cover for identifying circuits for safety lighting
- Also suitable for use under extreme conditions

IP65 | 240² | IK08 | 690V AC | Industrial Quality

Junction Boxes Abox-*i* 025 to 2400



- Toothing for easier positioning during installation
- Abox-i m 040 with 3 x M20 knockouts on one end face
- Abox-i m 025 and Abox-i m 040: 2K cover with integrated cover seal and insulating plugs

30 new variations

(2.5 mm2 and 4 mm2) with metric knock-outs on the sides and in the base

IP65 4² IK07 690V AC

IP66 4² IK08 690V AC



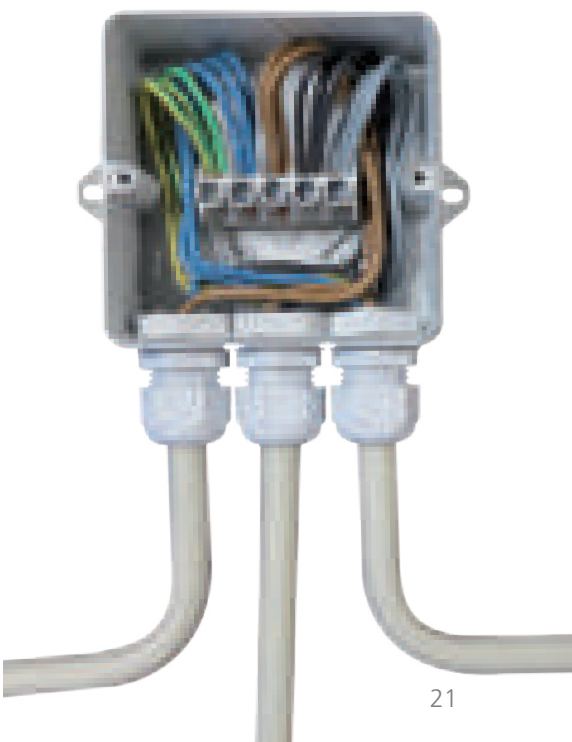
similar
RAL 7035

similar
RAL 3020

similar
RAL 9010

similar
RAL 9005

Different colours for individual applications



Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

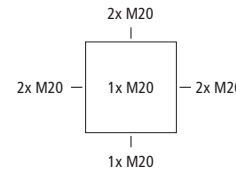
Abox m 025

82 x 82 x 52 mm



IP54 IP65 | 2,5² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with knock-outs, M20, with IP54 attachment bushes, with blanking plug M20, seal range 8 - 13.5 mm



Description		Order no.
Abox m 025-L Grey, without terminal	■	80790701
Abox m 025-2,5² Grey, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	■	80740701
Abox m 025 SB-L Red cover, without terminal, for identifying circuits for safety lighting	■	80770701

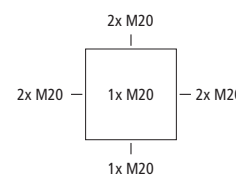
Abox m 025 AB

82 x 82 x 52 mm



IP54 IP65 | 2,5² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with knock-outs, M20, with IP54 attachment bushes, with blanking plug M20, seal range 8 - 13.5 mm, with external fixing lugs



Description		Order no.
Abox m 025 AB-L Grey, without terminal	■	80890701
Abox m 025 AB-2,5² Grey, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	■	80840701
Abox m 025 AB SB-L Red cover, without terminal, with external fixing lugs, for identifying circuits for safety lighting	■	80870701

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

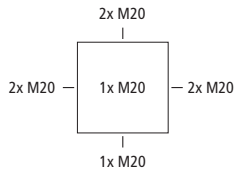
Abox-i m 025

82 x 82 x 52 mm



IP66 | 2,5² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, shock-proof, with knock-outs, M20, with IP66 double-membrane seals, M20, seal range 7 - 12 mm



Description		Order no.
Abox-i m 025-L Grey, without terminal	■	49690201
Abox-i m 025-2,5² Grey, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	■	49640201
Abox-i m 025-L/sw Black, without terminal	■	49890201
Abox-i m 025-2,5²/sw Black, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	■	49840201
Abox-i m 025 SB-L Red cover, without terminals, for identifying circuits for safety lighting	■	49670201
Abox-i m 025-L/w White, without terminals	□	48990201

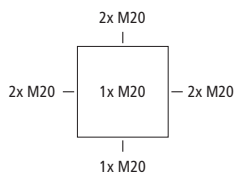
Abox-i m 025 AB

82 x 82 x 52 mm



IP66 | 2,5² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, shock-proof, with knock-outs, M20, with IP66 double-membrane seals, with external fixing lugs



Description		Order no.
Abox-i m 025 AB-L Grey, without terminal	■	49990201
Abox-i m 025 AB-2,5² Grey, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	■	49940201
Abox-i m 025 AB-L/sw Black, without terminal	■	49990301
Abox-i m 025 AB SB-L Red cover, without terminals, with external fixing lugs, for identifying circuits for safety lighting	■	49970201
Abox-i m 025 AB-L/w White, without terminals	□	48990301

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

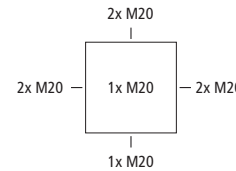
Abox 025

80 x 80 x 52 mm



IP65 | 2,5² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with self-sealing, soft inlet membranes, M20, seal range 2 - 16 mm



Description	Order no.
Abox 025-L Grey, without terminal	80290701
Abox 025-2,5² Grey, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	80240701
Abox 025-L/w white, without terminal	80260701
Abox 025-2,5²/w White, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	80210701
Abox 025 SB-L red cover, without terminal, for identifying circuits for safety lighting	80270701

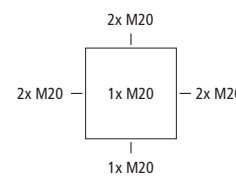
Abox 025 AB

80 x 80 x 52 mm



IP65 | 2,5² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with self-sealing, soft inlet membranes, M20, seal range 2 - 16 mm, with external fixing lugs



Description	Order no.
Abox 025 AB-L Grey, without terminal	80390701
Abox 025 AB-2,5² Grey, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	80340701
Abox 025 AB-L/w white, without terminal	80360701
Abox 025 AB-Pot Grey, with 15 mm standard rail TS 15, PE terminal strip 4²	80342701
Abox 025 AB-2,5²/w White, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	80310701

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

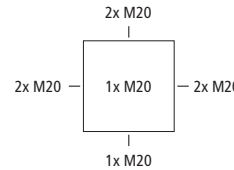
Abox-i 025

80 x 80 x 52 mm



IP65 | 2,5² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, shock-proof, halogen-free, with self-sealing, soft inlet membranes, M20, seal range 2 - 16 mm



Description		Order no.
Abox-i 025-L Grey, without terminal	■	49090201
Abox-i 025-2,5² Grey, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	■	49040201
Abox-i 025 SB-L red cover, without terminal, for identifying circuits for safety lighting	■	49070201
Abox-i 025-L/sw black, without terminal	■	49190201
Abox-i 025-2,5²/sw Black, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	■	49140201

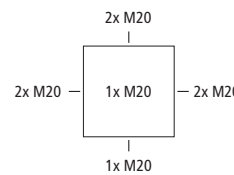
Abox-i 025 AB

80 x 80 x 52 mm



IP65 | 2,5² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, with self-sealing, soft inlet membranes, M20, seal range 2 - 16 mm, with external fixing lugs



Description		Order no.
Abox-i 025 AB-L Grey, without terminal	■	49490201
Abox-i 025 AB-2,5² Grey, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	■	49440201
Abox-i 025 SB AB-L red cover, without terminal, for identifying circuits for safety lighting	■	49470201
Abox-i 025 AB-L/sw black, without terminal	■	49190301

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

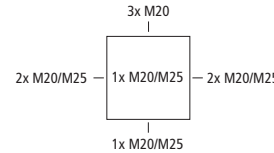
Abox m 040

94 x 94 x 56 mm



IP54 IP65 | 4² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with knock-outs, M20/M25, with IP54 attachment bushes, M20, seal range 8 - 13.5 mm, M25, seal range 9 - 18.5 mm



Description	Order no.
Abox m 040-L Grey, without terminal	81190701
Abox m 040-4² Grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 3 x 4²)	81140701
Abox m 040 SB-L Red cover, without terminals, for identifying circuits for safety lighting	81170701

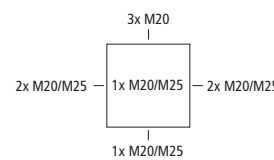
Abox m 040 AB

94 x 94 x 57 mm



IP54 IP65 | 4² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with knock-outs, M20/M25, with IP54 attachment bushes, M20, seal range 8 - 13.5 mm, M25, seal range 9 - 18.5 mm, with external fixing lugs



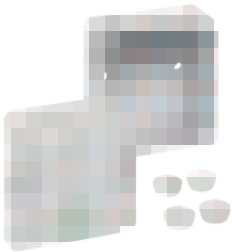
Description	Order no.
Abox m 040 AB-L Grey, without terminal	81290701
Abox m 040 AB-4² Grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 3 x 4²)	81240701
Abox m 040 AB SB-L Red cover, without terminals, with external fixing lugs, for identifying circuits for safety lighting	81270701

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

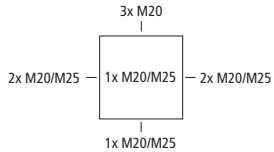
Abox-i m 040

94 x 94 x 57 mm



IP66 | 4² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, shock-proof, with knock-outs, M20, M20/M25, with IP66 double-membrane seals, M25, seal range 9 - 16 mm



Description	Order no.
Abox-i m 040-L Grey, without terminal	50190401
Abox-i m 040-4² Grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 3 x 4²)	50140401
Abox-i m 040-L/sw black, without terminal	50290401
Abox-i m 040-4²/sw Black, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 3 x 4²)	50240401
Abox-i m 040 SB-L Red cover, without terminals, for identifying circuits for safety lighting	50170401
Abox-i m 040-L/w White, without terminals	50490401

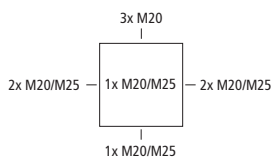
Abox-i m 040 AB

94 x 94 x 57 mm



IP66 | 4² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, shock-proof, with knock-outs, M20, M20/M25, with IP66 double-membrane seals, M25, seal range 9 - 16 mm, with external fixing lugs



Description	Order no.
Abox-i m 040 AB-L Grey, without terminal	50390401
Abox-i m 040 AB-4² Grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 3 x 4²)	50340401
Abox-i m 040 AB-L/sw black, without terminal	50390501
Abox-i m 040 AB SB-L Red cover, without terminals, for identifying circuits for safety lighting	50370401
Abox-i m 040 AB-L/w White, without terminals	50490501

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

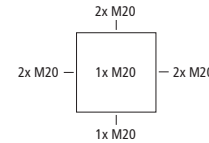
Abox 040

93 x 93 x 55 mm



IP65 | 4² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with self-sealing, soft inlet membranes, M20, seal range 2 - 16 mm



Description	Order no.
Abox 040-L Grey, without terminal	80490701
Abox 040-4² Grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 3 x 4²)	80440701
Abox 040-L/w White, without terminal	80460701
Abox 040-4²/w White, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 3 x 4²)	80410701
Abox 040 SB-L Red cover, without terminals, for identifying circuits for safety lighting	80470701

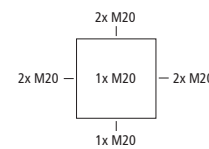
Abox 040 AB

93 x 93 x 55 mm



IP65 | 4² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with self-sealing, soft inlet membranes, M20, seal range 2 - 16 mm, with external fixing lugs



Description	Order no.
Abox 040 AB-L Grey, without terminal	80590701
Abox 040 AB-4² Grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 3 x 4²)	80540701
Abox 040 AB-L/w White, without terminal	80560701

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

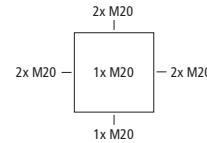
Abox-i 040

93 x 93 x 55 mm



IP65 | 4² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, shock-proof, halogen-free, with self-sealing, soft inlet membranes, M20, seal range 2 - 16 mm



Description	Order no.
Abox-i 040-L Grey, without terminal	49090401
Abox-i 040-4² Grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 3 x 4²)	49040401
Abox-i 040 SB-L Red cover, without terminals, for identifying circuits for safety lighting	49070401
Abox-i 040-L/sw Black, without terminal	49190401
Abox-i 040-4²/sw Black, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 3 x 4²)	49140401

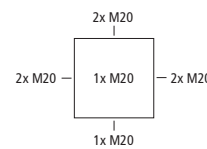
Abox-i 040 AB

93 x 93 x 55 mm



IP65 | 4² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, shock-proof, halogen-free, with self-sealing, soft inlet membranes, M20, seal range 2 - 16 mm, with external fixing lugs



Description	Order no.
Abox-i 040 AB-L Grey, without terminal	49490401
Abox-i 040 AB-4² Grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 3 x 4²)	49440401
Abox-i 040 SB AB-L Red cover, without terminal, for identifying circuits for safety lighting	49470701
Abox-i 040 AB-L/sw black, without terminal	49190501

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

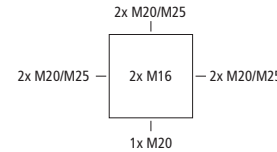
Abox 060

110 x 110 x 67 mm



IP54 IP65 | 6² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with IP54 attachment bushes, M25, seal range 9 - 18.5 mm, with blanking plug M25



Description	Order no.
Abox 060-L Grey, without terminal	80690701
Abox 060-6² Grey, with high-set screw terminal, 5-pole - 6 mm² (4 x 2.5² / 4 x 4² / 3 x 6²)	80640701
Abox 060 SB-L Red cover, without terminals, for identifying circuits for safety lighting	80670701

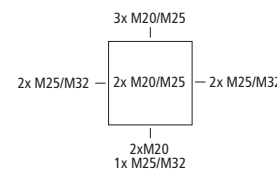
Abox 100

140 x 140 x 79 mm



IP54 IP65 | 10² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with IP54 attachment bushes, M32, seal range 13 - 23 mm, with blanking plug M32



Description	Order no.
Abox 100-L Grey, without terminal	81091001
Abox 100-10² Grey, with high-set screw terminal, 5-pole - 10 mm² (4 x 4² / 4 x 6² / 4 x 10²)	81041001

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

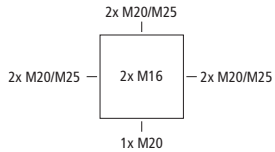
Abox-i 060

110 x 110 x 67 mm



IP65 | 6² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, shock-proof, halogen-free, with IP66 double-membrane seals, M25, seal range 9 - 16 mm



Description	Order no.
Abox-i 060-L Grey, without terminal	49090601
Abox-i 060-6² Grey, with high-set screw terminal, 5-pole - 6 mm² (4 x 2.5² / 4 x 4² / 3 x 6²)	49040601
Abox-i 060-L/sw Black, without terminal	49190601
Abox-i 060-6²/sw Black, with high-set screw terminal, 5-pole - 6 mm² (4 x 2.5² / 4 x 4² / 3 x 6²)	49140601

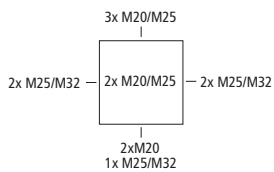
Abox-i 100

140 x 140 x 79 mm



IP65 | 10² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, shock-proof, halogen-free, with IP66 double-membrane seals, M32, seal range 14 - 21 mm



Description	Order no.
Abox-i 100-L Grey, without terminal	49091001
Abox-i 100-10² Grey, with high-set screw terminal, 5-pole - 10 mm² (4 x 4² / 4 x 6² / 4 x 10²)	49041001
Abox-i 100-L/sw Black, without terminal	49191001
Abox-i 100-10²/sw Black, with high-set screw terminals, 5-pole - 10 mm² (4 x 4² / 4 x 6² / 4 x 10²)	49141001

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

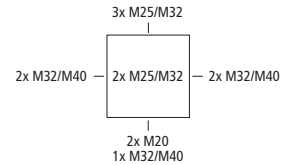
Abox 160

180 x 180 x 91 mm



IP54 IP65 | 16² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with IP54 attachment bushes, M40, seal range 17 - 30 mm, with blanking plug M40, with sealing kit



Description	Order no.
Abox 160-L Grey, without terminals	81691001
Abox 160-16² Grey, with high-set screw terminal, 5-pole - 16 mm² (4 x 6² / 4 x 10² / 4 x 16²)	81641001

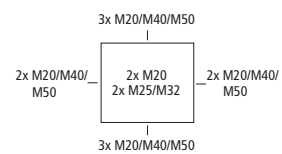
Abox 250

250 x 200 x 115 mm



IP54 IP65 | 25² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with IP54 attachment bushes, M40, seal range 17 - 30 mm, with blanking plug M40, with sealing kit



Description	Order no.
Abox 250-L Grey, without terminals	82591001
Abox 250-25² Grey, with high-set screw terminal, 5-pole - 25 mm² (4 x 10² / 4 x 16² / 4 x 25²)	82541001

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

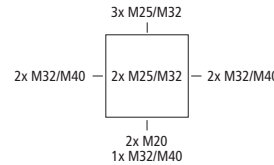
Abox-i 160

180 x 180 x 91 mm



IP65 | 16² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, shock-proof, halogen-free, with sealing kit, for suitable cable in-feeds see accessories



Description	Order no.
Abox-i 160-L Grey, without terminals	49091601
Abox-i 160-16² Grey, with high-set screw terminal, 5-pole - 16 mm² (4 x 6² / 4 x 10² / 4 x 16²)	49041601
Abox-i 160-L/sw Black, without terminals	49191601
Abox-i 160-16²/sw Black, with high-set screw terminals, 5-pole - 16 mm² (4 x 6² / 4 x 10² / 4 x 16²)	49141601

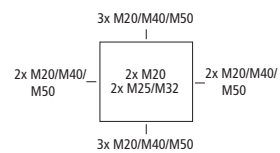
Abox-i 250

250 x 200 x 115 mm



IP65 | 25² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, shock-proof, halogen-free, with sealing kit, for suitable cable in-feeds see accessories



Description	Order no.
Abox-i 250-L Grey, without terminals	49092501
Abox-i 250-25² Grey, with high-set screw terminal, 5-pole - 25 mm² (4 x 10² / 4 x 16² / 4 x 25²)	49042501

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

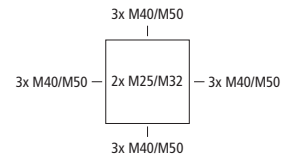
Abox 350

250 x 250 x 115 mm



IP54 IP65 | 35² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with IP54 attachment bushes, M40, seal range 17 - 30 mm, with blanking plug M40, with sealing kit



Description	Order no.
Abox 350-L Grey, without terminals	83591001
Abox 350-35² Grey, with high-set screw terminal, 5-pole - 35 mm² (4 x 10² / 4 x 16² / 4 x 25² / 4 x 35²)	83541001

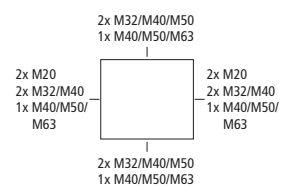
Abox 700

300 x 450 x 132 mm



IP54 IP65 | 70² | IK07 | 690V AC

Junction boxes, U_i=690V, with 3 twist nipples and lock nut, IP54, M63, seal range 24 - 43 mm, standard version sealable



Description	Order no.
Abox 700-L Grey, without terminals	87091001
Abox 700-70²/4 Grey, 4 terminal blocks 4 x 70 mm², 16-70²	87041001
Abox 700-70²/5 NEW Grey, 5 terminal blocks 4 x 70 mm², 16-70²	87041101

Recommended accessories:	Order no.
Abox 700 KLS-70² Terminal block 1-pole - 70 mm²	84007001
NS35-216/3 Standard rail Universal floor fixing, with fixing screws, length 216 mm	79503001
AK MPI 3 Mounting plate AKL/AKi 3-4, Abox 700	79500301

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

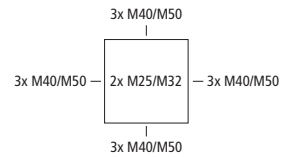
Abox-i 350

250 x 250 x 115 mm



IP65 | 35² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670 (VDE 0606), U_i=690V, weatherproof, shock-proof, halogen-free, with sealing kit, for suitable cable in-feeds see accessories



Description	Order no.
Abox-i 350-L Grey, without terminals	49093501
Abox-i 350-35² Grey, with high-set screw terminal, 5-pole - 35 mm² (4 x 10² / 4 x 16² / 4 x 25² / 4 x 35²)	49043501
Abox-i 350-L/sw Black, without terminals	49193501
Abox-i 350-35²/sw Black, with high-set screw terminals, 5-pole - 35 mm² (4 x 10² / 4 x 16² / 4 x 25² / 4 x 35²)	49143501

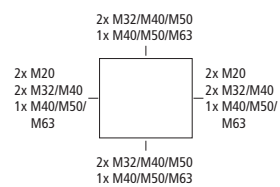
Abox-i 700

440 x 320 x 179 mm



IP65 | 70² | IK08 | 690V AC

Junction box - Industrial Quality, U_i=690V, weatherproof, shock-proof, halogen-free, sealable, for suitable cable in-feeds see accessories



Description	Order no.
Abox-i 700-70²/4 Grey, with 4-pole terminal blocks 4 x 70 mm², 16 - 70²	49047001
Abox-i 700-70²/5 NEW Grey, with 5 terminal blocks 4 x 70 mm², 16 - 70²	49047101

Recommended accessories:	Order no.
Abox 700 KLS-70² Terminal block 1-pole - 70 mm²	84007001
GKE 32 Cable entry Side of enclosure 320 mm, for 2 x 75 mm Ø cables	07303201
GKE 43 Cable entry Side of enclosure 440 mm, for 3 x 75 mm Ø cables	07304301

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

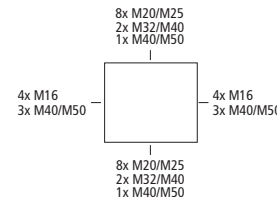
Abox-i 1500

440 x 320 x 179 mm



IP65 | 150² | IK08 | 690V AC | halogen-free | iQ

Junction box - Industrial Quality, U_i=690V, weatherproof, shock-proof, halogen-free, sealable, special screw terminal for conductor entry on top, per pole up to 2 x 150² or 4 x 70², for suitable cable in-feeds see accessories



Description	Order no.
Abox-i 1500-150²/4 Grey, 4-pole - 50 up to 2 x 150 mm², AL/CU	49048501
Abox-i 1500-150²/5 NEW Grey, 5-pole - 16 up to 150 mm², AL/CU	49048601

Recommended accessories:	Order no.
AKL 125 Terminal 250 A, for CU conductors 1x (35-150)re/rm/se/sm, 2x (16-70)re/rm/se/sm, for AL conductors 1x (35-150)re/rm/se/sm, 1x (50-120)sm, 2x (16-70)re/se, 2x (35-50)sm	07612501
GKE 32 Cable entry Side of enclosure 320 mm, for 2 x 75 mm Ø cables	07303201
GKE 43 Cable entry Side of enclosure 440 mm, for 3 x 75 mm Ø cables	07304301
GTi 1-g Empty enclosure With grey cover	01040101
GFL 20 Flange	07220001
GZE 3 Strain relief Side of enclosure 320 mm, for 1 x 75 mm cable	07300301
GFG 3 Flange bar Side of enclosure 320 mm, with sealing	07280301
GAB-ES External fixing lug External fixing lug, V2A, Set = 4 pcs.	07030001

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

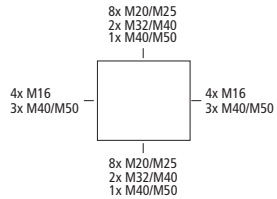
Abox-i 1500 DK

440 x 320 x 179 mm



IP65 | 150² | IK08 | 690V AC | halogen-free | iQ

Junction box - Industrial Quality, U_i=690V, weatherproof, shock-proof, halogen-free, with terminal block mounting, for suitable cable in-feeds see accessories



Description	Order no.
Abox-i 1500 DK-150²/4 Grey, with 4-pole terminal strip 50 - 150 mm²	49058501
Abox-i 1500 DK-150²/5 NEW Grey, with 5-pole terminal strip 50 - 150 mm²	49058601

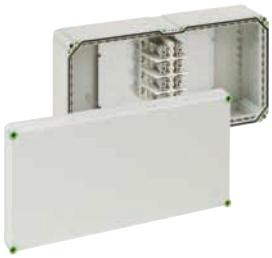
Recommended accessories:	Order no.
URS RK1-150mm² Upgrade kit for 5-pole 1-pole	67065001
GKE 32 Cable entry Side of enclosure 320 mm, for 2 x 75 mm Ø cables	07303201
GKE 43 Cable entry Side of enclosure 440 mm, for 3 x 75 mm Ø cables	07304301
GTi 1-g Empty enclosure with grey cover	01040101
GFL 20 Flange	07220001
GZE 3 Strain relief Side of enclosure 320 mm, for 1 x 75 mm cable	07300301
GFG 3 Flange bar Side of enclosure 320 mm, with sealing	07280301
GAB-ES External fixing lug External fixing lug, V2A, Set = 4 pcs.	07030001

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

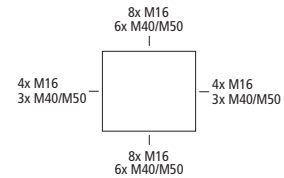
Abox-i 2400

640 x 320 x 179 mm



IP65 | 240² | IK08 | 690V AC | halogen-free | iQ

Junction box - Industrial Quality, U_i=690V, weatherproof, shock-proof, halogen-free, sealable, special screw terminal for conductor entry on top, per pole up to 2 x 185²/240² or 4 x 120², for suitable cable in-feeds see accessories



Description	Order no.
Abox-i 2400-240²/4 Grey, 4-pole - 50 up to 2 x 240 mm², AL/CU	49049401
Abox-i 2400 240²/5 NEW Grey, 5-pole - 25 up to 240 mm², AL/CU	49049101

Recommended accessories:	Order no.
AKL 140 Terminal 400 A, for CU conductors 1x (50-240)re/rm/se/sm, 2x (25-120)re/rm/se/sm, for AL conductors 1x (50-240)re/rm/se/sm, 1x (95-195)sm, 2x (25-120)re/se, 2x (50-95)sm, for laminated flat copper 16 x 10 mm	07614001
GKE 32 Cable entry Side of enclosure 320 mm, for 2 x 75 mm Ø cables	07303201
GTi 1-g Empty enclosure With grey cover	01040101
GFL 20 Flange	07220001
GZE 3 Strain relief Side of enclosure 320 mm, for 1 x 75 mm cable	07300301
GFG 3 Flange bar Side of enclosure 320 mm, with sealing	07280301
GAB-ES External fixing lug External fixing lug, V2A, Set = 4 pcs.	07030001

Junction Boxes

Abox | Abox-i | Abox m | Abox-i m

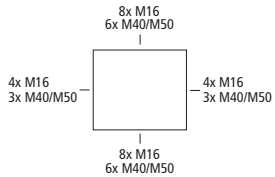
Abox-i 2400 DK

640 x 320 x 179 mm



IP65 | 240² | IK08 | 690V AC | halogen-free | iQ

Junction box - Industrial Quality, U_i=690V, weatherproof, shock-proof, halogen-free, sealable, with terminal block mounting, for suitable cable in-feeds see accessories



Description	Order no.
Abox-i 2400 DK-240²/4 Grey, with 4-pole terminal strip 70 - 240 mm²	49059401
Abox-i 2400 DK-240²/5 NEW	49059101

Recommended accessories:	Order no.
URS RK1-240mm² Upgrade kit for 5-pole 1-pole	67074001
GKE 32 Cable entry Side of enclosure 320 mm, for 2 x 75 mm Ø cables	07303201
GTi 1-g Empty enclosure With grey cover	01040101
GFL 20 Flange	07220001
GZE 3 Strain relief Side of enclosure 320 mm, for 1 x 75 mm cable	07300301
GFG 3 Flange bar Side of enclosure 320 mm, with sealing	07280301
GAB-ES External fixing lug External fixing lug, V2A, Set = 4 pcs.	07030001



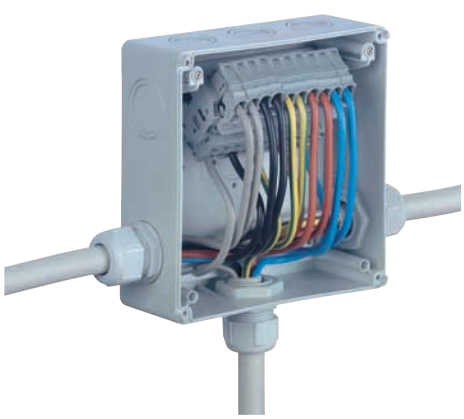
The Abox SL combines the wiring philosophy of the Abox series with screwless terminal technology

- Standard installation in wet rooms
- Installation on flammable surfaces
- Installation in agricultural and horticultural premises

IP65 | 16² | IK07 | 400V AC | halogen-free

Junction Boxes Abox *SL**





Installation in areas with increased requirements for vibration and shock resistance

- Quick installation thanks to screwless terminal technology
- Maintenance-free
- Vibration- and shock-proof

*SL = Screwless terminal technology

IP65 | 16² | IK08 | 400V AC | Industrial Quality

Junction Boxes Abox-*i* SL*

Junction Boxes

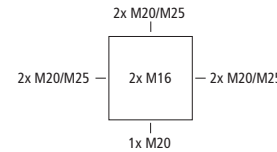
Abox SL | Abox-i SL

Abox SL-2,5/4² — 110 x 110 x 67 mm

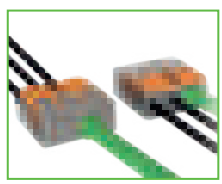


IP54 IP65 | 4² | IK07 | 450V AC

Junction box as per DIN EN 60670 (VDE 0606), U_i=450V, with IP54 attachment bushes, sealing area 9 - 18.5 mm, with M25 sealing plug



Description	Order no.
Abox SL-2,5/4² grey, featuring raised Wago 221 connecting terminal, 5-pin, max. nominal cross-section in accordance with DIN EN 60998: 4 mm², 24 A current load capacity, cross-sections able to be clamped per pin: 3 x 0.2 to 4 mm² rigid and 3 x 0.14 to 4.0 mm² flexible	80680701

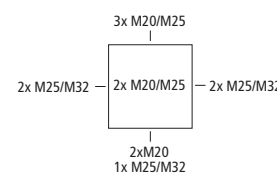




Abox SL-6² — 140 x 140 x 79 mm



IP54 IP65 | 6² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with IP54 attachment bushes, M32, seal range 13 - 23 mm, with blanking plug M32



Description	Order no.
Abox SL-6² Grey, with 5-pole high-set screwless terminal, max. cross-section acc. DIN EN 60998: 6 mm², for current carrying capacity of 41 A, cross sections that can be clamped per pole:, 4 x 0.5 up to 10 mm² rigid and flexible	81081001

Junction Boxes

Abox SL | Abox-i SL

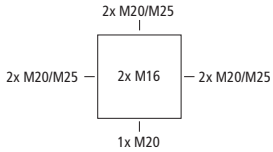
Abox-i SL-2,5/4²

110 x 110 x 67 mm

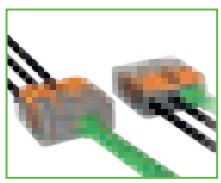
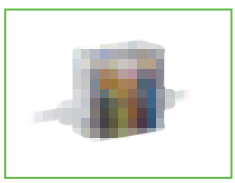


IP65 | 4² | IK08 | 450V AC

Junction box - Industrial Quality - in accordance with DIN EN 60670-1/-22, U_i=450V, weatherproof, shockproof, halogen free, with IP66 double membrane seals, M25, sealing area 9 - 18.5 mm



Description	Order no.
Abox-i SL-2,5/4² grey, featuring raised Wago 221 connecting terminal, 5-pin, max. nominal cross-section in accordance with DIN EN 60998: 4 mm², 24 A current load capacity, cross-sections able to be clamped per pin: 3 x 0.2 to 4 mm² rigid and 3 x 0.14 to 4.0 mm² flexible	49080601

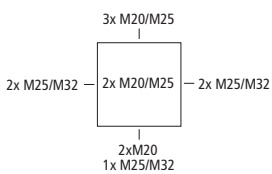
Abox-i SL-6²

140 x 140 x 79 mm



IP65 | 6² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670-1/-22, U_i=690V, weatherproof, shock-proof, halogen-free, with IP66 double-membrane seals, M32, seal range 14 - 21 mm



Description	Order no.
Abox-i SL-6² Grey, with 5-pole high-set screwless terminal, max. cross-section acc. DIN EN 60998: 6 mm², for current carrying capacity of 41 A, cross sections that can be clamped per pole:, 4 x 0.5 up to 10 mm² rigid and flexible	49081001

Junction Boxes

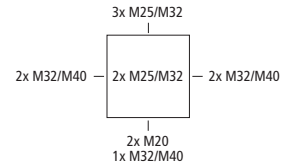
Abox SL | Abox-i SL

Abox SL-10² — 180 x 180 x 91 mm



IP54 IP65 | 10² | IK07 | 690V AC | VDE | halogen-free

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with IP54 attachment bushes, M40, seal range 17 - 30 mm, with blanking plug M40, with sealing kit



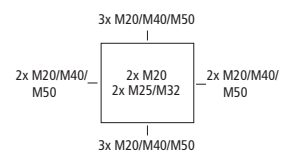
Description	Order no.
Abox SL-10² Grey, with 5-pole high-set screwless terminal, max. cross-section acc. DIN EN 60998: 10 mm², for current carrying capacity of 57 A, cross sections that can be clamped per pole:, 4 x 0.5 up to 16 mm² rigid and flexible	81681001

Abox SL-16² — 250 x 200 x 115 mm



IP54 IP65 | 16² | IK07 | 690V AC | VDE | halogen-free

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, with IP54 attachment bushes, M40, seal range 17 - 30 mm, with blanking plug M40, with sealing kit



Description	Order no.
Abox SL-16² Grey, with 5-pole high-set screwless terminal, max. cross-section acc. DIN EN 60998: 16 mm², for current carrying capacity of 76 A, cross sections that can be clamped per pole:, 4 x 0.5 up to 16 mm², rigid, 4 x 0.5 up to 25 mm² flexible	83581001

Junction Boxes

Abox SL | Abox-i SL

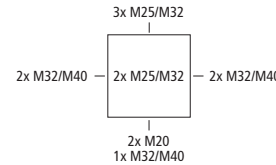
Abox-i SL-10²

180 x 180 x 91 mm



IP65 | 10² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670-1/-22, U_i=690V, weatherproof, shock-proof, halogen-free, with sealing kit, for suitable cable in-feeds see accessories



Description	Order no.
Abox-i SL-10² Grey, with 5-pole high-set screwless terminal, max. cross-section acc. DIN EN 60998: 10 mm², for current carrying capacity of 57 A, cross sections that can be clamped per pole: 4 x 0.5 up to 16 mm² rigid and flexible	49081601

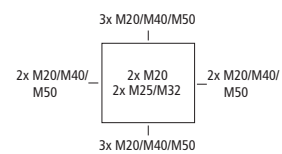
Abox-i SL-16²

250 x 200 x 115 mm



IP65 | 16² | IK08 | 690V AC

Junction box - Industrial Quality - acc. to DIN EN 60670-1/-22, U_i=690V, weatherproof, shock-proof, halogen-free, with sealing kit, for suitable cable in-feeds see accessories



Description	Order no.
Abox-i SL-16² Grey, with 5-pole high-set screwless terminal, max. cross-section acc. DIN EN 60998: 16 mm², for current carrying capacity of 76 A, cross sections that can be clamped per pole:, 4 x 0.5 up to 16 mm², rigid, 4 x 0.5 up to 25 mm² flexible	49083501



- Simple reinstallation as the cast resin is easy to remove
- Testing in accordance with DIN EN 60 529, IP 68, 168 h to a water depth of 15 metres
- Testing in accordance with DIN VDE 0278-623, sleeve tests up to 0.6 / 1 kV
- For cable cross-sections of 1.5 to 10 mm²
- Impact-resistant and shatterproof, flame retardant
- UV- and weather-resistant

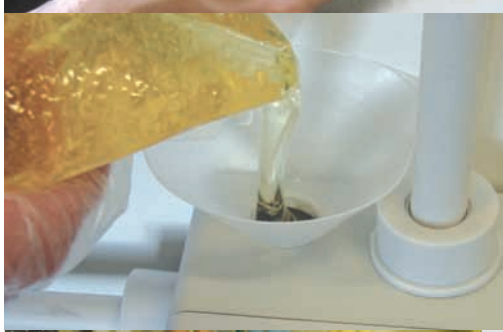
▶ The box can be filled cleanly using mixing bags and funnels

Applications & use

- Areas subject to flooding
- Washing systems
- Tunnels
- Port facilities

The Abox XT series can defy even the presence of standing water in extreme cases







IP68 | 10² | IK08 | 690V AC | halogen-free | iQ

Junction Boxes

Abox XT

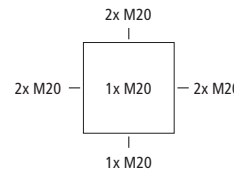
Abox XT 025-2,5²

82 x 82 x 52 mm



IP68 | 2,5² | IK08 | 690V AC

Junction box - Industrial Quality - with connecting terminals for encapsulating acc. DIN EN 60670 and DIN EN 60529, weather-resistant and shockproof, for the assembly in flooded areas and in the ground without traffic loads, U_i=690V, with knock-outs, with double-membrane seals M20, seal range 7 - 12 mm, with cast resin bag 250 ml (marking-free), funnel, ventilation seals and disposable gloves, Attention: Note the expiration date of the cast resin bag



Description	Order no.
Abox XT 025-2,5² Grey, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²)	49240201

Recommended accessories:	Order no.
GHB 1 Cast-resin bag 250 ml, halogen-free	49250201

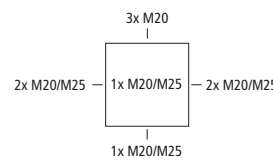
Abox XT 040-4²

94 x 94 x 55 mm



IP68 | 4² | IK08 | 690V AC

Junction box - Industrial Quality - with connecting terminals for encapsulating acc. DIN EN 60670 and DIN EN 60529, weather-resistant and shockproof, for the assembly in flooded areas and in the ground without traffic loads, U_i=690V, with knock-outs, M20, M20/M25, For IP66 double membrane seals, seal range 9 - 16 mm, with cast resin bag 350 ml (marking-free), funnel, ventilation seals and disposable gloves, Attention: Note the expiration date of the cast resin bag



Description	Order no.
Abox XT 040-4² Grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 3 x 4²)	49240401

Recommended accessories:	Order no.
GHB 2 Cast-resin bag 350 ml, halogen-free	49250401

Junction Boxes

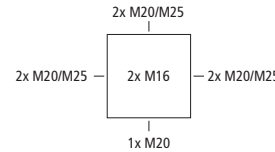
Abox XT

Abox XT 060-6² — 110 x 110 x 67 mm



IP68 | 6² | IK08 | 690V AC

Junction box - Industrial Quality - with connecting terminals for encapsulating acc. DIN EN 60670 and DIN EN 60529, weather-resistant and shockproof, for the assembly in flooded areas and in the ground without traffic loads, U_i=690V, with double-membrane seals M25, seal range 9 - 16 mm, with cast resin bag 600 ml (marking-free), funnel, ventilation seals and disposable gloves, Attention: Note the expiration date of the cast resin bag



Description	Order no.
Abox XT 060-6² Grey, with high-set screw terminal, 5-pole - 6 mm² (4 x 2.5² / 4 x 4² / 3 x 6²)	49240601

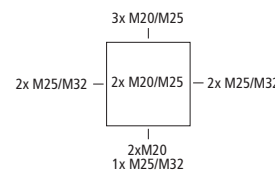
Recommended accessories:	Order no.
GHB 3 Cast-resin bag 600 ml , halogen-free	49250601

Abox XT 100-10² — 140 x 140 x 79 mm



IP68 | 10² | IK08 | 690V AC

Junction box - Industrial Quality - with connecting terminals for encapsulating acc. DIN EN 60670 and DIN EN 60529, weather-resistant and shockproof, for the assembly in flooded areas and in the ground without traffic loads, U_i=690V, with double-membrane seals M32, seal range 14 - 21 mm, with cast resin bag 1200 ml (marking-free), funnel, ventilation seals and disposable gloves, Attention: Note the expiration date of the cast resin bag



Description	Order no.
Abox XT 100-10² Grey, with high-set screw terminal, 5-pole - 10 mm² (4 x 4² / 4 x 6² / 4 x 10²)	49241001

Recommended accessories:	Order no.
GHB 4 Cast-resin bag 1200 ml, halogen-free	49251001





- Simple reinstallation as the cast resin is easy to remove
- Testing in accordance with DIN EN 60 529, IP 68, 168 h to a water depth of 15 metres
- According to DIN VDE V 0606-22-100
- Impact-resistant and shatterproof, flame retardant
- UV- and weather-resistant

▶ The box can be filled cleanly using mixing bags and funnels

Applications & use

- Areas subject to flooding
- Washing systems
- Tunnels
- Port facilities

The Abox XT SL - series can defy even the presence of standing water in extreme cases

IP68 | 6² | IK08 | 450V AC | halogen-free

Junction Boxes Abox *XT SL* NEW!

Junction Boxes

Abox XT SL

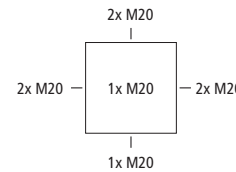
Abox XT SL 2,5²

82 x 82 x 52 mm



IP68 | 2,5² | IK08 | 450V AC

Junction box - Industrial Quality - certified in accordance with DIN VDE V 0606-22-100, with Wago 221 connecting terminals, for potting, weatherproof and impact resistant, for installation in flood areas and in the ground without live loads, U_i=450V, with pre-embossing, with M20 double membrane seals, sealing area 7 - 12 mm, with cast resin bag 250 ml (non-designated), funnel, ventilation plug and disposable gloves, Attention: Note the expiry date of the cast resin bag



Description	Order no.
Abox XT SL 2,5² NEW grey, with 5 screwless 3-wire terminal blocks of type Wago 221-413, max. nominal cross-section in accordance with DIN EN 60998: 2.5 mm², cross-sections that can be clamped per pole: 3 x 0.2 to 2.5 mm² rigid and 3 x 0.14 to 2.5 mm² flexible	49280201

Recommended accessories:	Order no.
GHB 1 Cast-resin bag 250 ml, halogen-free	49250201

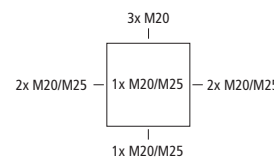
Abox XT SL 4²

94 x 94 x 55 mm



IP68 | 4² | IK08 | 450V AC

Junction box - Industrial Quality - certified in accordance with DIN VDE V 0606-22-100, with Wago 221 connecting terminals, for potting, weatherproof and impact resistant, for installation in flood areas and in the ground without live loads, U_i=450V, with M25 double membrane seals, sealing area 9 - 16 mm, with cast resin bag 350 ml (non-designated), funnel, ventilation plug and disposable gloves, Attention: Note the expiry date of the cast resin bag



Description	Order no.
Abox XT SL 4² NEW grey, with 5 screwless 3-wire terminal blocks of type Wago 221-413, max. nominal cross-section in accordance with DIN EN 60998: 4 mm², cross-sections that can be clamped per pole: 3 x 0.2 to 4 mm² rigid and 3 x 0.14 to 4 mm² flexible	49280401

Recommended accessories:	Order no.
GHB 2 Cast-resin bag 350 ml, halogen-free	49250401

Junction Boxes

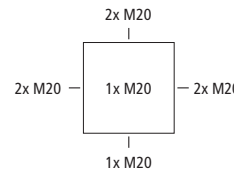
Abox XT SL

Abox XT SL 2,5/4² — 110 x 110 x 67 mm



IP68 | 4² | IK08 | 450V AC

Junction box - Industrial Quality - certified in accordance with DIN VDE V 0606-22-100, with Wago 221 connecting terminals, for potting, weatherproof and impact resistant, for installation in flood areas and in the ground without live loads, Ui=450V, with pre-embossing, with M20 double membrane seals, sealing area 7 - 12 mm, with cast resin bag 250 ml (non-designated), funnel, ventilation plug and disposable gloves, Attention: Note the expiry date of the cast resin bag



Description	Order no.
Abox XT SL 2,5/4² NEW grey, with 5 raised, screwless 3-wire terminal blocks of type Wago 221-413, max. nominal cross-section in accordance with DIN EN 60998: 4 mm², cross-sections that can be clamped per pole: 3 x 0.2 to 4 mm² rigid and 3 x 0.14 to 4.0 mm² flexible	49280501

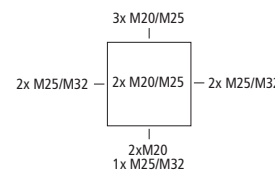
Recommended accessories:	Order no.
GHB 3 Cast-resin bag 600 ml , halogen-free	49250601

Abox XT SL 6² — 140 x 140 x 79 mm



IP68 | 6² | IK08 | 450V AC

Junction box - Industrial Quality - certified in accordance with DIN VDE V 0606-22-100, with fixed-position Wago 221 connecting terminals, for potting, weatherproof and impact resistant, for installation in flood areas and in the ground without live loads, Ui=450V, with M25 double membrane seals, sealing area 9 - 16 mm, with cast resin bag 1200 ml (non-designated), funnel, ventilation plug and disposable gloves, Attention: Note the expiry date of the cast resin bag



Description	Order no.
Abox XT SL 6² NEW grey, with 5 screwless 3-wire terminal blocks of type Wago 221-613, max. nominal cross-section in accordance with DIN EN 60998: 6 mm², cross-sections that can be clamped per pole: 3 x 0.2 to 6 mm² rigid/flexible	49280601

Recommended accessories:	Order no.
GHB 4 Cast-resin bag 1200 ml, halogen-free	49251001

Junction Boxes

Abox HA

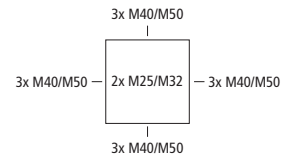
Abox HA 250

250 x 250 x 115 mm



IP54 IP65 | 25² | IK07 | 690V AC | halogen-free

Junction box acc. to DIN EN 60670 (VDE 0606), with main cable junction terminal, 25 mm², with IP54 attachment bushes, with blanking plug M40, with twist nipple M50, screw terminal 4-pole 25 mm², input per pole 2 x 25 mm², output per pole 4 x 16 mm², with sealing kit



Description	Order no.
Abox HA 250 Grey, with 4 pole screw terminal 25 mm²	48042501

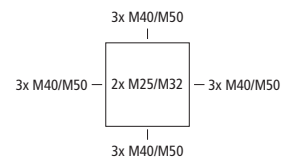
Abox HA 350

250 x 250 x 115 mm



IP54 IP65 | 35² | IK07 | 690V AC | halogen-free

Junction box acc. to DIN EN 60670 (VDE 0606), with main cable junction terminal, 35 mm², with IP54 attachment bushes, with blanking plug M40, with twist nipple M50, screw terminal 4-pole 35 mm², input per pole 2 x 35 mm², output per pole 4 x 35 mm², with sealing kit



Description	Order no.
Abox HA 350 Grey, with 4 pole screw terminal 35 mm²	48043501

Junction Boxes

Accessories for Abox | Abox-i

Abox / Abox-i terminal



Connecting terminal acc. to DIN EN 60998 (VDE 0613), U_i=690V

Description	Order no.
Abox 025/040 KLS-2,5²/4² 5-pole - 2.5/4 mm²	84000401
Abox 060 KLS-6² 5-pole - 6 mm²	84000601
Abox 100 KLS-10² 5-pole - 10 mm²	84001001
Abox 160 KLS-16² 5-pole - 16 mm²	84001601
Abox 250/350 KLS-25²/35² 5-pole - 35 mm²	84003501
Abox 700 KLS-70² 1-pole - 70 mm²	84007001

Abox sealing set



Sealing set

Description	Order no.
Abox PST for junction boxes Abox/Abox-i 025 to 100, (from Abox/Abox-i 160, contained as standard in the delivery)	89001001

Cable glands without strain relief



Cable entry for cables up to Ø 75 mm, 2 x flange connectors (GFV)

Description	Order no.
GKE 32 Side of enclosure 320 mm, for 2 x 75 mm Ø cables	07303201
GKE 43 Side of enclosure 440 mm, for 3 x 75 mm Ø cables	07304301
GKE 1 For replacement requirement: Rubber cable infeed	07300101

Cable strain relief



Cable strain relief for GKE 32 and GKE 43 cable glands, for cables up to Ø 75 mm

Description	Order no.
GZE 3 Side of enclosure 320 mm, for 1 x 75 mm cable	07300301
GZE 4 Side of enclosure 440 mm, for 1 x 75 mm cable	07300401
GZS 75 Auxiliary clamp for GKZ 3 and GKZ 4	07307501

Junction Boxes

Accessories for Abox | Abox-i

Standard mounting rails



Standard rail acc. to DIN EN 60715, 35 x 7.5 mm, incl. fixing screws

Description	Order no.
NS 35-81 TK PS/PC 1111/1309/1313/1809/1811 + ALS 1414/1515/2011, Abox/Abox-i 060	19808101
NS 35-106 TK PS/PC 1309/1313 + ALS 1414/1515, Abox/Abox-i 100	19810601
NS35-144/2 Abox/Abox-i 160, Abox/Abox-i 250	89401601
NS35-216/2 Abox/Abox-i 250, Abox/Abox-i 350	89403501

Mounting plates



Mounting plate made from insulating material, incl. fixing screws

Description	Order no.
Abox 060 MPI Abox/Abox-i 060	89500601
Abox 100 MPI Abox/Abox-i 100	89501001
Abox 160 MPI Abox/Abox-i 160	89501601
Abox 250 MPI Abox/Abox-i 250	89502501
Abox 350 MPI Abox/Abox-i 350	89503501

Cable tray assembly plate



Assembly plate made of sheet steel, incl. fastening screws, for mounting on Stago / van Geel cable trays, for seating Abox junction boxes, fastening distance up to 130mm

Description	Dimensions/mm	Order no.
MPS-KRI NEW	150 x 3 x 249	19410101

Attachment bushes



Attachment bushes, IP54, with open sealing membrane, no lock nuts required

Description	Sealing area/mm	Order no.
AST M16	6 - 10	23041601
AST M20	8 - 13.5	23042001
AST M25	9 - 18.5	23042501
AST M32	13 - 23	23043201
AST M40	17 - 30	23044001

Junction Boxes

Accessories for Abox | Abox-i

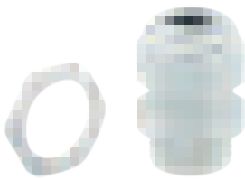
Double membrane seals, grey



Double membrane seals, IP66, with two sealing membranes, closed, thermoplastic elastomer (TPE), grey, for wall thicknesses 1.5 - 4.5 mm

Description	Sealing area/mm	Order no.
DMS M16	5 - 9	26041601
DMS M20	7 - 12	26042001
DMS M25	9 - 16	26042501
DMS M32	14 - 21	26043201
DMS M40	19 - 28	26044001

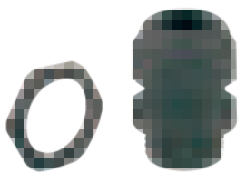
Cable gland, grey



Cable gland IP68 with strain relief, polyamide, M_ x 1.5 mm, with lock nut

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12-MGM	2 - 6.5	8	22741201
KVR M16-MGM	4 - 10.0	8	22741601
KVR M20-MGM	6 - 12.0	9	22742001
KVR M20-GDB/MGM	7 - 14.0	9	22742101
KVR M25-MGM	9 - 16,0	11	22742501
KVR M32-MGM	11 - 21.0	11	22743201
KVR M40-MGM	16 - 28.0	11	22744001
KVR M50-MGM	21 - 34.5	13	22745001
KVR M63-MGM	30 - 44.5	17	22746301

Cable gland, black



Cable gland IP68 with strain relief, polyamide, M_ x 1.5 mm, black, with lock nut

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M20-MGM/sw	6 - 12	9	22702001
KVR M20-GDB/MGM/sw	7 - 14	9	22702101
KVR M25-MGM/sw	9 - 16	11	22702501
KVR M32-MGM/sw	11 - 21	11	22703201
KVR M40-MGM/sw	16 - 28	11	22704001
KVR M50-MGM/sw	21 - 34.5	13	22705001

Sealing plug, grey

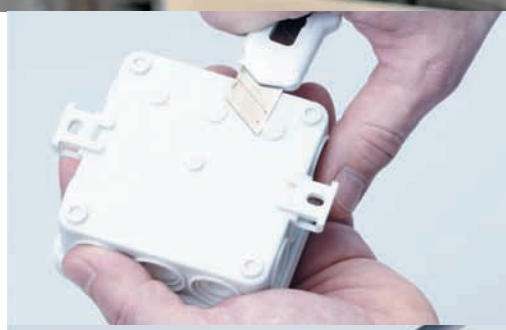


Sealing plugs IP54 with closed sealing membrane, thermoplastic elastomer (TPE), grey, for wall thickness 1.5 - 4.0 mm

Description	Sealing area/mm	Order no.
VST M16	6 - 10	23141601
VST M20	8 - 13.5	23142001
VST M25	9 - 16	23142501
VST M32	13 - 23	23143201
VST M40	17 - 30	23144001



- Mounting on wood or other combustible materials
- Safe opening and closing mechanism
- Colour variants (sw=black / sb=red / gr=green) for reliable identification of circuits
- Knock-out entries can be removed with a knife
- Patented external mounting bracket
- Labelling area







IP55 | 2,5² | IK07 | 400V AC

Junction Boxes Red Range

Junction Boxes

Red Range

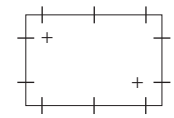
Mini 25

89 x 43 x 38 mm



IP55 | 2,5² | IK07 | 400V AC

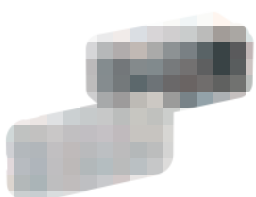
Junction box acc. to DIN EN 60670 (VDE 0606), 10 entries, 2 floor entries, suitable for confined installation environments such as suspended ceilings and cable ducts, complete with punching tool and blanking plug, with external fixing lugs



Description	Order no.
Mini 25-L Grey, without terminals, for VDE approved single terminals	31090801
Mini 25-2,5² Grey, with 3 interlockable screw terminals 2.5 mm²	31040801
Mini 25-L/w White, without terminals, for VDE approved single terminals	31060801
Mini 25-L/sw Black, without terminals, for VDE approved single terminals	31010801
Mini 25-L/gn Green, without terminals, for VDE approved single terminals	31050801
Mini 25 SB-L Red, without terminals, for VDE approved single terminals	31070801

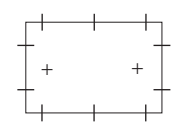
2K-Mini

89 x 43 x 38 mm



IP55 | 2,5² | IK07 | 400V AC

Junction box in accordance with DIN EN 60670 (VDE 0606), 10 insertions, 2 floor insertions, with self-sealing, soft inlet membranes, tools not required for opening the cable insertion, 2 - 14 mm sealing area, with internal mounting positions

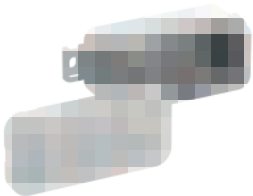


Description	Order no.
2K-Mini-L NEW Grey, without terminal, for VDE approved single terminals	34490801
2K-Mini-L/w NEW White, without terminal, for VDE approved single terminals	34460801
2K-Mini-L/sw NEW black, without terminal, for VDE approved single terminals	34420801
2K-Mini SB-L NEW Red, without terminal, for VDE approved single terminals, for identification of current circuits of the safety lighting	34470801

Junction Boxes

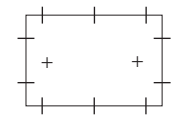
Red Range

2K-Mini AB — 89 x 43 x 38 mm



IP55 | 2,5² | IK07 | 400V AC

Junction box in accordance with DIN EN 60670 (VDE 0606), 10 insertions, 1 floor insertion, with self-sealing, soft inlet membranes, tools not required for opening the cable insertion, 2 - 10 mm sealing area (bottom and top ends) 2 - 14 mm (sides), with external mounting points



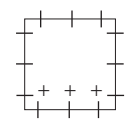
Description	Order no.
2K-Mini AB-L NEW Grey, without terminal, for VDE approved single terminals	34590801
2K-Mini AB-L/w NEW White, without terminal, for VDE approved single terminals	34560801
2K-Mini AB SB-L NEW Red, without terminal, for VDE approved single terminals, for identification of current circuits of the safety lighting	34570801

Sd 7 — 75 x 75 x 37 mm



IP55 | 2,5² | IK07 | 400V AC

Junction box acc. to DIN EN 60670 (VDE 0606), 7 entries, 3 floor entries, complete with punching tool and blanking plug, with external fixing lugs



Description	Order no.
Sd 7-L Grey, without terminals, for VDE approved single terminals	33290701
Sd 7-2,5² Grey, with 5 interlockable screw terminals 2.5 mm²	33240701
Sd 7 SB-L Red, without terminals, for VDE approved single terminals, for identifying circuits for safety lighting	33270701

Junction Boxes

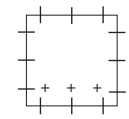
Red Range

i 12 — 85 x 85 x 37 mm



IP55 | 2,5² | IK07 | 400V AC

Junction box acc. to DIN EN 60670 (VDE 0606), 12 entries, 3 floor entries, complete with punching tool and blanking plug, with external fixing lugs



Description		Order no.
i 12-L Grey, without terminals, for VDE approved single terminals	■	33291201
i 12 -2,5²/w White, with 5 modular screw terminals 2.5 mm²	□	33211201
i 12-2,5² Grey, with 5 interlockable screw terminals 2.5 mm²	■	33241201
i 12-L/w White, without terminals, for VDE approved single terminals	□	33261201
i 12 SB-L Red, without terminals, for VDE approved single terminals, for identifying circuits for safety lighting	■	33271201
i 12-L/gn Green, without terminals, for VDE approved single terminals, for identifying auxiliary power supply electrical circuits	■	33251201
i 12 -L/sw Black, without terminals, for VDE approved single terminals	■	33221201

Junction Boxes

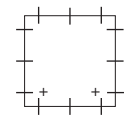
Red Range

2K-12 — 85 x 85 x 37 mm



IP55 | 2,5² | IK07 | 400V AC

Junction box acc. to DIN EN 60670 (VDE 0606), 12 entries, 2 floor entries, with self-sealing, soft inlet membranes, tools not required for opening the cable entry, seal range 2 - 14 mm, with internal fixing lugs



Description	Order no.
2K-12-L Grey, without terminals, for VDE approved single terminals	34491201
2K-12-L/sw Black, without terminal, for VDE approved single terminals	34421201
2K-12-L/br Brown, without terminal, for VDE approved single terminals	34401201
2K-12-2,5² Grey, with screw terminal 5-pole - 2.5 mm²	34441201
2K-12-L/w White, without terminals, for VDE approved single terminals	34461201
2K-12-2,5²/w White, with screw terminal 5-pole - 2.5 mm²	34411201
2K-12 SB-L Red, without terminals, for VDE approved single terminals, for identifying circuits for safety lighting	34471201
2K-12-L/gn Green, without terminals, for VDE approved single terminals	34451201

Junction Boxes

Red Range

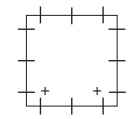
2K-12 AB

85 x 85 x 37 mm



IP55 | 2,5² | IK07 | 400V AC

Junction box acc. to DIN EN 60670 (VDE 0606), 12 entries, 2 floor entries, with self-sealing, soft inlet membranes, tools not required for opening the cable entry, seal range 2 - 14 mm, with external fixing lugs



Description	Order no.
2K-12 AB-L Grey, without terminals, for VDE approved single terminals	34591201
2K-12 AB-2,5² Grey, with screw terminal 5-pole - 2.5 mm²	34541201
2K-12 AB-L/w White, without terminals, for VDE approved single terminals	34561201
2K-12 AB-2,5²/w White, with screw terminal 5-pole - 2.5 mm²	34511201
2K-12 AB SB-L red, without terminals, for VDE approved single terminals, for identifying circuits for safety lighting	34571201

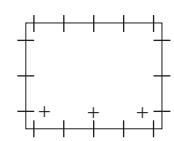
i 16

130 x 85 x 37 mm



IP55 | 2,5² | IK07 | 400V AC

Junction box acc. to DIN EN 60670 (VDE 0606), 16 entries, 3 floor entries, complete with punching tool and blanking plug, with external fixing lugs



Description	Order no.
i 16-L Grey, without terminals, for VDE approved single terminals	33391601
i 16-2,5² Grey, with screw terminal 5-pole - 2.5 mm²	33341601

Junction Boxes

Red Range

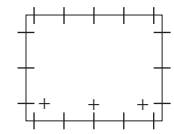
2K-16

130 x 85 x 37 mm



IP55 | 2,5² | IK07 | 400V AC

Junction box acc. to DIN EN 60670 (VDE 0606), 16 entries, 3 floor entries, with self-sealing, soft inlet membranes, tools not required for opening the cable entry, seal range 2 - 14 mm, with internal fixing lugs



Description	Order no.
2K-16-L Grey, without terminals, for VDE approved single terminals	34691601
2K-16-2,5² Grey, with screw terminal 5-pole - 2.5 mm²	34641601
2K-16-L/w White, without terminals, for VDE approved single terminals	34661601
2K-16-2,5²/w White, with screw terminal 5-pole - 2.5 mm²	34611601

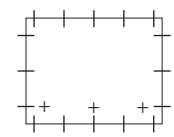
2K-16 AB

130 x 85 x 37 mm



IP55 | 2,5² | IK07 | 400V AC

Junction box acc. to DIN EN 60670 (VDE 0606), 16 entries, 3 floor entries, with self-sealing, soft inlet membranes, tools not required for opening the cable entry, seal range 2 - 14 mm, with external fixing lugs



Description	Order no.
2K-16 AB-L Grey, without terminals, for VDE approved single terminals	34891601
2K-16 AB-2,5² Grey, with screw terminal 5-pole - 2.5 mm²	34841601
2K-16 AB-L/w White, without terminals, for VDE approved single terminals	34861601
2K-16 AB-2,5²/w White, with screw terminal 5-pole - 2.5 mm²	34811601





- Quick installation with cable entry from above
- Pre-wired circuit can be inserted subsequently
- Strain relief for suspended lights
- Contact protection
- Enclosure height only 23 mm
- An innovation for suspended ceilings and double floors
- Clamping possible outside the box
- VDE-compliant retrofitting of electrical systems



IP20 IP30 | 2,5² | IK07 | 400V AC

Junction Boxes Red Range

Junction Boxes

Red Range

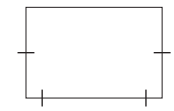
Q 4

89 x 43 x 34 mm



IP20 | 2,5² | IK07 | 400V AC

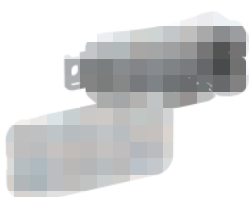
Junction box acc. to DIN EN 60598 (VDE 0711), 4 entries, with strain relief acc. VDE 0606 for NYM 3 x 2.5 mm², 2 of which are accessible from the top, strain relief clamp for pendulum lights (max. 60W), with external fixing lugs



Description	Order no.
Q 4-L Grey, without terminal	33490401

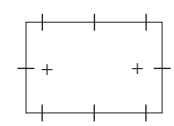
Q-Mini

89 x 43 x 34 mm



IP20 | 2,5² | IK07 | 400V AC

Junction box in accordance with DIN EN 60670 (VDE 0606), 8 insertions, with strain relief in accordance with DIN VDE 0606 for 3 x 2.5mm², NYM 5 x 1.5mm², of which 6 pieces accessible from above, 2 floor insertions, with external mounting lugs



Description	Order no.
Q-Mini-L NEW grey, without terminal, for VDE approved single terminals	33490801

Junction Boxes

Red Range

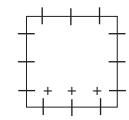
Q 12

85 x 85 x 37 mm



IP20 | 2,5² | IK07 | 400V AC

Junction box acc. to DIN EN 60670 (VDE 0606), 12 entries, with conductor retention acc. to VDE 0606 for NYM 5 x 2.5 mm², 7 of which are accessible from the top, 3 floor entries, with external fixing lugs



Description	Order no.
Q 12-L Grey, without terminals, for VDE approved single terminals	33491201
Q 12-2,5² Grey, with 5 interlockable screw terminals 2.5 mm²	33441201
Q 12 SB-L red, without terminals, for VDE approved single terminals, for identifying circuits for safety lighting	33471201

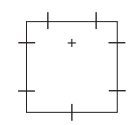
AP 7

78 x 78 x 27 mm

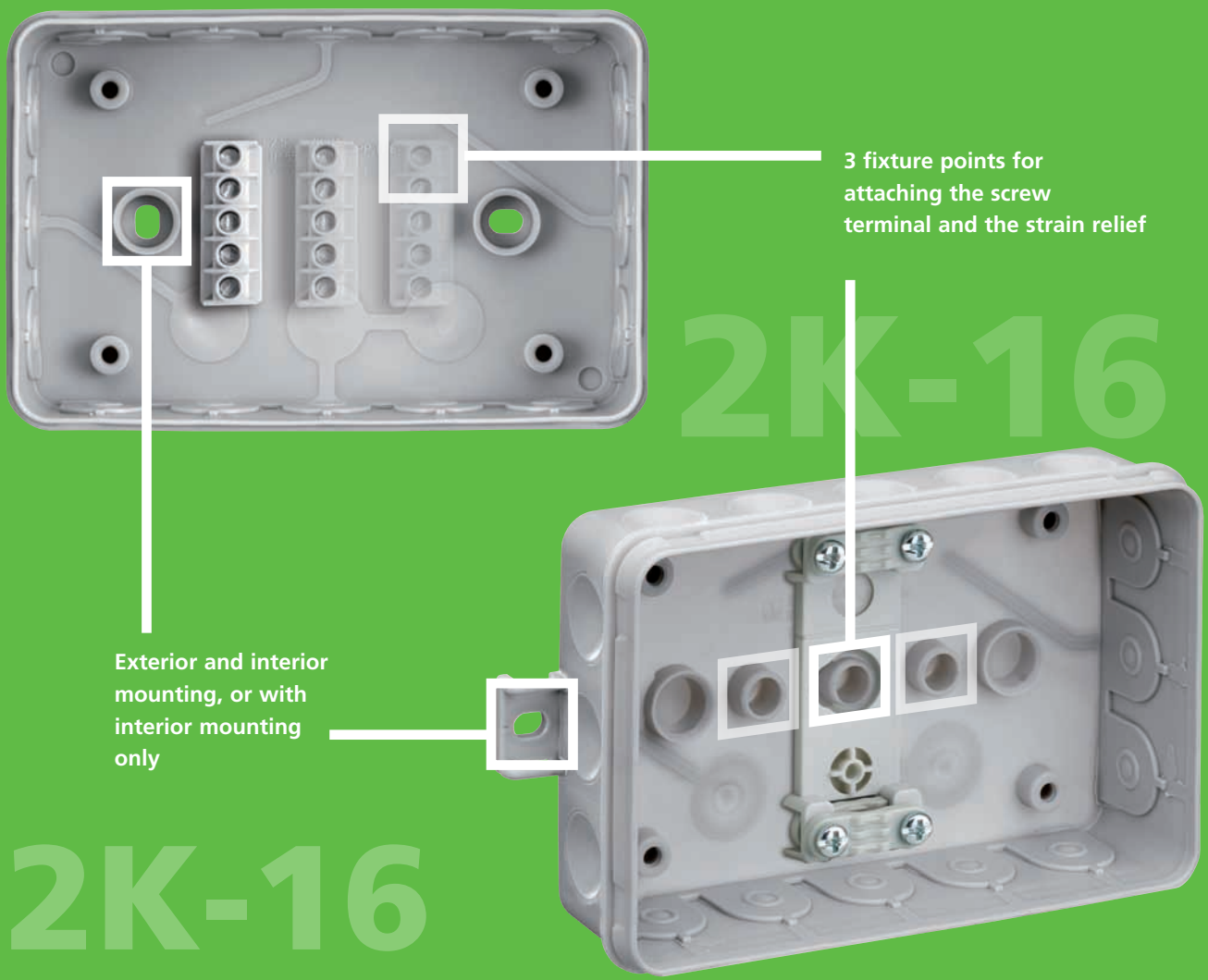


IP30 | 2,5² | IK07 | 400V AC

Junction box acc. VDE 0606, Surface mounting, 7 entries, 1 bottom entry, central quick lock lid



Description	Order no.
AP 7 - L White, without terminals, for VDE approved single terminals	31560701
AP 7 - 2,5² white, with 5-pole HandyGrip terminal 2.5 mm²	31510701



- Junction box as per DIN EN 60670 (VDE 0606)
- 16 entry points
- 3 base inlets consisting of self-sealing, soft inlet membranes
- With exterior and interior mounting, or with interior mounting only
- 3 fixture points for attaching the screw terminal and the strain relief
- Tool for opening the line inlet not required, sealing range 2-14 mm
- Connection table in the lid
- More secure opening and closing mechanism:

1. Lockable without tools
2. Can only be opened with a tool

- With practical labelling strip

IP55 | 2,5² | IK07 | 400V AC | halogen-free

Junction Boxes

Red Range Accessories

Strain relief ZEL 2K-12



Strain relief, for assembly in 2K-12 / 2K-16-junction boxes, strain relief possible for up to 2 entries, strain relief can be split without tools, 2 strain relief clamps are required for T wiring

Description	Order no.
ZEL 2K-12 Grey	34400101

UP 6

32 x 32 mm



IP54 halogen-free

Junction box acc. to DIN EN 60670 (VDE 0606), with self-sealing inlet membranes, with separate flush-fitting lid

Description	Order no.
UP 6-L Grey, without terminals, for VDE approved single terminals	30690601
UP 6-2,5² Grey, with screw terminal 5-pole - 2.5 mm²	30640601

Verschlusstopfen Rote Reihe



Sealing plugs, for subsequent closing of previously opened entries on junction boxes in Red Range

Description	Order no.
VST RR Grey	30040701



- 6 sizes
- Mounting on wood or other combustible materials
- Mounted stepped nipples
- Cross-sectional area of 1.5 mm² to 10 mm²
- Insertion points are equally suitable for metric mounting accessories

Suitable for installation

- in damp and wet areas and rooms
- in installations for gatherings of people
- in temporary buildings, cars and caravans

IP55 | 16² | IK07 | 400V 690V AC

Junction Boxes HP

Junction Boxes

HP

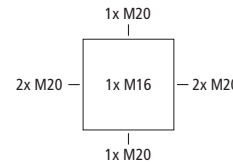
HP 70

75 x 75 x 42 mm



IP55 | 2,5² | IK07 | 400V AC

Junction box acc. to DIN EN 60670 (VDE 0606), 3 recessed stepped nipples, and two loose ones enclosed, seal range 5 - 16 mm, for terminals up to 2.5 mm²



Description	Order no.
HP 70-L Grey, without terminals	32097001

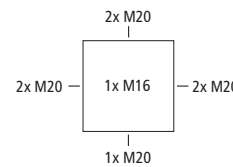
HP 80

85 x 85 x 42 mm



IP55 | 2,5² | IK07 | 400V AC

Junction box acc. to DIN EN 60670 (VDE 0606), 7 recessed stepped nipples, seal range 5 - 16 mm, for terminals up to 2.5 mm²



Description	Order no.
HP 80-L Grey, without terminals	32298001

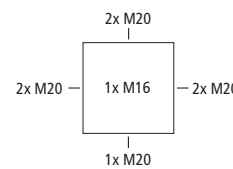
HP 90

90 x 90 x 45 mm



IP55 | 4² | IK07 | 400V AC

Junction box acc. to DIN EN 60670 (VDE 0606), 7 recessed stepped nipples, seal range 5 - 16 mm, for terminals up to 4 mm²



Description	Order no.
HP 90-L Grey, without terminals	32599001

Junction Boxes

HP

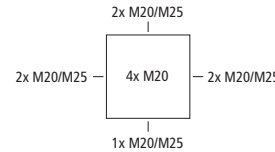
HP 100

113 x 113 x 58 mm



IP55 | 6² | IK07 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, 7 recessed stepped nipples, seal range 5 - 21 mm, for terminals up to 10 mm²



Description	Order no.
HP 100-L Grey, without terminals	32690001

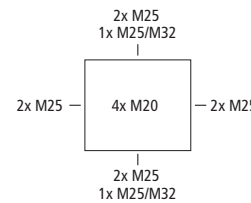
HP 150

164 x 119 x 77 mm



IP55 | 10² | IK07 | 690V AC

Junction box, U_i=690V, 10 recessed stepped nipples, seal range 5 - 21 mm



Description	Order no.
HP 150-L Grey, without terminals, with cover retainer	32695001

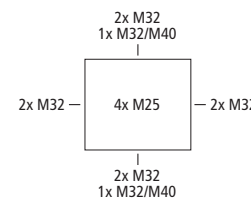
HP 190

199 x 149 x 77 mm



IP55 | 16² | IK07 | 690V AC

Junction box, U_i=690V, 10 recessed stepped nipples, seal range 13 - 26.5 mm



Description	Order no.
HP 190-L Grey, without terminals, with cover retainer	32699001



- Halogen-free duroplastic
- Glow-wire test as per VDE 0471 up to 960°C
- Cable cross-sections of 2.5² to 25²

Suitable for use

- in locations that are subject to fire hazards as per VDE 0100 Part 482

IP54 | 25² | IK05 | 400V 690V AC | halogen-free

Junction Boxes WK

Junction Boxes

WK

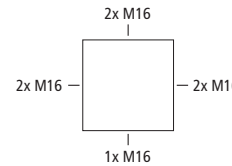
WK 007

80 x 80 x 38 mm



IP54 | 2,5² | IK05 | 400V AC

Junction box acc. to DIN EN 60670 (VDE 0606), Duroplastic, halogen-free, with IP54 attachment bushes, with blanking plug M16, seal range 6 - 10 mm



Description	Order no.
WK 007-L Grey, without terminal	40290701
WK 007-2,5² Grey, with screw terminal 5-pole - 2.5 mm², (6 x 1.5² / 4 x 2.5²)	40240701
WK 007-L/w White, without terminals	40261701

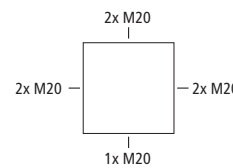
WK 040

87 x 87 x 45 mm



IP54 | 4² | IK05 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, Duroplastic, halogen-free, with IP54 attachment bushes, with blanking plug M20, seal range 8 - 13.5 mm



Description	Order no.
WK 040-L Grey, without terminal	40490701
WK 040-4² Grey, with screw terminal 5-pole - 4 mm², (6 x 2.5² / 4 x 4²)	40440701

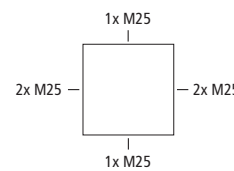
WK 060

100 x 100 x 50 mm



IP54 | 6² | IK05 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, Duroplastic, halogen-free, with IP54 attachment bushes, with blanking plug M25, seal range 9 - 18.5 mm



Description	Order no.
WK 060-L Grey, without terminal	40690601
WK 060-6² Grey, with 5-pole screw terminal - 6 mm², (5 x 4² / 4 x 6²)	40640601

Junction Boxes

WK

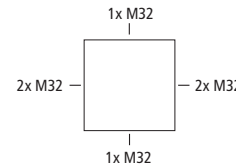
WK 100

115 x 115 x 66 mm



IP54 | 10² | IK05 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, Duroplastic, halogen-free, with IP54 attachment bushes, with blanking plug M32, seal range 13 - 23 mm, with sealing kit



Description	Order no.
WK 100-L Grey, without terminal	41090601
WK 100-10² Grey, with 5-pole screw terminal - 10 mm², (5 x 4² / 4 x 6² / 3 x 10²)	41040601

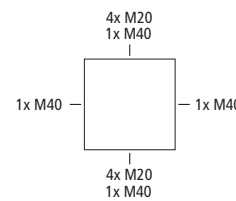
WK 160

165 x 165 x 76 mm



IP54 | 16² | IK05 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, Duroplastic, halogen-free, with IP54 attachment bushes, with blanking plug M40, seal range 17 - 30 mm, with sealing kit



Description	Order no.
WK 160-L Grey, without terminal	41691201
WK 160-16² Grey, with 5-pole screw terminal - 16 mm², (5 x 10² / 3 x 16²)	41641201

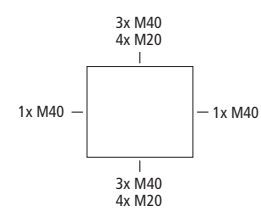
WK 250

256 x 171 x 106 mm



IP54 | 25² | IK05 | 690V AC

Junction box acc. to DIN EN 60670 (VDE 0606), U_i=690V, Duroplastic, halogen-free, with IP54 attachment bushes, with blanking plug M40, seal range 17 - 30 mm, with sealing kit



Description	Order no.
WK 250-L Grey, without terminal	42591601
WK 250-25² Grey, with 5-pole screw terminal - 25 mm², (5 x 16² / 3 x 25²)	42541601

Junction Boxes

Junction Box Accessories

WK clamping block



Connecting terminal, U_i=400V / 690V

Description	Nr. of poles	Order no.
WK 007 KLS-2,5² for WK 007	5	46052501
WK 060 KLS-6² 5x6 mm² , for K15, K2-, K3-EK boxes	5	46050601
WK 100 KLS-10² 5x10 mm² , for K15, K3-, K4-EK boxes	5	46051001
WK 160 KLS-16² 5x16 mm² , for K3-, K4-EK boxes	5	46051601
WK 250 KLS-25² 5x25 mm², for K4-EK boxes	5	46053501

HandyQuick - 1,5²



Screwless connecting terminal for single-wire conductors acc. to DIN EN 60998 (VDE 0613), U_i=400 V

Description	Order no.
HandyQuick SQ 31 light grey, 3 x 0.75-1.5 mm²	68831001

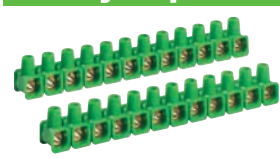
HandyQuick - 2,5²



Screwless connecting terminal for single-wire conductors acc. to DIN EN 60998 (VDE 0613), U_i=400 V

Description	Order no.
HandyQuick SQ 32 Dark grey, 3 x 1.0-2.5 mm²	68832001
HandyQuick SQ 52 Dark grey, 5 x 1.0-2.5 mm²	68852001

HandyGrip - 2,5²



12-pole screw terminal, rated cross-section 2.5 mm², U_i=400 V

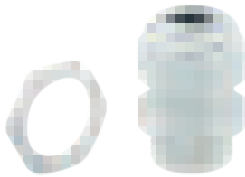
Description	Order no.
HandyGrip VG 20 Sorted according to colour	68502001
HandyGrip VG 21 Closed on one side, sorted according to colour	68502101
HandyGrip VG 21 w Closed on one site, white	68512101

All prices are non-binding recommended gross prices in EUR excluding value-added tax. Prices as of 01/01/2020

Junction Boxes

Junction Box Accessories

Cable gland, grey



Cable gland IP68 with strain relief, polyamide, M_ x 1.5 mm, with lock nut

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12-MGM	2 - 6.5	8	22741201
KVR M16-MGM	4 - 10.0	8	22741601
KVR M20-MGM	6 - 12.0	9	22742001
KVR M20-GDB/MGM	7 - 14.0	9	22742101
KVR M25-MGM	9 - 16,0	11	22742501
KVR M32-MGM	11 - 21.0	11	22743201
KVR M40-MGM	16 - 28.0	11	22744001
KVR M50-MGM	21 - 34.5	13	22745001
KVR M63-MGM	30 - 44.5	17	22746301

Double membrane seals, grey



Double membrane seals, IP66, with two sealing membranes, closed, thermoplastic elastomer (TPE), grey, for wall thicknesses 1.5 - 4.5 mm

Description	Sealing area/mm	Order no.
DMS M16	5 - 9	26041601
DMS M20	7 - 12	26042001
DMS M25	9 - 16	26042501
DMS M32	14 - 21	26043201
DMS M40	19 - 28	26044001



Class of protection (IP code)
acc.to DIN EN 60529 (VDE 0470-1)



Protection class II operating materials with protective insulation to DIN VDE 0100-410



Vattenfall approval



Nominal cross section The greatest permissible wire cross-section that can be connected acc. to DIN EN 60998 (VDE 0613) and DIN EN 60999 (VDE 0609)



Nominal AC voltage (AC voltage)
Highest permissible voltage on the junction as per product norm



Halogen-free enclosure
without halogens such as fluorine, chlorine and bromine



Level of protection (IK code)
to mechanical impact acc. to DIN EN 50102 (VDE 0470-100)



The **VDE symbol** stands for the tested safety of the product with regard to electrical, mechanical, thermal and other hazards.



DNV-GL
The approved products are from the DNV-GL for installation on all classified ships



DLG FokusTest for special innovations of machines and technical products - predominantly in agricultural and forestry applications.



Industrial quality

Pictograms | Junction boxes

Standard quality

Industrial quality

Overview of the ambient temperatures and mechanical properties of **els products**

	Empty enclosures			Enclosures with fittings						
	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Maximum relative humidity at 40°C	Maximum relative humidity at 25°C (short-term)	Protection rating according to 60529 / VDE 0470-1[1]	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
Red Range / HP Junction boxes	-25°C	40°C	35°C	-25°C	35°C	25°C	50%	95%	IP55	IK07
Abox Junction boxes	-25°C	40°C	35°C	-25°C	35°C	25°C	50%	95%	IP65	IK07
Abox-i VJunction boxes	-35°C	80°C	60°C	-25°C	35°C	25°C	50%	95%	IP65/66	IK08
WK Junction boxes	-25°C	40°C	35°C	-25°C	35°C	25°C	50%	95%	IP54	IK05

Additional note: The specified temperatures may be limited by the installed devices.

[1] For use with suitable connectors or cable glands

Overview of the properties of materials used in the **els installation systems**

Material	Use in the products	Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzol	Mineral oil	Diesel	Ammonia, gaseous (DLG Fokustest)	Vegetable fats	Animal fats	Halogen-free	Free of heavy metals, PVC and silicone	Flammability acc. to DIN EN 60695 (VDE 0471) / UL94
Polystyrene, shock-proof	Abox	O	Ø	O	O	O	X	X	O	X	n.a.	O	X	yes	yes	650°C / HB
Polycarbonate, glass fibre-reinforced	Abox-i[1] Abox-i m	O	X	X	X	O	Ø	X	O	Ø	O	O	Ø	yes	yes	960°C / V-2 (5VA*)
Polyethylene	Attachment bushes, twist nipple, Red Range (bottom section)	O	O	O	O	O	Ø	X	O	X	n.a.	O	O	yes	yes	650°C / HB
Polypropylene copolymer	Red Range (lid)	O	O	O	O	O	Ø	Ø	Ø	Ø	n.a.	O	O	yes	yes	650°C / HB
Polyurethane	All types with foamed lid seal	Ø	Ø	Ø	Ø	Ø	Ø	Ø	X	Ø	O	O	O	yes	yes	650°C / ---
Duroplastic	WK-Junction boxes	Ø	Ø	Ø	Ø	O	O	O	O	O	n.a.	O	O	yes	yes	960°C / V-0
Duroplastic	WK series integratedterminal block except for 4 mm²	X	X	Ø	X	O	O	O	O	O	n.a.	O	O	yes	yes	960°C / V-0
Thermoplastic elastomer	Double-membrane glands, inlet membranes (Abox 025 / 040, 2K-12)	O	Ø	O	Ø	O	Ø	Ø	Ø	Ø	O	O	O	yes	yes	750°C / HB
Polyamid 6, glass fibre-reinforced	Screwed connections IP68, cover screws	X	X	O	O	O	O	Ø	O	O	O	O	O	yes	yes	750°C / HB/V-2

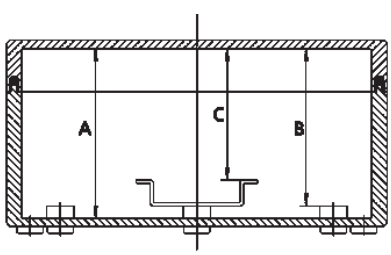
1) From Abox-i 060 flammability as per DIN EN 60695: 960°C. From Abox-i 025 and 040 flammability as per DIN EN 60695: 650°C

* 5 Inch (127 mm) Flame test according to UL 746 C (comparable with the requirements of UL 94, 5VA)

The materials used by Spelsberg were subjected to a weathering test according to DIN 53 387 (replaced by DIN EN ISO 4892-2), a 1000 hour test at the „State Examination Office" in Dortmund. The materials used in the IQ products demonstrate optimum results here. The material also passed a test for UV resistance according to UL 746 C, without any limitations.

When selecting the installation location, the climatic conditions and the occurrence of chemical influences should generally be examined in addition to the protection rating. Details of material properties and chemical resistance of the materials used can be referenced in the tables, though these are simply guide values.

Assembly and installation notes



Installation dimensions Abox products

Item series	A	B	C
Abox / Abox m / Abox-i	[mm]	[mm]	[mm]
Abox / Abox-i 025	42	36	---
Abox m / Abox-i m 025	41,5	35,5	28
Abox / Abox-i 040	45	39	34
Abox m / Abox-i m 040 m	46	40	33
Abox / Abox-i 060 / Abox SL 2,5² / Abox-i SL 2,5²	49	49	41,5
Abox / Abox-i 100 / Abox SL 6² / Abox-i SL 6²	60	60	52,5
Abox / Abox-i 160 / Abox SL 10² / Abox-i SL 10²	71	71	63,5
Abox / Abox-i 250	92	92	84,5
Abox / Abox-i 350 / Abox HA	92	92	84,5
Abox 700	117,5	114	106,5
Abox / Abox-i 700 / 1500 / 2400	146	---	---

				
Art. no. terminal	**840 004 01** Abox 025/40 KLS 2,5²/4²	**840 006 01** Abox 060 KLS 6²	**840 010 01** Abox 100 KLS 10²	**840 016 01** Abox 160 KLS 16²
Installed in junction box	Serie Abox 025 und Abox-i 025 Serie Abox 040 und Abox-i 040	Abox 060-6² Abox-i 060-6² Abox-i 060-6²/sw	Abox 100-10² Abox-i 100-10² Abox-i 100-10²/sw	Abox 160-16² Abox-i 160-16² Abox-i 160-16²/sw
Rated connection capacity	6mm²	10 mm²	16mm²	25mm²
Rated insulation voltage [V]	690	690	690	690
Rated current [A]	41	57	76	101
Clamping points per pole	1	1	2	4
Number of conductors in a clamping point, conductor cross-section, type of conductor	1..5 x 1,5² re 1..6 x 2,5² re 1..4 x 4² re 1..2 x 6² re	1...5 x 2,5² re 1...5 x 4² re 1...4 x 6² re 1...2 x 10² re	1..8 x 2,5² re 1..6 x 4² re 1..4 x 6² re 1..2 x 10² re 1 x 16² re	1..6 x 4² re 1..4 x 6² re 1..2 x 10² re 1 x 16² re 1 x 25² re
Type of conductor	Cu	Cu	Cu	Cu
Number of poles	5	5	5	5
Stripped length	11 mm	11 mm	11 mm	11 mm
Tightening torque	1,2 Nm	2,0 Nm	2,0 Nm	2,5 Nm
Type of terminal	Screw terminal M4	High-position screw terminal M5	High-position screw terminal M5	High-position screw terminal M6

 **re**= single-wire, round conductor

 **se**= single-wire, sector conductor

 **rm**= multi-wire, round conductor

						
840 035 01 Abox 250/350 KLS 25²/35²	**840 070 01** Abox 700 KLS 70²	**076 125 01** AKL 125150²	**670 650 01** URS RK1 150²	**670 740 01** URS RK1 240²	**076 140 01** AKL 140 240²	**460 525 01** WK 007 KLS-2,5²
Abox 250-25² Abox-i 250-25² Abox 350-35² Abox-i 350-35² Abox-i 350-35²/sw	Abox 700-70² Abox-i 700-70²	Abox-i 1500-150²	Abox-i 1500-150² DK	Abox-i 2400-240² DK	Abox-i 2400-240²	WK 007-2,5²
35mm²	70mm²	150mm²	150mm²	240mm²	240mm²	2,5mm²
690	690	690	1000	1000	690	660
125	150	250	309	380	400	24
4	4	4	2	2	4	1
1..4 x 10² re 1..2 x 16² re 1 x 25² re 1 x 35² re	1x16² re;rm;se;sm 1x25² re;rm;se;sm 1x35² re;rm;se;sm 1x50² re;rm;se;sm 1x70² re;rm;se;sm	1x16-50 re, Cu/AL 1x16-150 rm, Cu/AL 1x50-150 se, Cu/AL 1x35-150 sm, Cu 1x50-120 sm, AL 2x16-50 re, Cu/AL 2x16-70 rm, Cu/AL 2x50-70 se, Cu/AL 2x35-70 sm, Cu 2x35-50 sm, AL	single-wire rigid 35-150 / multi-wire flexible 50-150 fine-wire 50-150 / fine-wire end ferrule 50-150 flexible copper busbars up to 20x8	single-wire rigid 50-240 / multi-wire flexible 50-240, fine-wire 50-240 / fine-wire end ferrule 50-240 flexible copper busbars up to 20x12	1x25-50 re Cu/AL, 1x25-240 rm Cu, 1x50-185 se Cu/AL, 1x35-240 sm Cu, 1x95-185 sm Al, 2x25-50 re Cu/AL, 2x25-120 rm Cu/AL, 2x50-120 se Cu/AL, 2x35-120 sm Cu, 2x50-95 sm Al, flat Cu 25x15	6 x 1²-1,5² re,rm 4 x 2,5² re, rm
Cu	Cu	Cu/AL	Cu	Cu	Cu/AL	Cu
5	1	1	1	1	1	5
11 mm	15 mm	38 mm	38 mm	37 mm	45 mm	11 mm
4,0 Nm	4,0 Nm	20 Nm	10-20 Nm	10-20 Nm	40 Nm	1,2 Nm
High-position screw terminal M8	Screw terminal	Screw terminal cable insertion from above	Serial through-feed terminal M10 Allen head	Serial through-feed terminal M10 Allen head	Screw terminal cable insertion from above	Screw terminal



sm= multi-wire, sector conductor

					
Art. no. terminal	**460 506 01** WK 060 KLS-6²	**460 510 01** WK 100 KLS-10²	**460 516 01** WK 160 KLS-16²	**460 535 01** WK 250 KLS-25²	**076 125 01** AKL 125
Installed in junction box	WK 060-6²	WK 100-10²	WK 160-16²	WK 250-25²	Abox-i 1500-150²
Rated connection capacity	6mm²	10mm²	16mm²	25mm²	150mm²
Rated insulation voltage [V]	690	690	690	690	1000
Rated current [A]	41	57	76	101	250
Clamping points per pole	1	1	1	1	2
Number of conductors in a clamping point, conductor cross-section, type of conductor	3 x 2,5²-6² re, rm	3 x 4²-10² re, rm	3 x 6²-16² re, rm	3 x 10²-25² re, rm	Cu/Al 1x16-50 re, Cu/Al 1x16-150 rm, Cu/Al 1x50-150 se, CU 1x35-150 sm, Al 1x50-150 sm, Cu/Al 2x16-50 re, Cu/Al 2x16-70 rm, Cu/Al 2x50-70 se, CU 2x35-70 sm, Al 2x35-50 sm
Type of conductor	Cu	Cu	Cu	Cu	Cu / AL
Number of poles	5	5	5	5	1
Stripped length	15 mm	15 mm	23 mm	28 mm	--------
Tightening torque	2,0 Nm	2,0 Nm	2,5 Nm	2,5 Nm	20 Nm
Type of terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal	Screw terminal

 **re**= single-wire, round conductor

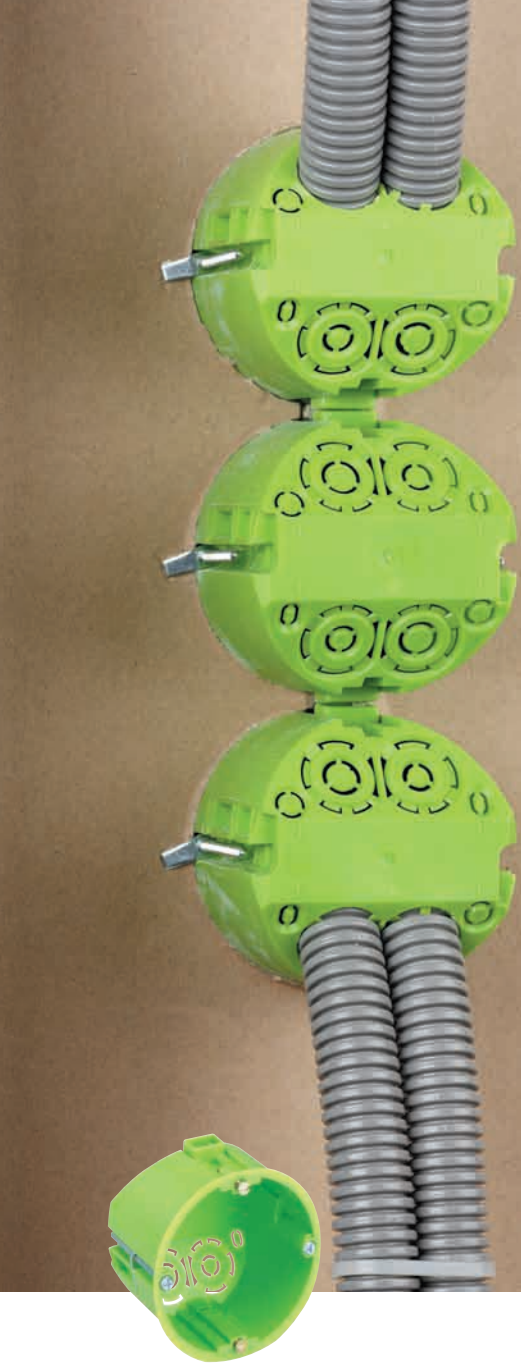
 **se**= single-wire, sector conductor

 **rm**= multi-wire, round conductor

				
076 140 01 AKL 140	----------	----------	----------	----------
Abox-i 2400-240²	Abox SL 2,5² Abox-i SL 2,5/4²	Abox SL 6² Abox-i SL 6²	Abox SL 10² Abox-i SL 10²	Abox SL 16² Abox-i SL 16²
240mm²	4mm²	6mm²	10mm²	16mm²
1000	450	800	800	800
400	32	41	57	76
2	3	2	2	2
Cu/Al 1x25-50 re, Cu/Al 1x25-240 rm, Cu/Al 1x50-185 se, CU 1x35-240 sm, Al 1x95-185 sm, Cu/Al 2x25-50 re, Cu/Al 2x25-120 rm, Cu/Al 2x50-120 se, CU 2x35-120 sm, Al 2x50-95 sm	Single-wire 0,2-4² Multi-wire 0,2-4² Fine-wire 0,14-4²	Single-wire 0,5-10² Fine-wire 0,5-10² Fine-wire end ferrule 1,5²	Single-wire 0,5-16² Fine-wire 0,5-16² Fine-wire end ferrule 2,5²	Single-wire 0,5-16² Fine-wire 0,5-25² Fine-wire end ferrule 2,5²
Cu / AL	Cu	Cu	Cu	Cu
1	1	1	1	1
----------	11 mm	15 mm	19 mm	20 mm
20 Nm	----------	---------	----------	----------
Screw terminal	Push-in terminal	Spring-type terminal	Spring-type terminal	Spring-type terminal



sm= multi-wire, sector conductor





Cavity wall installation system

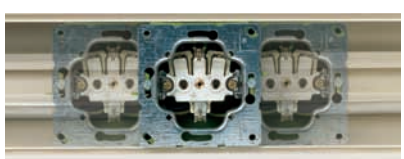
- Automatic cable restraint for conduits up to 20 mm Ø or cables NYM up to 5x2.5²
- Fast, easy installation thanks to favourable positioning of claws
- No special tools needed
- Pattress boxes with integrated combi-bridge for insulated wiring, no extra parts needed
- Combination of different heights possible
- Flush installation standard, no countersink necessary

Trunking boxes

- Patented entries with strain relief
- Convenient insertion of the connecting cables from above
- For cables up to 5 x 2.5² and data lines
- Universal 1-way or 2-way boxes in various heights
- For switches, sockets (screw spacing 60 mm), CEE 16 A (screw spacing 67 mm)

<u>Fast installation</u>

- Snap box into place
- Connect device outside the box
- Insert the device and connecting cable from above and position the box
- Tighten screws - done!



Cavity Wall Installation System

Cavity Wall and Trunking Boxes

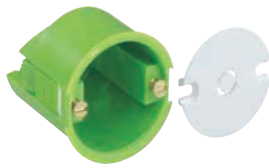
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Cavity Wall and Trunking Boxes

Cavity Wall Units and Junction Boxes

HW 040 - outlet socket — 35 x 35 x 40 mm



IP30

Cavity wall outlet socket, flame resistant, for lighting outlets acc. to VDE 0100, for plate thicknesses from 1 to 30 mm, screwing distance 27 mm, including white sealing cap

Description	Order no.
HW 040 Drilled hole Ø 35 mm, 40 mm deep	92404001

HW 035 - flat box — 68 x 68 x 35 mm



IP30

Cavity wall flat box, flame resistant, special box with small installation depth (35 mm), for thin walls with plate thicknesses from 1 to 20 mm, with moulded patented combi jumpers, device screw spacing 60 mm

Description	Order no.
HW 035 Drilled hole Ø 68 mm, 35 mm deep	92003501

HW 035 H - Flachdose — 68 x 68 x 35 mm



IP30

Cavity wall flat box, flame-retardant and halogen-free, special box with low installation depth (35 mm), for thin walls with plate thicknesses 1 - 20 mm, with moulded, patented combination jumpers, 60 mm equipment screw spacing, halogen-free

Description	Order no.
HW 035 H Drilled hole Ø 68 mm, 35 mm deep	92023501

Cavity Wall and Trunking Boxes

Cavity Wall Units and Junction Boxes

HW 050 - receptacle

68 x 68 x 50 mm



IP30

Cavity wall receptacle, flame resistant, universal socket for plate thicknesses from 1 to 40 mm with moulded patented combi jumpers and punching tool, device screw spacing 60 mm

Description	Order no.
HW 050 Drilled hole Ø 68 mm, 50 mm deep, with coated, patented combi bridges	92005001
HW 050 WD With closed membrane entries, drilled hole Ø 68 mm, 50 mm deep	92035001

HW 050 H - Gerätedose

68 x 68 x 50 mm



IP30

Cavity wall appliance box, flame-retardant and halogen-free, universal box for panel thicknesses 1 - 40 mm, with punching tool, 60 mm equipment screw spacing, halogen-free

Description	Order no.
HW 050 H Drilled hole Ø 68 mm, 50 mm deep, with coated, patented combi bridges	92025001

HW 065 - equipment junction box

68 x 68 x 65 mm



IP30

Cavity wall channel junction box, flame resistant, with enlarged connection space, universal socket for plate thicknesses from 1 to 40 mm, with moulded, patented combi jumpers and punching tool, device screw spacing 60 mm

Description	Order no.
HW 065 Drilled hole Ø 68 mm, 65 mm deep, with coated, patented combi bridges	92006501
HW 065 WD With closed membrane entries, drilled hole Ø 68 mm, 65 mm deep	92036501

Cavity Wall and Trunking Boxes

Cavity Wall Units and Junction Boxes

HW 065 H - Geräteverbindungsdose

68 x 68 x 65 mm



IP30

Cavity wall equipment junction box, flame-retardant and halogen-free, with enlarged terminal compartment, universal box for panel thicknesses 1- 40 mm, with punching tool, 60 mm equipment screw spacing, halogen-free

Description	Order no.
HW 065 H Drilled hole Ø 68 mm, 65 mm deep, with coated, patented combi bridges	92026501

HW 120 junction box

120 x 120 x 65 mm



IP30

Cavity wall connection socket, flame resistant,for plate thicknesses from 7 to 35 mm, for terminals up to 4 mm², including white sealing cap

Description	Order no.
HW 120 Drilled hole Ø 120 mm, 65 mm deep	92512001

HW 050 - equipment double box

68 x 139 x 50 mm



IP30

Cavity wall double socket, flame resistant, for plate thicknesses from 1 to 40 mm, with moulded patented combi jumpers and punching tool, device screw spacing 60 mm

Description	Order no.
HW 050/2 Drilled hole Ø 2 x 68 mm, 50 mm deep, Combination spacing 71 mm, with coated, patented combi bridges	92305001
HW 050/2 WD With closed membrane entries, drilled hole Ø 2 x 68 mm, 50 mm deep, Combination spacing 71 mm	92335001

Cavity Wall and Trunking Boxes

Cavity Wall Units and Junction Boxes

HWK - junction boxes



IP30

Cavity wall terminal boxes, flame resistant, for plate thicknesses from 7 to 35 mm, including white sealing cap

Description	Order no.
HWK 1 107 x 107 x 53 mm, with drilling template for 35 mm drilled holes	92800101
HWK 2 165 x 165 x 72 mm, with drilling template for 68 mm drilled holes	92800201
HWK 3 235 x 205 x 72 mm, with drilling template for 68 mm drilled holes	92800301

Cavity Wall and Trunking Boxes

Cavity Wall Socket Accessories

HW - sealing cover



Sealing plate for junction boxes, polystyrene, flame resistant, white

Description	Ø	for cover	Order no.
HW VD-67 for type HW 070, screw spacing 67 mm	90	U86, U120	92510001
HW VD-60 for type HW 035 / HW 050 / HW 065, screw spacing 60 mm	90	U71	92510101

DH ceiling hook



Metal ceiling hook, insulated, with M5 thread for ceiling boxes

Description	Shaft length	for cover	Order no.
DH 65-M5 65 mm	65	U71 KUT-M5	97912001
DH 75-M5 75 mm	75	U 71 KUD-M5	97911701
DH 90-M5 90 mm	90	U 71 KUD-M5	97912201
DH 100-M5 100 mm	100	U 86 DVD-2	97911901
DH 115-M5 115 mm	115	U 120 GRO-3	97912101
DH 135-M5 135 mm	135	U 71 KUT-M5	97912301

ES device screws



Additional device screws for mounting built-in devices in cavity wall outlet sockets

Description	Order no.
ES-10 3.1 x 10 mm	97910501
ES-18 3.1 x 18 mm	97910601
ES-25 3.1 x 25 mm	97910701

Cavity Wall and Trunking Boxes

Cavity Wall Socket Accessories

HW hole cutters



Hole cutter with spring for ejection of PCB, drilling depth up to 30 mm

Description	Order no.
HW LFR-35 Diameter 35 mm Ø	92513501
HW LFR-68 Diameter 68 mm Ø	92516801
HW LFR-74 Diameter 74 mm Ø	92517401
HW LFR-120 HW hole cutter HW LFR-120 will fit any commercial drill chuck, diameter 120 mm Ø, cutting depth 40 mm	92512101

Spare parts for hole cutters



Saw blade for hole cutter type 925 onwards

Description	Order no.
HW LFR-35/SBL Diameter 35 mm Ø	92993501
HW LFR-68/SBL Diameter 68 mm Ø	92996801
HW LFR-74/SBL Diameter 74 mm Ø	92996901

Professional carrying case hole cutter



Hole cutter set comprising: 1 x profi cutter 35 mm, 1 x profi cutter 68 mm, 1 x profi cutter 74 mm, 1 x drive arbour, 1 x ejector spring, 1 x plastic case

Description	Order no.
HW LFRP-Sort	92519901

HW professional hole cutters



Closed HSS bi-metallic cutter for long-term use with spring for ejection of PCB, drilling depth up to 40 mm

Description	Order no.
HW LFRP-35 Size 35 mm Ø	92693501
HW LFRP-68 Size 68 mm Ø	92696801
HW LFRP-74 Size 74 mm Ø	92697401

RVB conduit coupling



Conduit coupling (without conduit) with strain relief, grey, for flexible metric electrical installation conduits

Description	Order no.
RVB 20 for long-ridged pipes M20	97022001
RVB 25 for long-ridged pipes M25	97022501
RVB 32 for long-ridged pipes M32	97023201
RVB 40 for long-ridged pipes M40	97024001

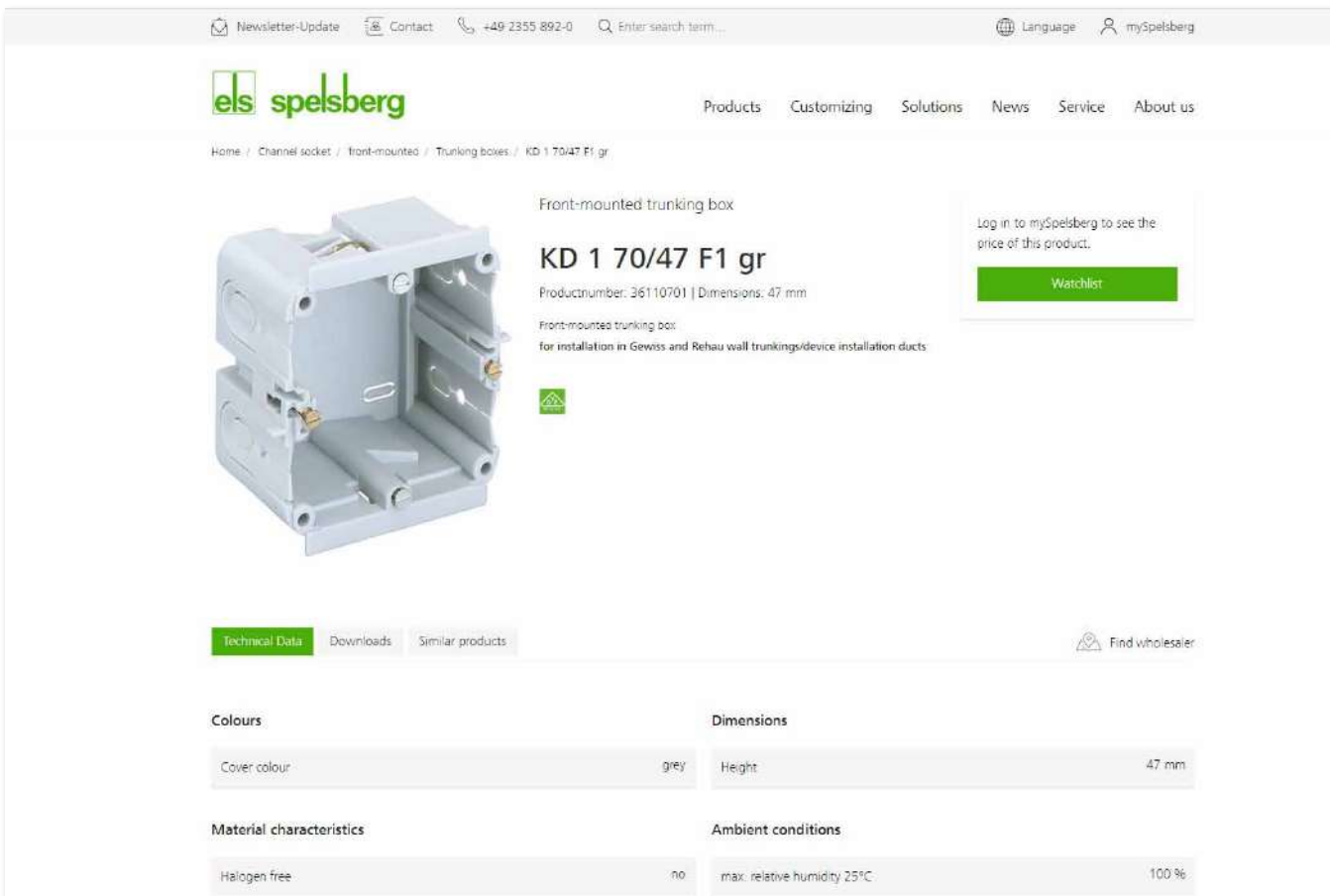
Front-mounted trunking boxes



		Gewiss	Rehau	Niedax
Trunking / Trunking boxes		BR wall trunking Insertion width 80 mm BR-PVC BR-Alu BR Steel (profiled)	Wall trunking PVC/Alu/Steel (signo BK, BS, BA)	Device installation trunking GK 78, Insertion width 78 mm Steel/Alu
Height 47 mm	1-way	361 107 01 Colour: grey	361 107 01 Colour: grey	
	1-way			361 407 01 Colour: green
Height 44 mm	2-way	362 104 01 Colour: grey	362 104 01 Colour: grey	
	2-way			362 404 01 Colour: green

= Device installation for integrated appliances with cover frame

Visit our website at www.spelsberg.com



Floor-mounted trunking boxes











		Tehalit	Gewiss	Rehau	
Trunking / Trunking boxes		BR wall trunking PVC/ Alu	BR wall trunking PVC/Alu/Steel FB device installation trunking	Wall trunking PVC/Alu/ Steel (signo BK, BS, BA) FBK window sill trunking	
		from BR 70130	All sizes	All sizes	
Height 47 mm	1-way		370 047 01 Colour: grey		
	2-way		382 047 01 Colour: grey		
Height 50 mm	1-way				
	2-way				
Height 52 mm	1-way		370 052 01 Colour: green		
	2-way		382 052 01 Colour: green		
Height 55 mm	1-way	391 055 01 Colour: black			
	1-way				
	1-way			370 055 01 Colour: grey	
	2-way	392 055 01 Colour: black			
	2-way				
	2-way			382 055 01 Colour: grey	

Floor-mounted junction box with cover



		Gewiss	Rehau	
Trunking / Trunking boxes		BR wall trunking PVC/Alu/Steel FB device installation trunking	Wall trunking PVC/Alu/ Steel (signo BK, BS, BA) FBK window sill trunking	
		All sizes	All sizes	
Height 42 mm	1-way	370 042 01 Colour: green	370 042 01 Colour: green	
	1-way			



Trunking boxes for other manufacturers available on request

	Kleinhuis		Ackermann
	HKL installation trunking (from HKL60110) GL device installation trunking	BS wall trunkin PVC, insertion width 80/112 mm	Wall installation trunking WIK2, insertion width 110 mm steel
	GL (all sizes)	All sizes	from WIK2 65/133
	370 450 01 (*1) Colour: white	370 450 01 Colour: white	
	382 450 01 (*1) Colour: white	382 450 01 Colour: white	
			391 055 01 Colour: black
		370 455 01 Colour: grey	
			392 055 01 Colour: black
		382 455 01 Colour: grey	

	Kleinhuis		Niedax
	HKL installation trunking (from HKL60110) GL device installation trunking	BS wall trunking PVC, insertion width 80/112 mm	Device installation trunking GK 100, insertion width 110 mm steel
	GL (all sizes)	All sizes	All sizes
			370 042 01 (*2) Colour: green
	370 442 01 Colour: green	370 442 01 Colour: green	



(*1) = from GL 80150 only in conjunction with Kleinhuis bridge GLB80

(*2) = GK with depth of 80 mm and adapter rail TS 35 top-hat profile

= Device installation for integrated appliances with cover frame

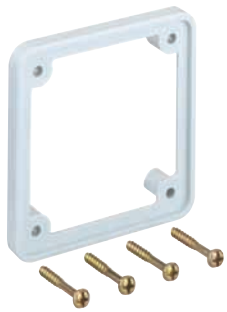
= Device installation for integrated appliances with central disc



Cavity Wall and Trunking Boxes

Trunking Box Accessories

CEE installation kit



Installation kit for CEE devices 16 A (straight design) with flange dimensions 75 x 75 mm, spacing of the fixing holes 60 mm, suitable for individual boxes

Description	Order no.
KD EBZ-CEE Check dimensions beforehand owing to large number of CEE devices available on the market.	37210001

Device cam



Fixing clamps as additional fixing points for devices, to be snapped into sidewalls of individual boxes (bottom profile)

Description	Order no.
KD GN-SND with self-cutting screws	37040001

Strain relief



Strain relief for installation in channel socket wall for increasing mechanical security, e.g. for vertical conduit laying, universal, to be retrofitted

Description	Order no.
KD ZEL	37040201



Protection class (IP code)
as per DIN EN 60529 (VDE 0470-1)



The **VDE mark** stands for approved safety of the product referring electrical, mechanical, thermal and other hazards



Halogen-free enclosure,
without halogens such as fluorine, chlorine and bromine.

Pictograms | Flush-mounted and channel installation boxes

Standard Quality

Overview of the **ambient conditions** and **mechanical properties** of the **els products**

	Enclosure without fittings			Enclosure with fittings						
	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Max. relative humidity at 40 °C	Max. relative humidity at 25 °C (short-term)	Protection rating according to DIN EN 60529 / VDE 0470-1[1)]	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
HW flush-mounted installation system	-25°C	40°C	35°C	-25°C	40°C	35°C	50%	not specified	IP30	not specified
KD channel installation system	-25°C	40°C	35°C	-25°C	40°C	35°C	50%	not specified	IP20	not specified

Additional note: The specified temperatures may be limited by the installed devices.

[1)] When used with suitable connectors or cable screw couplings

Overview of the **Properties** of the materials used in the **els installations systems**

Material	Use in the products:	Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzene	Mineral oil	Diesel	Ammonia, gaseous (DLG Focus Test)	Vegetable fats	Animal fats	Halogen-free	Free from heavy metals, PVC and silicone	Flammability according to DIN EN 60695 (VDE 0471) / UL94
Polypropylene	HW program	O	O	O	O	O	Ø	Ø	O	X	not specified	O	O	no	yes	850 °C / V-2
Polypropylene	HW program, **halogen-free**	O	O	O	O	O	Ø	Ø	O	X	not specified	O	O	no	yes	960°C / V-2

O = resistant Ø = partially resistant X = not resistant

When selecting the installation location, the climatic conditions and the occurrence of chemical influences should generally be examined in addition to the protection rating. Details of material properties and chemical resistance of the materials can be seen from the table, **though these are simply guide values.**

LIFELINE
Electrical functional integrity

Smart fire protection solutions from a single source.

From now on, Spelsberg will unite its first-class solutions for electrical functional integrity under a new brand: LIFELINE stands for the intelligent integration of innovative product designs with high quality heat and fire resistant materials and components. Consequently, it is ensured that in case of fire all the relevant safety systems continue to work without interruption even under the toughest conditions.

More fire protection. More safety. More trust.

LIFELINE is the technology for life. With the knowledge and experience of our competent staff, we take responsibility every day to make the world a little safer. The smart fire safety solutions of LIFELINE offer first-class quality, which can be relied upon in emergencies. LIFELINE protects all life and assets without compromises and guarantees the best form of sustained fire safety.

High technical performance.

Only reliable products can ensure the electrical functional integrity and protect life in case of a fire. LIFELINE guarantees the function of life-saving electrical systems in buildings and tunnels, such as emergency lighting and smoke extraction systems in escape and rescue routes. As a leading manufacturer of high quality junction and connection boxes and robust surface-mounted small distribution boards, Spelsberg has always been strongly positioned with the LIFELINE brand for the development of fire protection solutions, particularly in these product segments.

Electrical function integrity E30 to E90

The junction boxes as well as the WKE-AK small distributors of LIFELINE provide electrical functional integrity between 30 and 90 minutes in the event of a fire. In doing so, the classes E30 to E90 identify the minimum duration for the functional integrity of the electrical systems.

LIFELINE ensures that the function of fire alarm systems, acoustic systems, emergency lighting or elevators with evacuation function is maintained for at least 30 minutes during an emergency. And in the case of pressure boosting systems for the extinguishing water supply, smoke and heat exhaust ventilation systems or for fire brigade lifts for at least 90 minutes. Guaranteed.



Intrinsic Fire Resistance

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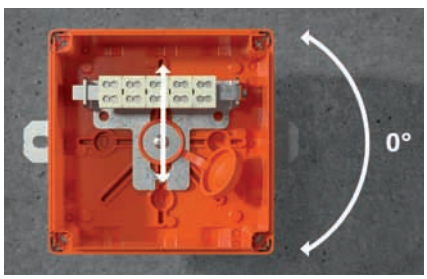
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	**WKE I with fused junction**	**WKE 200-400** with fuse	**115**
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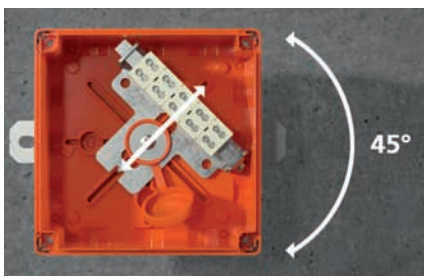


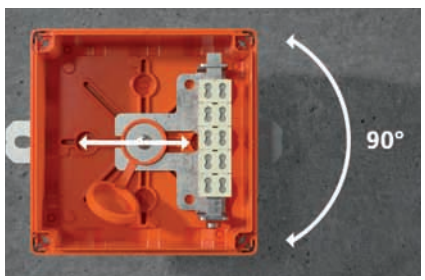
Planning freedom saves time and cost for you

- Clear and variable positioning of the base carrier through simple rotation in steps of 45°
- Step-less positioning of the longitudinal axis

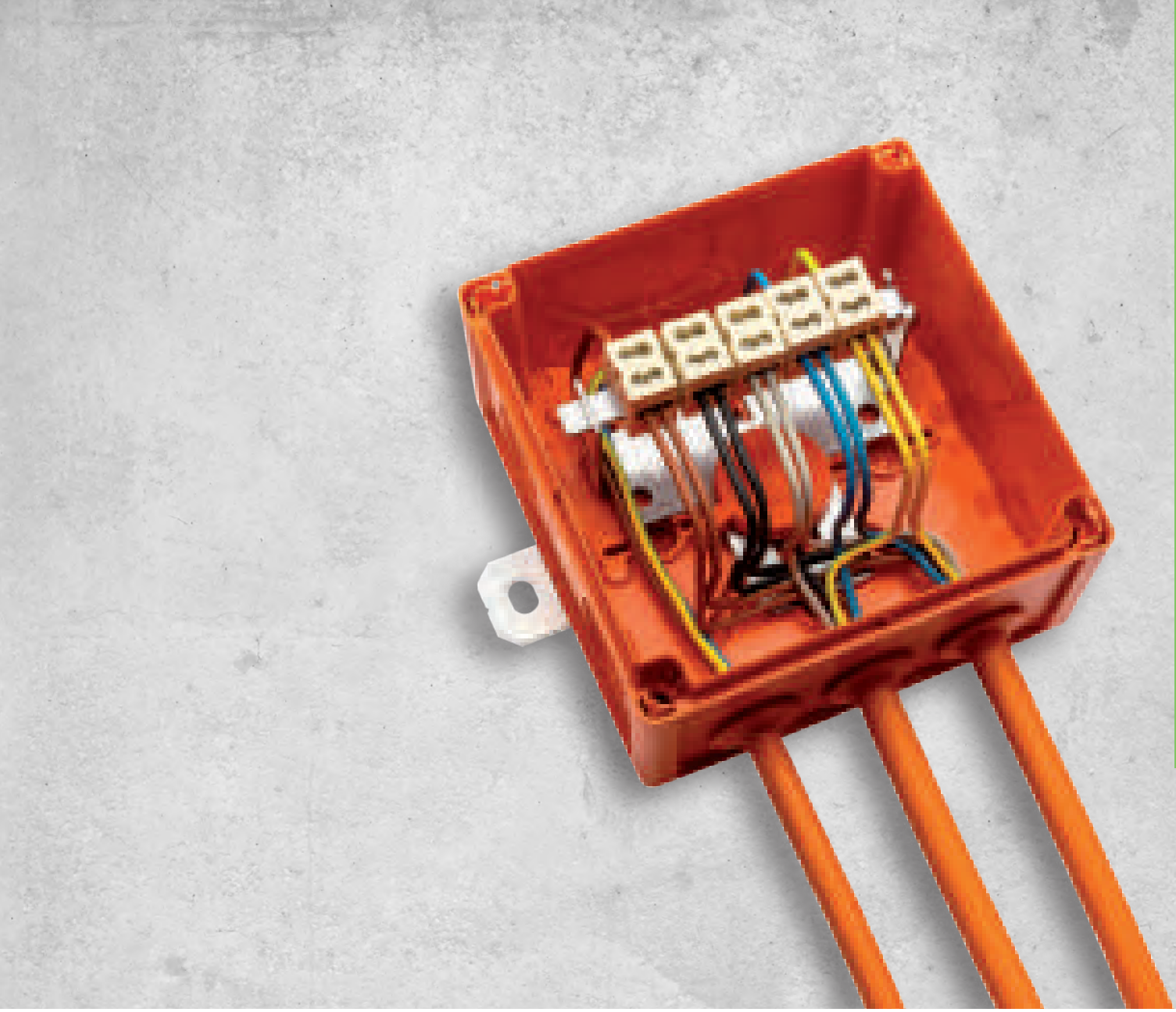
Be FLEXIBLE!







WKE 2-6 | ... be flexible! NEW!



An easy, quick and safe installation

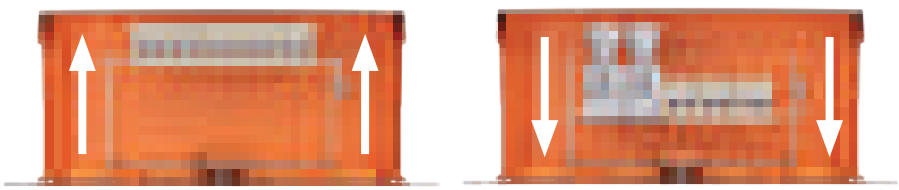
- Central fixing through just one screw
- Accessible at any time
- All cable entries can be used with terminal in high position

Position **above**:

- easy handling of the wires
- Possible to mount the cables by adhering to the bending radius
- All cable entries can be used without restrictions

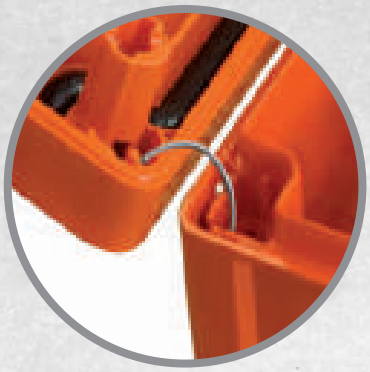
Position **below**:

- ideal for special solutions
- Use of D0 fuses (for WKE 6)



IP66 | E30-E90 | 16^2 | IK08 | 450V AC/DC | halogen free | iQ

Cover retaining strap
- can be used optionally by the installer

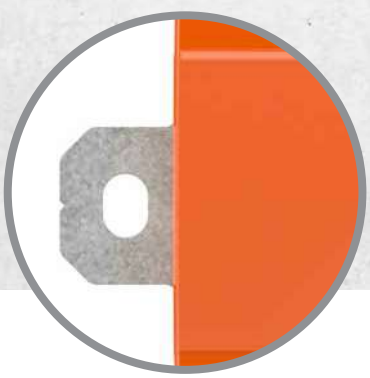


Knockouts with multiple options
- optimised positioning of the knockouts
  - adjusted to the fixing systems
  - locking of counter nuts
- patented knockouts
  - integrated knockout points
  - easy and clean knocking-out
- centre markings on the boxes and external fixing lugs





External fixing lugs
- pre-mounted for a fast installation
- can be rotated by 90°
- ensures correct mounting



Further relevant information on the topic of **functional integrity** is available at:

spelsberg.com/WKE



Extensive international certifications

ABP DIN 4102-12
Functional integrity E30 / E60 / E90

EN 60670
Tapping and connection boxes

IEC 62208 & IEC 61439
Empty housing &
switching device combinations

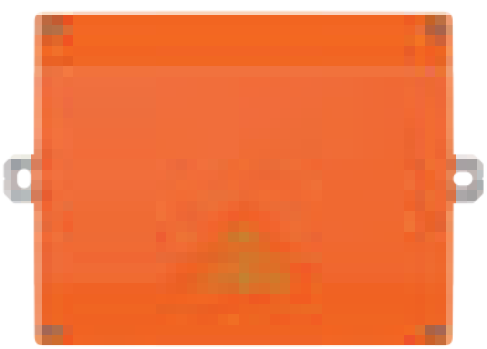
NEW!



Labelling fields
- Areas for an individual labelling

Sealing opening
- Possible to seal the lid without any further accessories

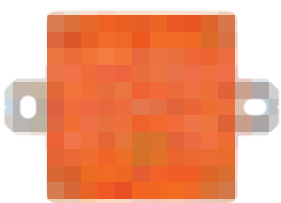
External drainage membrane
- optional knocking-out, even after the installation



WKE 6
250 x 200 x 120 mm



WKE 4
150 x 150 x 85 mm



WKE 2
100 x 100 x 70 mm



Functional integrity E30-E90 according to DIN 4102 part 12 with ceramic terminals 0.5 to 16 mm²

- The right solution for each cross-section and application
- Installation material such as screw anchors and double membranes included
- Quick mounting through external fixing
- Completely pre-assembled
- Ideal for building technology
- General construction-supervisory test certificate (AbP)
- VDE certified
- UL-EU certified

IP66 | E30-E90 | 1,5-16² | IK08 | 450V AC/DC | VDE | UL EU | halogen-free | iQ

Intrinsic Fire Resistance

WKE 2-6 for Connecting and Junctions

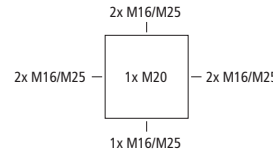
WKE 2 - 5 x 1,5²

100 x 100 x 70 mm



IP66 | E30-E90 | IK08 | 1,5² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 4 double membrane seals IP66 M25 sealing range 9 - 16 mm

Description	Order no.
WKE 2 - 5 x 1,5² NEW Junction box, 5-pole, 0.5 - 2.5 mm², distribution box, 5-pole, 0.5 - 1.5 mm², number of clampable conductors per pole: 8 x 0.5² / 4 x 0.75² / 6 x 1² / 6 x 1.5² / 2 x 2.5²	86650201

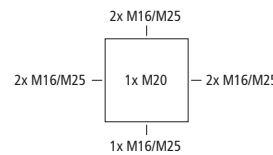
WKE 2 - 3 x 4²

100 x 100 x 70 mm



IP66 | E30-E90 | IK08 | 4² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning

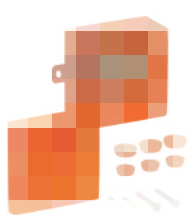


Accessories supplied:
Cover retaining straps, screw anchors, 4 double membrane seals IP66 M25 sealing range 9 - 16 mm

Description	Order no.
WKE 2 - 3 x 4² NEW Junction box 3-pole 1 - 6 mm², junction box 3-pole 1 - 4 mm², number of clampable conductors per pole: 10 x 1² /8 x 1.5² /6 x 2.5² /4 x 4² /2 x 6²	86651201

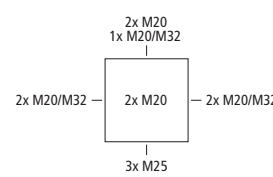
WKE 4 - 5 x 4²

150 x 150 x 85 mm



IP66 | E30-E90 | IK08 | 4² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 3 double membrane seals IP66 M25 sealing range 9 - 16 mm, 3 double membrane seals IP66 M32 sealing range 14 - 21 mm

Description	Order no.
WKE 4 - 5 x 4² NEW Junction box, 5-pole, 1 - 10 mm², distribution box, 5-pole, 1 - 4 mm², number of clampable conductors per pole: 10 x 1² / 8 x 1,5² / 6 x 2,5² / 4 x 4² / 2 x 6² / 2 x 10²	86650401

Intrinsic Fire Resistance

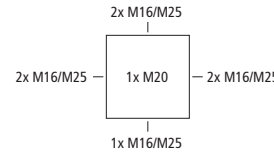
WKE 2-6 for Connecting and Junctions

WKE 2 - Duo 3 x 4² — 100 x 100 x 70 mm



IP66 | E30-E90 | IK08 | 4² | 450V AC | 450V DC

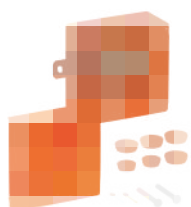
Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 4 double membrane seals IP66 M25 sealing range 9 - 16 mm

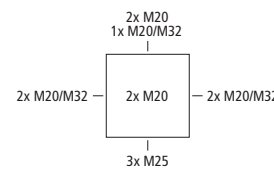
Description	Order no.
WKE 2 - Duo 3 x 4² NEW Junction box, 3-pole, 0.5 - 4 mm², distribution box, 3-pole, 0.5 - 4 mm², number of clampable conductors per pole: 16 x 0.5² / 8 x 0.75² / 12 x 1² / 12 x 1.5² / 4 x 2.5² / 4 x 4²	86740001

WKE 4 - Duo 5/3 x 6² — 150 x 150 x 85 mm



IP66 | E30-E90 | IK08 | 6² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 2 double membrane seals IP66 M25 sealing range 9 - 16 mm, 4 double membrane seals IP66 M32 sealing range 14 - 21 mm

Description	Order no.
WKE 4 - Duo 5/3 x 6² NEW Junction box, 5-pole, 0.5 - 6 mm², distribution box 3-pole 0.5 - 6 mm², number of clampable conductors per pole: 16 x 0.5² / 8 x 0.75² / 12 x 1² / 12 x 1.5² / 4 x 2.5² / 4 x 4² / 4 x 6², in 2-pole pass-through 8 x 0.5² / 4 x 0.75² / 6 x 1² / 6 x 1.5² / 2 x 2.5² / 2 x 4² / 2 x 6²	86771001

Intrinsic Fire Resistance

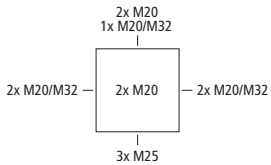
WKE 2-6 for Connecting and Junctions

WKE 4 - Duo 5 x 6² — 150 x 150 x 85 mm



IP66 | E30-E90 | IK08 | 6² | 450V AC | 450V DC

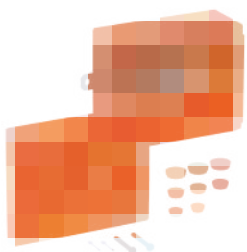
Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 3 double membrane seals IP66 M25 sealing range 9 - 16 mm, 3 double membrane seals IP66 M32 sealing range 14 - 21 mm

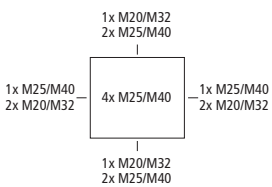
Description	Order no.
WKE 4 - Duo 5 x 6² NEW Junction box, 5-pole, 0.5 - 6 mm², distribution box, 5-pole, 0.5 - 6 mm², number of clampable conductors per pole: 16 x 0.5² / 8 x 0.75² / 12 x 1² / 12 x 1.5² / 4 x 2.5² / 4 x 4² / 4 x 6²	86741001

WKE 6 - Duo 7 x 6² — 200 x 250 x 120 mm



IP66 | E30-E90 | IK08 | 6² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 2 double membrane seals IP66 M20 sealing range 7 - 12 mm, 3 double membrane seals IP66 M25 sealing range 9 - 16 mm, 3 double membrane seals IP66 M32 sealing range 14 - 21 mm

Description	Order no.
WKE 6 - Duo 7 x 6² NEW Junction box ,7-pole, 0.5 - 6 mm², distribution box 7-pole 0.5 - 6 mm², number of clampable conductors per pole: 16 x 0.5² / 8 x 0.75² / 12 x 1² / 12 x 1.5² / 4 x 2.5² / 4 x 4² / 4 x 6²	86742001

Intrinsic Fire Resistance

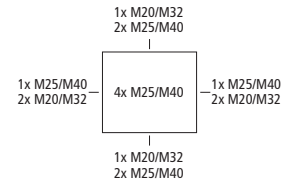
WKE 2-6 for Connecting and Junctions

WKE 6 - 5 x 6² — 200 x 250 x 120 mm



IP66 | E30-E90 | IK08 | 6² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 4 double membrane seals IP66 M32 sealing range 14 - 21 mm, 2 double membrane seals IP66 M40 sealing range 19 - 28 mm

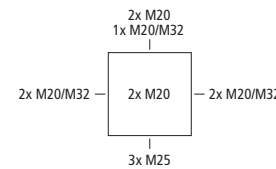
Description	Order no.
WKE 6 - 5 x 6² NEW Junction box, 5-pole, 1.5 - 16 mm², distribution box, 5-pole, 1 - 6 mm², number of clampable conductors per pole: 10 x 1.5² / 8 x 2.5² / 4 x 4² / 4 x 6² / 2 x 10² / 2 x 16²	86650601

WKE 4 - Duo 3 x 10² — 150 x 150 x 85 mm



IP66 | E30-E90 | IK08 | 10² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 3 double membrane seals IP66 M25 sealing range 9 - 16 mm, 3 double membrane seals IP66 M32 sealing range 14 - 21 mm

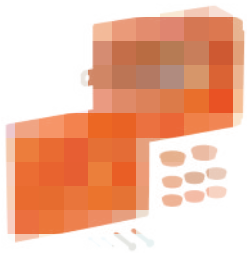
Description	Order no.
WKE 4 - Duo 3 x 10² NEW Junction box, 3-pole, 1 - 10 mm², distribution box, 3-pole, 1 - 10 mm², number of clampable conductors per pole: 20 x 1² / 16 x 1,5² / 12 x 2,5² / 8 x 4² / 4 x 6² / 4 x 10²	86750001

Intrinsic Fire Resistance

WKE 2-6 for Connecting and Junctions

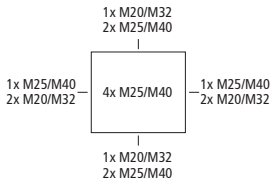
WKE 6 - Duo 5 x 10²

200 x 250 x 120 mm



IP66 | E30-E90 | IK08 | 10² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 6 double membrane seals IP66 M32 sealing range 14 - 21 mm, 2 double membrane seals IP66 M40 sealing range 19 - 28 mm

Description	Order no.
WKE 6 - Duo 5 x 10² NEW Junction box, 5-pole, 1 - 10 mm², distribution box, 5-pole, 1 - 10 mm², number of clampable conductors per pole: 20 x 1² / 16 x 1,5² / 12 x 2,5² / 8 x 4² / 4 x 6² / 2 x 10²	86751001

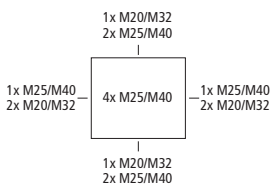
WKE 6 - Duo 3 x 16²

200 x 250 x 120 mm



IP66 | E30-E90 | IK08 | 16² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 3 double membrane seals IP66 M32 sealing range 14 - 21 mm, 3 double membrane seals IP66 M40 sealing range 19 - 28 mm

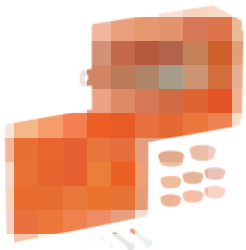
Description	Order no.
WKE 6 - Duo 3 x 16² NEW Junction box, 3-pole, 1.5 - 16 mm², distribution box, 3-pole, 1.5 - 16 mm², number of clampable conductors per pole: 20 x 1.5² / 16 x 2.5² / 12 x 4² / 8 x 6² / 4 x 10² / 4 x 16²	86760001

Intrinsic Fire Resistance

WKE 2-6 for Connecting and Junctions

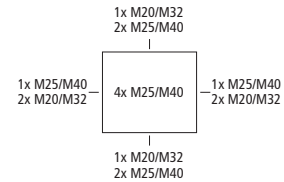
WKE 6 - Duo 5 x 16²

200 x 250 x 120 mm



IP66 | E30-E90 | IK08 | 16² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 6 double membrane seals IP66 M32 sealing range 14 - 21 mm, 2 double membrane seals IP66 M40 sealing range 19 - 28 mm

Description	Order no.
WKE 6 - Duo 5 x 16² NEW Junction box, 5-pole, 1.5 - 16 mm², distribution box, 5-pole, 1.5 - 16 mm², number of clampable conductors per pole: 20 x 1.5² / 16 x 2.5² / 12 x 4² / 8 x 6² / 4 x 10² / 4 x 16²	86761001

E30

Ensuring the functional integrity for at least 30 minutes, e.g., for:

- **Fire alarm systems**
- **Acoustic systems**
- **Emergency lighting**
- **Elevators with evacuation function** for warning, escape and/or rescue

E90

Ensuring the functional integrity for at least 90 minutes, e.g., for:

- **Pressure boosting systems** for supply of extinguishing water
- **Smoke and heat extraction systems**
- **Fire brigade lifts** for extinguishing and/or rescue





Functional integrity E30 according to DIN 4102 part 12 with duroplast terminals 0.5 to 35 mm²

- Terminal area up to 35²
- Extremely durable
- Ideal for time and material-saving planning in building technology
- **State-certified by MPA NRW**
- **Latest test certificate available on the Internet at www.spelsberg.com**
- **Extensive accessories, such as fixing screws and fittings enclosed in all junction boxes**
- **connection and tapping till the rated cross-section without restrictions**

We can offer you a large number of special variants upon request.

IP66 | E30 | 35² | IK08 | 450V AC/DC | halogen-free | iQ

WKE 200-400 | For **Connecting + Junction**

Intrinsic Fire Resistance

WKE 200-400 for Connecting and Junctions

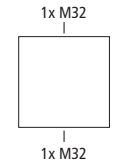
WKE 202 RK — 115 x 115 x 93 mm



IP66 | E30 | IK08 | 6² | 450V AC | 450V DC

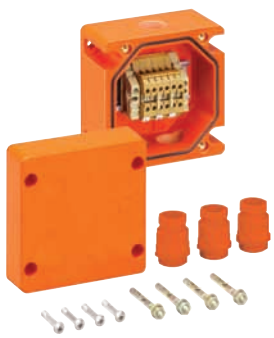
Cable junction and connection box with IP66 certified acc. EN 60670, with electrical functional integrity E30 acc. to DIN 4102-12, enclosure and terminal strips made from halogen-free special duroplastic

Accessories supplied:
2 cable glands M32, seal range 17 - 26 mm,
Wall plug set ø 6 mm



Description	Order no.
WKE 202 RK Junction box 5-pole, termination capability per pole 2 x 0.5 - 6 mm²	86220201

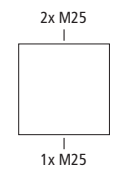
WKE 203 RK — 115 x 115 x 93 mm



IP66 | E30 | IK08 | 4² | 450V AC | 450V DC

Cable junction and connection box with IP66 certified acc. EN 60670, with electrical functional integrity E30 acc. to DIN 4102-12, enclosure and terminal strips made from halogen-free special duroplastic

Accessories supplied:
3 cable glands M25, seal range 6 - 15 mm,
Wall plug set ø 6 mm



Description	Order no.
WKE 203 RK Junction box 3-pole, termination capability for each pole 4 x 0.5 - 4 mm²	86220301

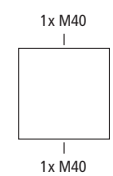
WKE 302 RK — 160 x 160 x 110 mm



IP66 | E30 | IK08 | 16² | 450V AC | 450V DC

Cable junction and connection box with IP66 certified acc. EN 60670, with electrical functional integrity E30 acc. to DIN 4102-12, enclosure and terminal strips made from halogen-free special duroplastic

Accessories supplied:
2 cable glands M40, seal range 17 - 27 mm,
Wall plug set ø 6 mm



Description	Order no.
WKE 302 RK Junction box 5-pole, termination capability for each pole 4 x 4 - 16 mm²	86230201

Intrinsic Fire Resistance

WKE 200-400 for Connecting and Junctions

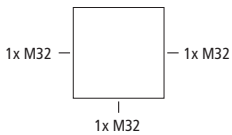
WKE 303 RK — 160 x 160 x 110 mm



IP66 | E30 | IK08 | 10² | 450V AC | 450V DC

Cable junction and connection box with IP66 certified acc. EN 60670, with electrical functional integrity E30 acc. to DIN 4102-12, enclosure and terminal strips made from halogen-free special duroplastic

Accessories supplied:
3 cable glands M32, seal range 17 - 26 mm,
Wall plug set ø 6 mm



Description	Order no.
WKE 303 RK Junction box 5-pole, termination capability for each pole 4 x 2.5 - 10 mm²	86230301

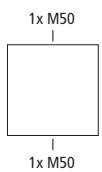
WKE 402 RK — 200 x 200 x 110 mm



IP66 | E30 | IK08 | 35² | 450V AC | 450V DC

Cable junction and connection box with IP66 certified acc. EN 60670, with electrical functional integrity E30 acc. to DIN 4102-12, enclosure and terminal strips made from halogen-free special duroplastic

Accessories supplied:
Wall plug set ø 6 mm, 2 cable glands M50,
seal range 23 - 34 mm



Description	Order no.
WKE 402 RK Junction box 5-pole, termination capability for each pole 2 x 2.5 - 35 mm²	86240201

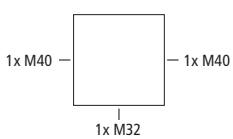
WKE 403 RK — 200 x 200 x 110 mm



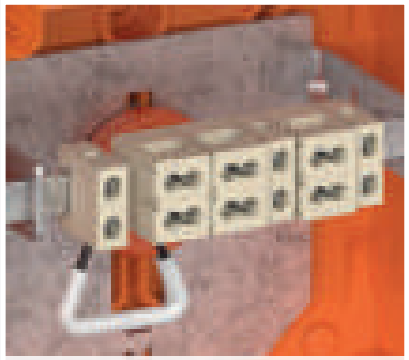
IP66 | E30 | IK08 | 16² | 450V AC | 450V DC

Cable junction and connection box with IP66 certified acc. EN 60670, with electrical functional integrity E30 acc. to DIN 4102-12, enclosure and terminal strips made from halogen-free special duroplastic

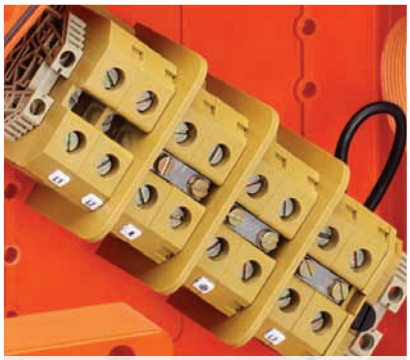
Accessories supplied:
2 cable glands M40, seal range 17 - 27 mm, 1 cable gland M32, seal range 17 - 26 mm, Wall plug set ø 6 mm



Description	Order no.
WKE 403 RK Junction box 5-pole, termination capability for each pole 4 x 4 - 16 mm²	86240301



Exchangeable fuses

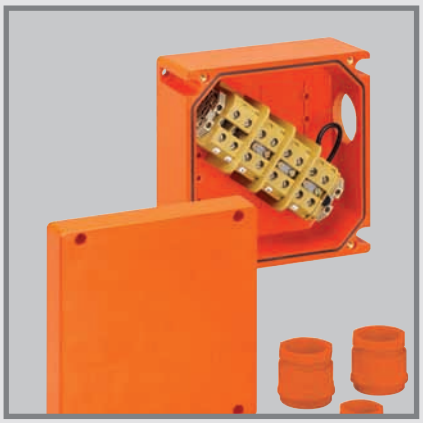


Exchangeable fuses



Exchangeable fuses







WKE 4-6

IP66 | E30-E90 | 16² | IK08 | 450V AC/DC | VDE | UL EU | halogen-free | iQ

WKE 200-400

IP66 | E30 | 35² | IK08 | 450V AC/DC | VDE | halogen-free | iQ

WKE 54

IP67 | E30-E90 | 16² | IK07 | 690V AC/DC | VDE | halogen-free | iQ

The new WKE 4 to 6 distribution and junction boxes with fuses offer functional integrity for the main supply line by enabling safe and secure branches for every floor or every fire compartment. In case of faults, only the affected branch is disconnected safely from the main line. The main line remains intact so that, for instance, the lighting of the escape routes continues to function.

This method enables a completely new type of installation, because there is no need to supply power to individual sections in star-shape, but instead can junction off comfortably from the main strand without impairing the functional integrity. The cables saved in this way reduce cost and installation time while setting up the system. Double terminals made of high temperature ceramic material for cable cross-sections up to 16 mm² provide for additional safety and ensure the functional integrity up to E 90.

Similarly, the junction and connection boxes WKE 200-400 with fuses are also the new members in the WKE product family. They also help in disconnecting individual sections or floors from the main strand - but enable the wiring of cross-sections up to 35 mm.

Intrinsic Fire Resistance

WKE 4-6 for Fused Junctions

WKE 4 - 3/3 x 6² 1SB

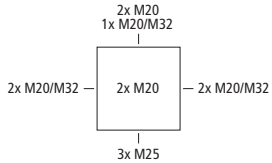
150 x 150 x 85 mm



IP66 | E30-E90 | IK08 | 6² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 61439 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning

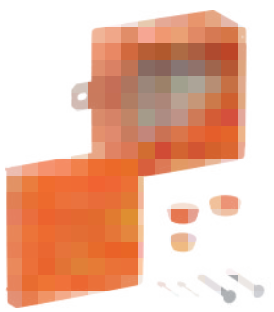
Accessories supplied:
Cover securing device, screw anchors, 3 double membrane seals M25 IP66 sealing range 9 - 16 mm



Description	Order no.
WKE 4 - 3/3 x 6² 1SB NEW Junction box 3-pole 0.5 - 6 mm², junction box 3-pole 0.5 - 6 mm², fuse in junction 1 x 2A (internal, 1 x WKE BS F2A, 86300101), number of clampable conductors per clamping point: 4 x 0.5² / 2 x 0.75² / 3 x 1² / 3 x 1.5² / 1 x 2.5² / 1 x 4² / 1 x 6²	86911101

WKE 4 - 5/3 x 6² 1SB

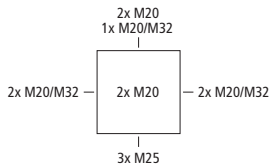
150 x 150 x 85 mm



IP66 | E30-E90 | IK08 | 6² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 61439 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning

Accessories supplied:
Cover securing device, screw anchors, 1 double membrane seals M25 IP66 sealing range 9 - 16 mm, 2 double membrane seals M32 IP66 sealing range 14 - 21 mm



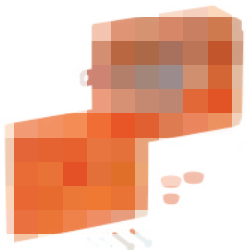
Description	Order no.
WKE 4 - 5/3 x 6² 1SB NEW Junction box 5-pole 0.5 - 6 mm², junction box 3-pole 0.5 - 6 mm², fuse in junction 1 x 2A (internal, 1 x WKE BS F2A, 86300101), number of clampable conductors per clamping point: 4 x 0.5² / 2 x 0.75² / 3 x 1² / 3 x 1.5² / 1 x 2.5² / 1 x 4² / 1 x 6²	86912101

Intrinsic Fire Resistance

WKE 4-6 for Fused Junctions

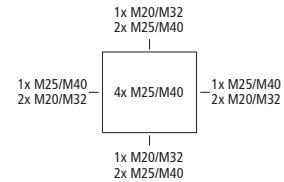
WKE 6 - 5/3 x 10² 1D0

200 x 250 x 120 mm



IP66 | E30-E90 | IK08 | 10² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 61439 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning

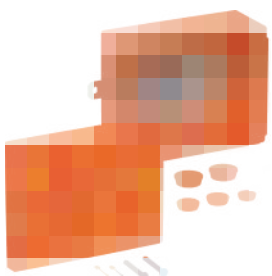


Accessories supplied:
Cover retaining straps, screw anchors, 1 double membrane seals M25 IP66 sealing range 9 - 16 mm, 2 double membrane seals M32 IP66 sealing range 14 - 21 mm

Description	Order no.
WKE 6 - 5/3 x 10² 1D0 NEW Junction box 5-pole 1.5 - 10 mm², junction box 3-pole 1.5 - 10 mm², fuse in junction 1 x socket D01 (without insert), number of clampable conductors per clamping point 4 x 1.5² / 3 x 2.5² / 2 x 4² / 1 x 6² / 1 x 10²	86922120

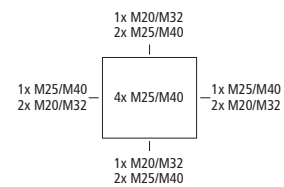
WKE 6 - 5/3 x 16² 1D0

200 x 250 x 120 mm



IP66 | E30-E90 | IK08 | 16² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 61439 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 1 double membrane seals M25 IP66 sealing range 9 - 16 mm, 2 double membrane seals M32 IP66 sealing range 14 - 21 mm, 2 double membrane seals M40 IP66 sealing range 19 - 28 mm

Description	Order no.
WKE 6 - 5/3 x 16² 1D0 NEW Junction box 5-pole 1.5 - 16 mm², junction box 3-pole 1.5 - 10 mm², fuse in junction 1 x socket D01 (without insert), number of clampable conductors per clamping point 5 x 1.5² / 4 x 2.5² / 2 x 4² / 2 x 6² / 1 x 10² / 1 x 16²	86932120

Intrinsic Fire Resistance

WKE 200-400 for Fused Junctions

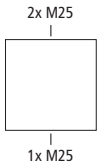
WKE 300 8 x 6² 2FS — 160 x 160 x 110 mm



IP66 | E30 | IK08 | 6² | 450V AC | 450V DC

Cable junction and connection boxes with IP66 certified as per EN 61439-2, with electrical functional integrity E30 according to DIN 4102 part 12 in the duct, enclosure and terminal strips made from halogen-free special duroplastic

Accessories supplied:
3 M25 cable glands (9 - 16mm), Wall plug set ø 6 mm



Description	Order no.
WKE 300 8 x 6² 2FS Junction box with fused branch, Connection box 3-pole, Junction box 3-pole, Number of conductors per pole 4 x 1.5 - 6mm², Capacity per clamping point 1 x 1.5 - 6mm², Fuse holder (20 x 5mm) max. 6.3A	86226201

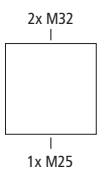
WKE 400 7 x 10² 1D0 — 200 x 200 x 110 mm



IP66 | E30 | IK08 | 10² | 450V AC | 450V DC

Cable junction and connection boxes with IP66 certified as per EN 61439-2, with electrical functional integrity E30 according to DIN 4102 part 12 in the duct, enclosure and terminal strips made from halogen-free special duroplastic

Accessories supplied:
2 pc. M32 cable gland (17 - 26mm), 1 pc. M25 cable gland (9 - 19mm), Wall plug set ø 6 mm



Description	Order no.
WKE 400 7 x 10² 1D0 Junction box with fused branch, Connection box 3-pole, Junction box 3-pole, Number of conductors per pole 4 x 1.5 - 10mm², Capacity per clamping point 1 x 1.5 - 10mm², D02 fuse holder max. 6A	86235501

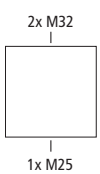
WKE 400 7 x 10² 2D0 — 200 x 200 x 110 mm



IP66 | E30 | IK08 | 10² | 450V AC | 450V DC

Cable junction and connection boxes with IP66 certified as per EN 61439-2, with electrical functional integrity E30 according to DIN 4102 part 12 in the duct, enclosure and terminal strips made from halogen-free special duroplastic

Accessories supplied:
2 pc. M32 cable gland (17 - 26mm), 1 pc. M25 cable gland (9 - 19mm), Wall plug set ø 6 mm



Description	Order no.
WKE 400 7 x 10² 2D0 Junction box with fused branch, Connection box 3-pole, Junction box 3-pole, Number of conductors per pole 4 x 1.5 - 10mm², Capacity per clamping point 1 x 1.5 - 10mm², D02 fuse holder max. 6A	86235601

Intrinsic Fire Resistance

WKE 200-400 for Fused Junctions

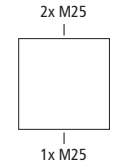
WKE 204 RK — 115 x 115 x 93 mm



IP66 | E30 | IK08 | 4² | 450V AC | 450V DC

Cable junction and connection box with IP66 certified acc. EN 60670, with electrical functional integrity E30 acc. to DIN 4102-12, enclosure and terminal strips made from halogen-free special duroplastic

Accessories supplied:
3 pc. M25 cable gland (6 - 15mm), Wall plug set ø 6 mm



Description	Order no.
WKE 204 RK Junction box with fused branch, Connection box 3-pole, Junction box 3-pole, Number of conductors per pole 4 x 0.5 - 4mm², Capacity per clamping point 1 x 0.5 - 4mm², Fuse holder (20 x 5mm) max. 6.3A	86220401

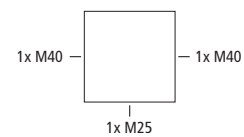
WKE 304 RK — 160 x 160 x 110 mm



IP66 | E30 | IK08 | 10² | 450V AC | 450V DC

Cable junction and connection box with IP66 certified acc. EN 60670, with electrical functional integrity E30 acc. to DIN 4102-12, enclosure and terminal strips made from halogen-free special duroplastic

Accessories supplied:
2 pc. M40 cable gland (17 - 27mm), 1 pc. M25 cable gland (6 - 15mm), Wall plug set ø 6 mm



Description	Order no.
WKE 304 RK Junction box with fused branch, Connection box 5-pole, Junction box 3-pole, Number of conductors per pole 4 x 1.5 - 10mm², Capacity per clamping point 1 x 1.5 - 10mm², Fuse holder (20 x 5mm) max. 6.3A	86230401

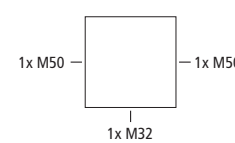
WKE 404 RK — 200 x 200 x 110 mm



IP66 | E30 | IK08 | 35² | 450V AC | 450V DC

Cable junction and connection box with IP66 certified acc. EN 60670, with electrical functional integrity E30 acc. to DIN 4102-12, enclosure and terminal strips made from halogen-free special duroplastic

Accessories supplied:
Wall plug set ø 6 mm, 2 pc. M50 cable gland (23 - 34mm), 1 pc. M32 cable gland (17 - 26mm)



Description	Order no.
WKE 404 RK Junction box with fused branch, Junction box 5-pole, Number of conductors per pole 2 x 2.5 - 35mm², Capacity per clamping point 1 x 2.5 - 35mm², Junction box 3-pole, Number of conductors per pole 4 x 1.5 - 10mm², Capacity per clamping point 1 x 1.5 - 10mm², Fuse holder (20 x 5mm) max. 6.3A	86240401



- Secured tapping
- Double terminal 16²
- Ideal for tunnels and industrial areas

E90 functional integrity

- According to DIN 4102 part 12
- Function of the electrical system for over 90 minutes
- Certified by MPA Dresden

IP67 protection class

- As per DIN EN 60670
- No penetration of dust
- Protection during temporary submersion in water
- Protection against external mechanical stresses
- IK07

Pressure-pull strength

- Testing according to specifications of DB-AG “Tunnel safety lighting systems for railway tunnels”

IP67 | E90 | FE180 | F400 | 16² | IK07 | 690V AC/DC | halogen-free | iQ

WKE 54 | For **Fused Junction**

Intrinsic Fire Resistance

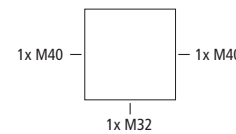
WKE 54 for Fused Junctions

WKE 54 — 278 x 208 x 107 mm



IP66 IP67 | E30-E90 | IK07 | 16² | 690V AC | 690V DC | halogen-free | iQ | VDE

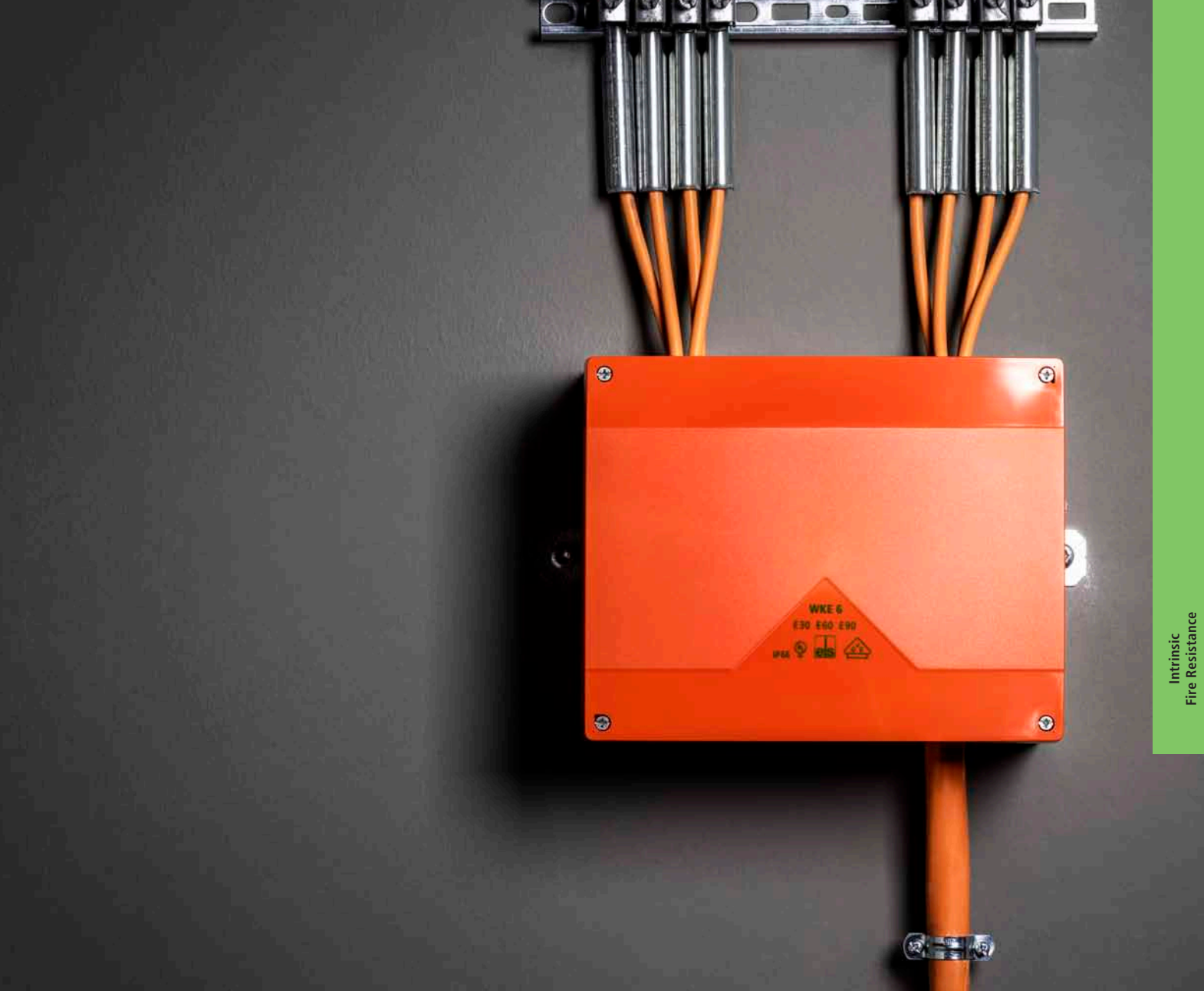
Cable junction and connection boxes with IP66/67, certified according to EN 61439-2, with electrical functional integrity E30 - E90 acc. to DIN 4102-12, halogen-free enclosure made from special duroplastic, terminals made of a high-temperature-resistant special ceramic, rapid mounting by external brackets



Accessories supplied:
2 cable glands M40, Seal range 16 - 28 mm, 1 cable gland M32, seal range 11 - 21 mm

Description	Order no.
WKE 54 To be used as a junction box with fused branch, Connection box 5-pole 1.5 - 16 mm², Junction box 5-pole 1.5 - 10 mm², Number of conductors per pole: 20 x 1.5² / 16 x 2.5² / 12 x 4.0² / 8 x 6² / 4 x 10² / 4 x 16², 2 fuse bases D01 max. 16 A	86025401





Functional integrity E30-E90 according to DIN 4102 part 12 with ceramic terminals 1.5 mm²

- The right solution for each cross-section and application
- Installation materials such as screw anchors and double membrane seals included
- Possible to mount on cable trays
- Up to 32-pin
- Quick mounting through external fixing
- Completely pre-assembled
- Ideal for building technology
- General construction-supervisory test certificate (AbP)
- VDE certified

IP66 | E30-E90 | 0,5-1,5² | IK08 | 450V AC/DC | halogen-free

WKE 4-6 | For **Communication Lines**

Intrinsic Fire Resistance

WKE 4-6 for Communication Lines

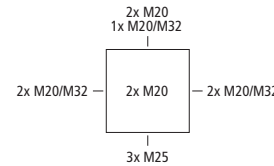
WKE 4 - 8 x 1,5²

150 x 150 x 85 mm



IP66 | E30-E90 | IK08 | 1,5² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning

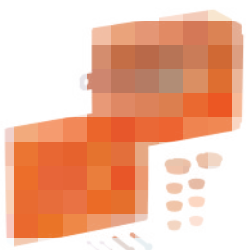


Accessories supplied:
Cover retaining straps, screw anchors, 3 double membrane seals IP66 M20 sealing range 7 - 12 mm, 2 double membrane seals IP66 M25 sealing range 9 - 16 mm, 1 double membrane seals IP66 M32/4 sealing range 4 x 3.5 - 6 mm

Description	Order no.
WKE 4 - 8 x 1,5² NEW Junction box, 8-pole, 0.5 - 2.5 mm², distribution box, 8-pole, 0.5 - 1.5 mm², number of clampable conductors per pole: 8 x 0.5² / 4 x 0.75² / 6 x 1² / 6 x 1.5² / 2 x 2.5²	86850801

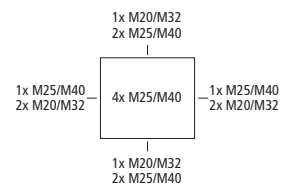
WKE 6 - 16 x 1,5²

200 x 250 x 120 mm



IP66 | E30-E90 | IK08 | 1,5² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 2 double membrane seals IP66 M20 sealing range 7 - 12 mm, 4 double membrane seals IP66 M25 sealing range 9 - 16 mm, 2 double membrane seals IP66 M40/4 sealing range 4 x 6 - 9 mm

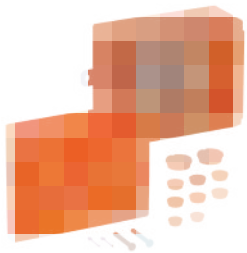
Description	Order no.
WKE 6 - 16 x 1,5² NEW Junction box, 16-pole, 0.5 - 2.5 mm², distribution box, 16-pole, 0.5 - 1.5 mm², number of clampable conductors per pole: 8 x 0.5² / 4 x 0.75² / 6 x 1² / 6 x 1.5² / 2 x 2.5²	86851601

Intrinsic Fire Resistance

WKE 4-6 for Communication Lines

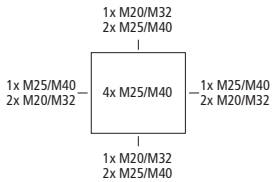
WKE 6 - 32 x 1,5²

200 x 250 x 120 mm



IP66 | E30-E90 | IK08 | 1,5² | 450V AC | 450V DC

Cable distribution and junction box with IP66, certified to EN 60670 and IEC 62208, with electrical circuit integrity E30 - E90 according to DIN 4102 part 12. Halogen-free enclosure made of special thermoplastic, clamps of high-temperature-resistant special ceramic, quick assembly with external fastening lugs, variable terminal positioning



Accessories supplied:
Cover retaining straps, screw anchors, 2 double membrane seals IP66 M20 sealing range 7 - 12 mm, 6 double membrane seals IP66 M25 sealing range 9 - 16 mm, 2 double membrane seals IP66 M40/4 sealing range 4 x 6 - 9 mm

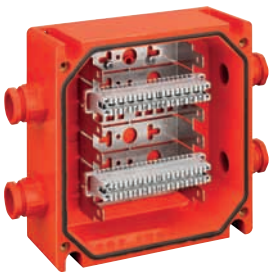
Description	Order no.
WKE 6 - 32 x 1,5² NEW Junction box, 32-pole, 0.5 - 2.5 mm², distribution box, 32-pole, 0.5 - 1.5 mm², number of clampable conductors per pole: 8 x 0.5² / 4 x 0.75² / 6 x 1² / 6 x 1.5² / 2 x 2.5²	86853201

Intrinsic Fire Resistance

WKE LSA 405 for Communication Lines

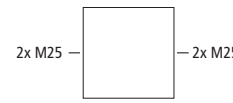
WKE 405 LSA

200 x 200 x 110 mm



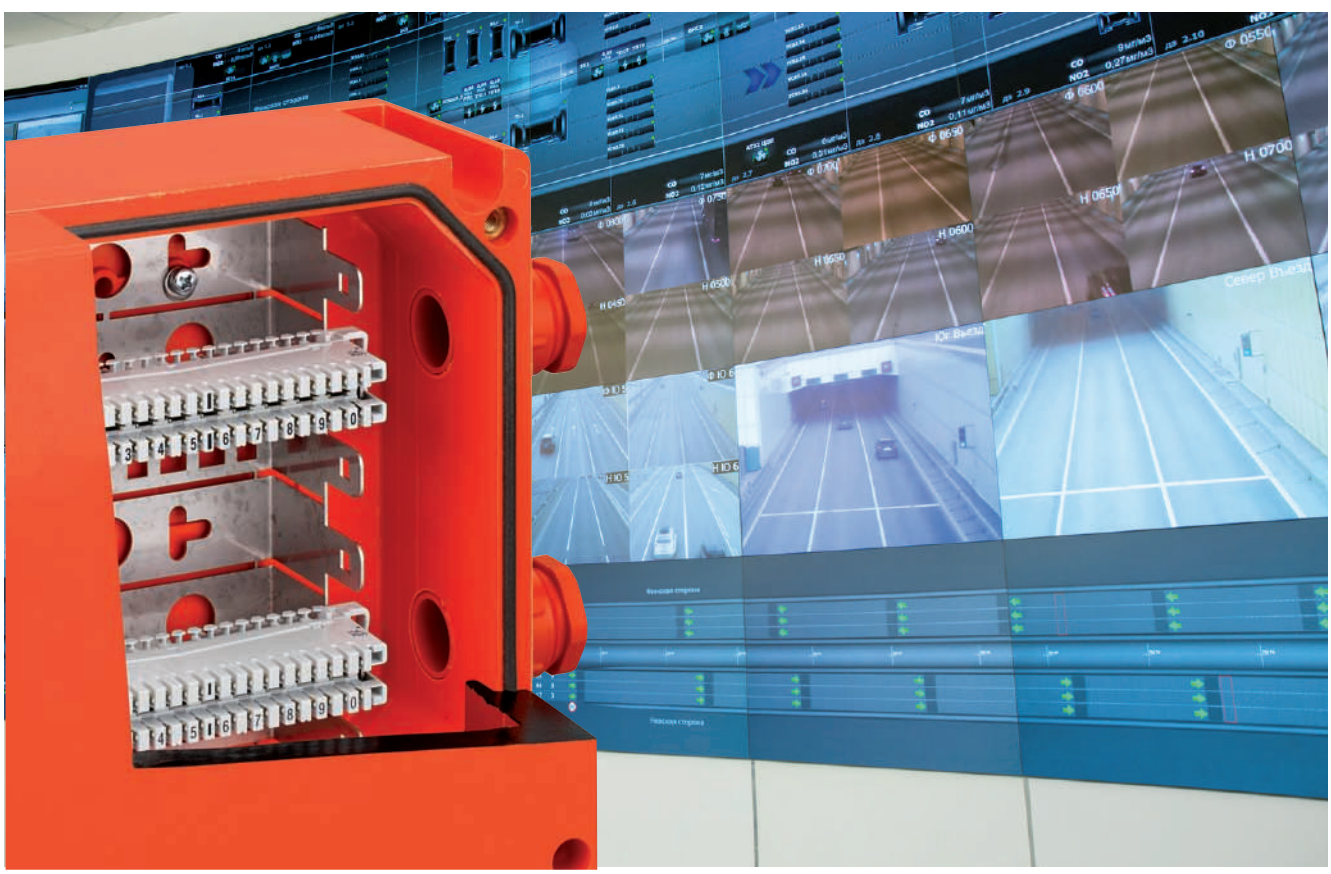
IP66 | E30 | IK08 | 1,5² | 450V AC | halogen-free | iQ

Tested system: WKE 405 - cable junction boxes with time-saving (solder, screw and stripping free) connection technology for cables with functional integrity according to DIN 4102 part 12 - tested by the MPA Dresden



Accessories supplied:
Wall plug set ø 6 mm, 4 cable glands M25, seal range 9 - 19 mm

Description	Order no.
WKE 405 LSA Junction box equipped with two LSA-Plus connector blocks, respectively for 10 double wires (2 x 10 DA), the LSA-Plus contacts are suitable for a solid conductor with 0.4 to 0.8 mm diameter and an outside insulation diameter of 0.7 to 1.6 mm	86240501



Intrinsic Fire Resistance

WKE 2-6 Accessories

Double membrane seals, orange



Double membrane seals with two sealing membranes, closed, thermoplastic elastomer (TPE), orange, for wall thickness 1.5 - 4.5 mm,

Description	Order no.
DMS M16/or NEW	26061601
DMS M20/or NEW	26062001
DMS M25/or NEW	26062501
DMS M32/or NEW	26063201
DMS M40/or NEW	26064001

4-fold double membrane seals, orange



Double membrane seals with two sealing membranes, closed, max. four cable insertions for control lines, thermoplastic elastomer (TPE), orange, for wall thicknesses 1.5 - 4.5 mm

Description	Order no.
DMS M32/4 or NEW	26063301
DMS M40/4 or NEW	26064101

Cable gland, orange



Cable gland with strain relief, polyamide, M_ x 1.5 mm, with lock nut, orange

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M16-MGM/or	4 - 10	8	22761601
KVR M20-MGM/or	7 - 14.0	9	22762001
KVR M25-MGM/or	9 - 16	11	22762501
KVR M32-MGM/or	11 - 21.0	11	22763201
KVR M40-MGM/or	16 - 28.0	11	22764001

WKE BS F2A spare fuses



Spare fuses for WKE 2-6 in the "SB" versions, Wired device fuses F2A in the size 5 x 20 mm coated with a glass fibre sleeve

Description	Order no.
WKE BS F2A 10 pieces per packaging unit	86300101

Intrinsic Fire Resistance

WKE 200-400 Accessories

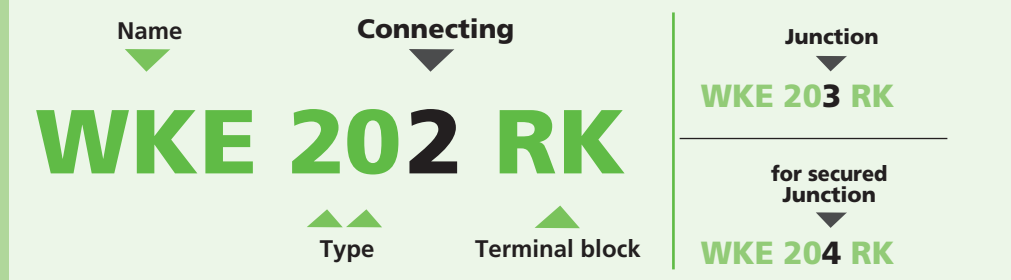
WKE 200-400 external fixing lugs



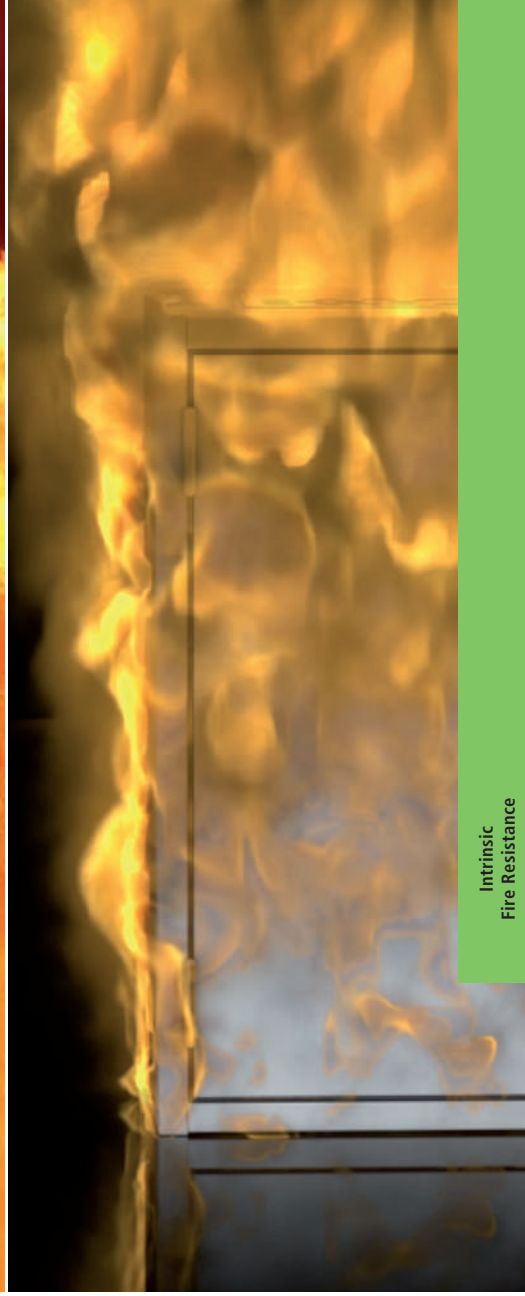
External fastening kit V2A

Description	Order no.
WKE 200 ABL External fastening kit V2A, for WKE 200 up to WKE 400, Material stainless steel V2A (1.4301), Set = 4 pcs.	86040001

WKE naming scheme (example)









- VDE tested according to EN 61 439-2
- 14 -70 modular units
- Low-voltage switch gear device combinations according to EN 61439 that can be planned freely
- Compact size
- Can be fitted individually with type-tested equipment
- Tested according to DIN 4102 part 2 by MPA Dresden
- Fire load insulation F90 (as per I90) for the protection of the escape and rescue route according to MLAR 2005
- Functional integrity F90 (according to E90) for the protection of electrical fittings as per MLAR 2005
- One enclosure for all applications

IP6X | 90 | 90 | 14 70 | IK10 | 400V AC/DC | halogen-free | iQ

WKE AK 14-70 | For **Distribution**

Intrinsic Fire Resistance

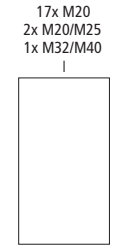
WKE AK 14-70 for Distribution

WKE AK 14 — 400 x 540 x 230 mm



IP6X | E30-E90 | 90 | 90 | IK10 | 400V AC | 400V DC

Fire protection small-scale distributors, VDE certificated compliant with DIN EN 61 439-2, VDE tested and certified under specific operating conditions to be compliant with DIN EN 61 439-2, tested compliant with DIN 4102-2 by MPA Dresden, F90 for internal flame impingement according to DIN 4102 based on I90, F90 for external flame impingement according to DIN 4102 based on E90, can be individually equipped with type-tested operating materials



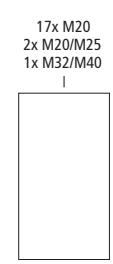
Description	Order no.
WKE AK 14 Left hand opening door, 1-row, 14 distribution units, U_i=400V, screwless PE/N terminal rails each with 3 screwable clamping points, 2.5 - 16 mm², 14 screwless terminal points , 1.5 - 4 mm², elastic entries on top, with cable covering, masking and labelling strips, additional double-membrane seals and other accessories	86541401
WKE AK 14 R Right hand opening door, 1-row, 14 distribution units, U_i=400V, screwless PE/N terminal rails each with 3 screwable clamping points, with cable covering, 2.5 - 16 mm², 14 screwless terminal points, 1.5 - 16 mm², elastic entries on top, masking and labelling strips, additional double-membrane seals and other accessories	86551401

WKE AK 28 — 400 x 690 x 230 mm



IP6X | E30-E90 | 90 | 90 | IK10 | 400V AC | 400V DC

Fire protection small-scale distributors, VDE certificated compliant with DIN EN 61 439-2, VDE tested and certified under specific operating conditions to be compliant with DIN EN 61 439-2, tested compliant with DIN 4102-2 by MPA Dresden, F90 for internal flame impingement according to DIN 4102 based on I90, F90 for external flame impingement according to DIN 4102 based on E90, can be individually equipped with type-tested operating materials



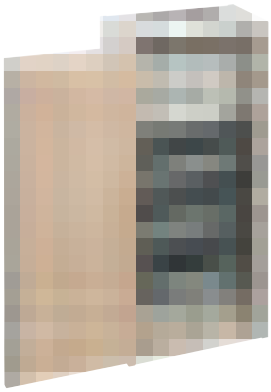
Description	Order no.
WKE AK 28 Left hand opening door, 2 row, 28 distribution units, U_i=400V, 150 mm rail spacing, screwless PE/N terminal rails each with 3 screwable clamping points 1.5 - 4 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm², elastic entries on top, with cable covering, masking and labelling strips, additional double-membrane seals and other accessories	86542801
WKE AK 28 R Right hand opening door, 2 row, 28 modules, U_i=400V, 150 mm rail spacing, masking and labelling strips, additional double-membrane seals and other accessories, screwless PE/N terminal rails each with 3 screwable clamping points 1.5 - 4 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm², elastic entries on top, with cable covering	86552801

Intrinsic Fire Resistance

WKE AK 14-70 for Distribution

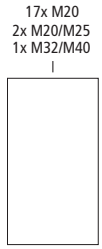
WKE AK 42

400 x 840 x 230 mm



IP6X | E30-E90 | 90 | 90 | IK10 | 400V AC | 400V DC

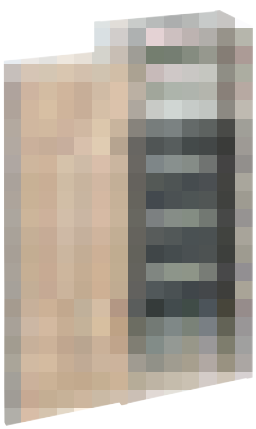
Fire protection small-scale distributors, VDE certificated compliant with DIN EN 61 439-2, VDE tested and certified under specific operating conditions to be compliant with DIN EN 61 439-2, tested compliant with DIN 4102-2 by MPA Dresden, F90 for internal flame impingement according to DIN 4102 based on I90, F90 for external flame impingement according to DIN 4102 based on E90, can be individually equipped with type-tested operating materials



Description	Order no.
WKE AK 42 Left hand opening door, 3 row, 42 distribution units, U_i=400V, 150 mm rail spacing, screwless PE/N terminal rails each with 6 screwable clamping points, 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm², elastic entries on top, with cable covering, masking and labelling strips, additional double-membrane seals and other accessories	86544201
WKE AK 42 R Right hand opening door,, 3 row, 42 distribution units, U_i=400V, 150 mm rail spacing, with cable covering, masking and labelling strips, screwless PE/N terminal rails each with 6 screwable clamping points, 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm², elastic entries on top, additional double-membrane seals and other accessories	86554201

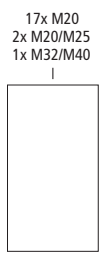
WKE AK 56

400 x 990 x 230 mm



IP6X | E30-E90 | 90 | 90 | IK10 | 400V AC | 400V DC

Fire protection small-scale distributors, VDE certificated compliant with DIN EN 61 439-2, VDE tested and certified under specific operating conditions to be compliant with DIN EN 61 439-2, tested compliant with DIN 4102-2 by MPA Dresden, F90 for internal flame impingement according to DIN 4102 based on I90, F90 for external flame impingement according to DIN 4102 based on E90, can be individually equipped with type-tested operating materials



Description	Order no.
WKE AK 56 Left hand opening door, 4 row, 56 distribution units, U_i=400V, 150 mm rail spacing, screwless PE/N terminal rails each with 6 screwable clamping points, 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm², elastic entries on top, additional double-membrane seals and other accessories	86545601
WKE AK 56 R Right hand opening door,, 4 row, 56 distribution units, U_i=400V, 150 mm rail spacing, additional double-membrane seals and other accessories, screwless PE/N terminal rails each with 3 screwable clamping points, 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm², elastic entries on top	86555601

Intrinsic Fire Resistance

WKE AK 14-70 for Distribution

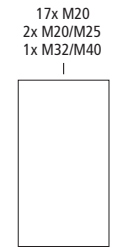
WKE AK 70

400 x 1140 x 230 mm



IP6X | E30-E90 | 90 | 90 | IK10 | 400V AC | 400V DC | VDE | halogen-free

Fire protection small-scale distributors, VDE certificated compliant with DIN EN 61 439-2, VDE tested and certified under specific operating conditions to be compliant with DIN EN 61 439-2, tested compliant with DIN 4102-2 by MPA Dresden, F90 for internal flame impingement according to DIN 4102 based on I90, F90 for external flame impingement according to DIN 4102 based on E90, can be individually equipped with type-tested operating materials



Description	Order no.
WKE AK 70 Left hand opening door, 5 row, 70 distribution units, U_i=400V, 150 mm rail spacing, screwless PE/N terminal rails each with 6 screwable clamping points, 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm², elastic entries on top, additional double-membrane seals and other accessories	86547001
WKE AK 70 R Right hand opening door,, 5-row, 70 distribution units, U_i=400V, 150 mm rail spacing, screwless PE/N terminal rails each with 6 screwable clamping points, 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm², elastic entries on top, additional double-membrane seals and other accessories	86557001


Ausgang





Protection class (IP code)
as per DIN EN 60529 (VDE 0470-1)



Protection class II
Equipment with protective insulation
as per DIN VDE 0100-410



Electrical functional integrity
as per DIN 4102-12
„E" stands for functional integrity,
„30-90" stands for the duration in minutes.



Nominal cross-section biggest permissible connectable wire cross-section, as per DIN EN 60998 (VDE 0613) and DIN EN 60999 (VDE 0609)



Rated voltage
for use in AC voltage systems, maximum permissible nominal voltage of the electrical grid



Rated voltage
for use in DC voltage systems, maximum permissible nominal voltage of the electrical grid



Protection class (IK code)
against mechanical stresses
as per DIN EN 50102 (VDE 0470-100)



The **VDE mark** stands for approved safety of the product referring electrical, mechanical, thermal and other hazards



Halogen-free enclosure,
without halogens such as fluorine, chlorine and bromine.



Industrial Quality



Tested as per DIN 4102-2.
Fire resistance class F90/EI90 (based on E90) for the protection of electrical installations as per MLAR. Can be fitted individually with type-tested equipment.



Tested as per DIN 4102-2.
Fire load insulation F90/EI90 (as per I90)for the protection of the escape and rescue route according to MLAR.



Maximum number **of modules**

Overview of the **ambient conditions** and **mechanical properties** of the **els products**

	Enclosure empty			Enclosure with fittings						
	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Max. relative humidity at 40 °C	Max. relative humidity at 25 °C (short-term)	Protection rating according to DIN EN 60529 / VDE 0470-1[1)]	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
WKE 2-6 Junction and connection boxes	-35 °C	80°C	60°C	-25°C	35°C	25°C	50%	95%	IP66	IK08
WKE 200-400 connection boxes	-25°C	40°C	35°C	-25°C	35°C	25°C	50%	95%	IP66	IK08
WKE 54 connection boxes	-25°C	40°C	35°C	-25°C	35°C	25°C	50%	95%	IP67	IK07
WKE AK Enclosure System	1°C	35°C	-	1°C	35°C	-	75%	-	IP6X	IK10

Additional note: The specified temperatures may be limited by the installed devices.

[1)] When used with suitable connectors or cable screw couplings

Overview of the **properties** of the materials used in the **els installations systems**

Material	Use in the products:	Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzene	Mineral oil	Diesel	Ammonia, gaseous (DLG Focus Test)	Vegetable fats	Animal fats	Halogen-free	Free from heavy metals, PVC and silicone	Flammability according to DIN EN 60695 (VDE 0471) / UL94
Duroplast	WKE 200-400, WKE 54	Ø	Ø	Ø	Ø	O	O	O	O	O	not specified	O	O	yes	yes	960°C / V-0
Polycarbonate	WKE 2-6	O	X	X	X	O	Ø	X	O	Ø	O	O	Ø	yes	yes	960°C / V-2(5VA*)

O = resistant Ø = partially resistant X = not resistant

When selecting the installation location, the climatic conditions and the occurrence of chemical influences should generally be examined in addition to the protection rating. Details of material properties and chemical resistance of the materials can be seen from the table, **though these are simply guide values.**

WKE 2 to 6 - cable entries

M16	5 - 9
M20	7-12
M25	9 - 16
M32	14 - 21
M40	19 - 28
M32/ 4	4x 3.5 - 6
M40/ 4	4x 6 - 9

		Nm
M 16 x 1.5	4 - 10	2.5
M 20 x 1.5	6 - 12	4
M 20 x 1.5	7 - 14	4
M 25 x 1.5	9 - 16	6
M 32 x 1.5	11 - 21	7
M 40 x 1.5	16 - 28	7.5

= Double membrane seals

= Cable gland

= Clamping area

Nm = Rated torque

= Cable cross section

Number of conductors that can be clamped per pin or clamping unit (depending upon the housing size)

	Terminal 6² Tightening torque 0.8 Nm			Terminal 10² Tightening torque 1.2 Nm			Terminal 16² Tightening torque 2.0 Nm		
0.5²	16	8	4						
0.75²	8	4	2						
1.0²	12	6	3	20	10	5			
1.5²	12	6	3	16	8	4	20	10	5
2.5²	4	2	1	12	6	3	16	8	4
4²	4	2	1	8	4	2	12	6	3
6²	4	2	1	4	2	1	8	4	2
10²				4	2	1	4	2	1
16²							4	2	1

= Single terminal, 2 clamping units

= Clamping unit

= Double terminal, 4 clamping units

WKE 200-400 - cable entries

		Nm
M 20 x 1.5	6 - 13	4
M 25 x 1.5	6 - 15	6
M 25 x 1.5	9 - 19	6
M 32 x 1.5	17 - 26	7
M 40 x 1.5	17 - 27	7.5
M 50 x 1.5	23 - 34	7.5

= Cable gland

= Clamping area

Nm = Rated torque

WKE 200-400 - Connection capacity of the terminals

	Conductor cross-section single-wire		Conductor cross-section multi-wire		Tightening torque	
	min	max	min	max	min	max
WKE SAK 2.5 / 35	0.5 mm^2	6 mm^2	0.5 mm^2	4 mm^2	0.4 Nm	0.6 Nm
WKE SAK 6 / 35	0.5 mm^2	10 mm^2	0.5 mm^2	6 mm^2	0.8 Nm	1.6 Nm
WKE SAK 10 / 35	1.5 mm^2	10 mm^2	1.5 mm^2	16 mm^2	2 Nm	2.4 Nm
WKE SAK 16 / 35	2.5 mm^2	16 mm^2	4 mm^2	16 mm^2	2 Nm	2.4 Nm
WKE SAK 35 N / 35	2.5 mm^2	16 mm^2	4 mm^2	35 mm^2	4 Nm	5 Nm



Mark



Drilling



Screw tightly







Introduction of the cable

If the box is attached to the wall, the cables are inserted one at a time through the openings at the top. The cables must first be passed through the fire protection foam between the outer and inner enclosure. Double membrane seals ensure that the cable bushing lying inside is sealed securely. Each of the PE and N terminals in the distributor offer adequate connection capacity with up to 6 clamping units 2.5 - 16 mm^2 that can be fixed with screws and up to 21 screw-less clamping units 1.5 - 4 mm^2.

Quick mounting on the wall

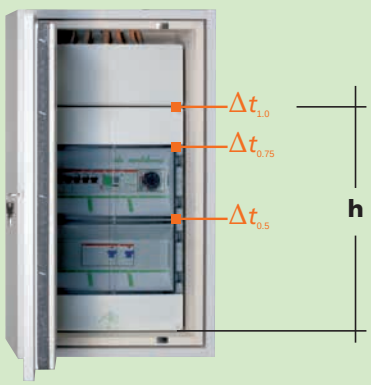
For the installation of the WKE AK 14 to 70 on the wall only dowels or screw anchors described in the "national technical approval" are allowed to be used. The wall on which the distributor shall be mounted must be sufficiently load-bearing. With this, the fire resistance of the supporting walls shall be at least as high as the one of the distributor.

Using the enclosed screw anchors, the WKE AK can be mounted effortlessly on the mounting holes in the enclosure - in cracked or non-cracked concrete. A distance of at least one metre to the fire protection distributor is prescribed under low-voltage operation for adjacent installations, such as gas or water. A distance corresponding to the door end stop must be maintained near the doors.

	WKE AK 14	WKE AK 28	WKE AK 42	WKE AK 56	WKE AK 70
Height	300 mm	450 mm	600 mm	750 mm	900 mm
Width	300 mm	300 mm	300 mm	300 mm	300 mm
Depth	142 mm	142 mm	142 mm	142 mm	142 mm
perm. power loss at 25 °C ambient temperature	21 W	27 W	33 W	40 W	47 W
	k= 2.38 c= 1.18	k= 1.85 c= 1.23	k= 1.53 c= 1.24	k= 1.32 c= 1.25	k= 1.17 c= 1.25

$$\Delta t_{0.5} = k \times P_v^{0.804}$$
$$\Delta t_{1.0} = c \times \Delta t_{0.5}$$
$$\Delta t_{0.75} = \Delta t_{1.0}$$

The temperature course between 0.5 und 0.75 is approximately linear



P_v devices*1
\+ P_v fuses*1
\+ P_v cables*2
= Total P_v

*1 For a lower load on switching devices having mainly ohmic internal resistance, the following equation may be used

$$P = P_n \left(\frac{I}{I_n} \right)^2$$

P = Power loss
I = Load current
I_n= Operating current
P_n= Power loss at I_n

*2 For a lower load on the conductor, the following equation may be used

$$P = P_n \left(\frac{I}{I_n} \right)^2$$

P = Power loss in Watt per metre
I = Conductor current (load)
I_n= Operating current
P_n= Power loss at I_n

Adherence to the limiting temperatures is a decisive criterion for the safe operation of the installation distributor. Too high internal temperatures in the enclosure can lead to a premature triggering of the fuses or circuit breakers. In extreme cases, too high temperatures can also damage the cables. VDE0660-507 specifies a method for determining the heating of partially type-tested low-voltage switching device combinations by extrapolation. In order to simplify the calculation process, the factors k and c have already been determined by Spelsberg.

For a correct calculation of all built-in devices, the operating current (In), the power losses at operating current (Pn) and the actual load current (I) are required. From this, the actual power loss of the individual devices can then be calculated. The temperature increase in the housing can then be calculated using the total power loss. Together with the ambient temperature, the internal temperature of the enclosure results in different values. With this result, it can then be checked, whether the limiting temperatures of the built-in devices and cables are exceeded.

In this case, different devices are to be used or the power loss is to be reduced. The maximum operating current at the given temperature can be determined for circuit breakers and fuses from the data sheets of the manufacturer.



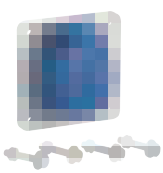
High-value small distribution boards with an increased protection level and further special, technical features for harsh and challenging environments. Innovation has a long tradition at Spelsberg. We are continuously setting new standards, particularly with respect to safety.

With the new generation of AK distribution boards we are celebrating the further development of one of the most popular surface-mounted, distribution boards and the advent of a new, fully-integrated, serial ventilation system:

The innovative Air technology objective from the start was to develop a distribution board that you can always be sure of, no matter whether it is installed inside or outdoors. A high protection class of IP65 and a shock resistance of IK08 describe how robust the halogen free small distribution boards are.
Whether for harsh industrial environments, exterior areas or with an extra large connection space - Spelsberg develops the right distribution board for every need.

Small Distribution Boards

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	Types	Series	Series
	**Small distribution board, for outdoor installation** 14-70 modules, IP65	**AK Air /** **AK Air Plus**	**138**
	**Small distribution board, for outdoor installation** 14-70 modules, IP65 -flange variant-	**AK Air-F /** **AK Air-F Plus**	**138**
	**Expansion enclosure / empty enclosure,** **for outdoor installation** IP65	**AK 14L**	**153**
	**Small distribution board, unprotected outdoor installation** 14-56 modules, type rating 3R, **UL 50/CSA22.2 approved**	**AK UL / AK-F UL /** **AK-F Plus UL**	**155**
	**Accessories AK Air**	**AK Air**	**153**
	**Small distribution board, for indoor installation** 3-24 modules, IP65	**AK Compact**	**163**
	**Small distribution board, protected installation,** **for indoor installation** 3-48 modules, IP55	**AKi Compact**	**163**
	**Small distribution board, protected installation,** **for indoor installation** 3-48 modules, IP55	AKe	**167**
	**Accessories AKe / AK Compact**	AKe / AK Compact	**172**
	Technical information	**Small distribution boards**	**174**



Integrated air ventilation elements



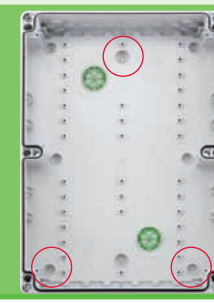
Prevention of condensate water in preservation of protection class IP65

Metric knock-outs



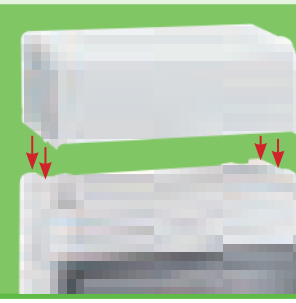
A number of knock-outs enable
variable cable entries

Three-point installation



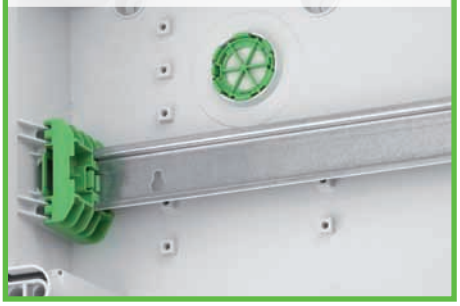
Easy installation via keyhole mounting

Cable cover mounting



Follow-up installation of optional cable cover possible

Height-adjustable mounting rail



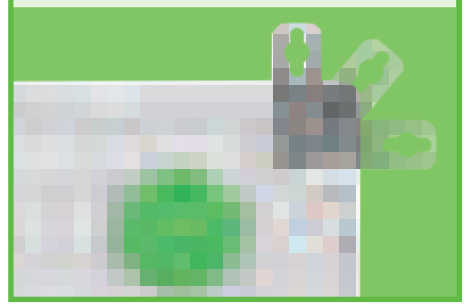
For serial installation devices sizes 1 to 3 and special designs

Labelling for installation dimensions



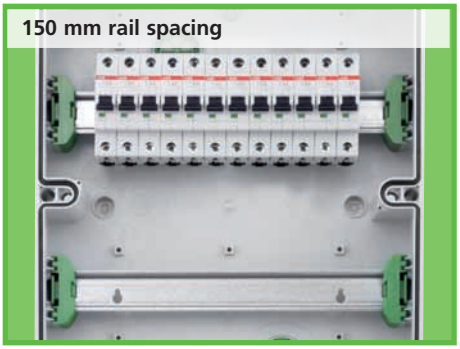
Engraved dimensions simplify installation

Optional exterior installation



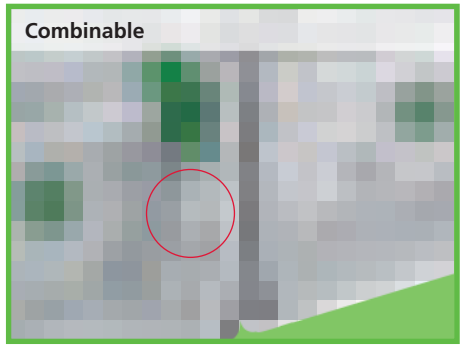
Installation via **external fixing lugs**

150 mm rail spacing



Offers plenty of space for wiring

Combinable



Easily lateral combination via optional **M50 combination connectors**

Lateral knock-outs M40/M50



Option for Schuko sockets

Optimised hinged window



With ergonomically shaped grips for simple opening and replacement of door end stop

New installation option



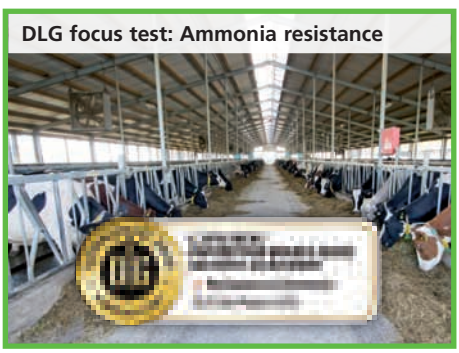
Installation outside of sealing area suitable for systems featuring a maximum measured insulation voltage of 1,000V AC / 1,500V DC

Lid able to be lead-sealed



Protects against unauthorised access

DLG focus test: Ammonia resistance



Resistance against stable air for minimum 20 years

Indoor and outdoor installation



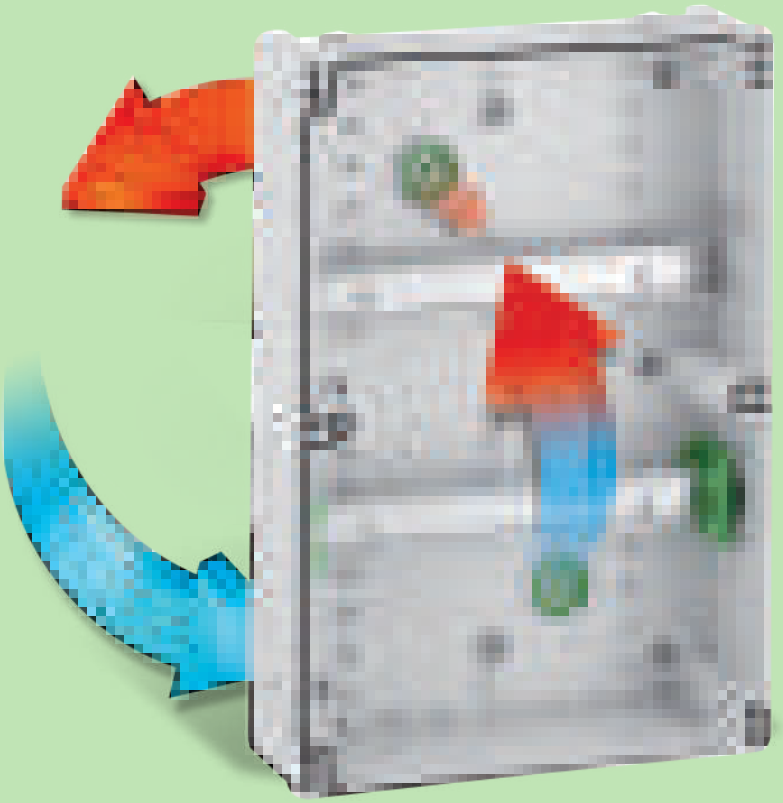
One distribution board for every application

Free of halogen, PVC and silicone

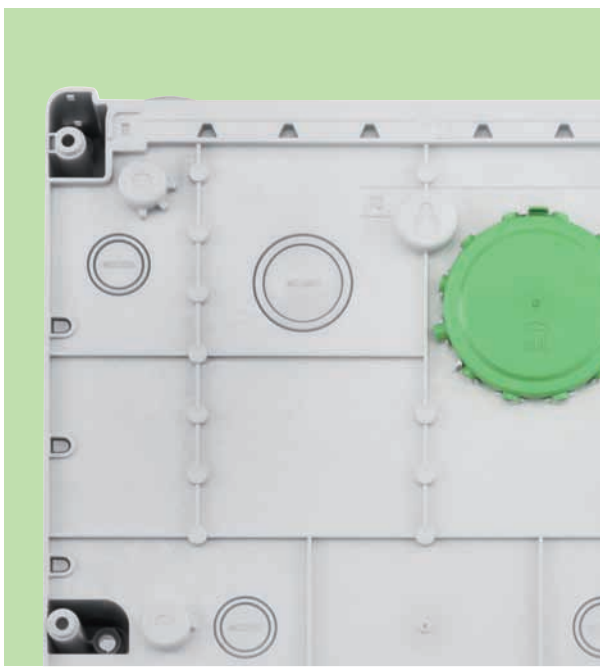


Highly flame-retardant

IP65 | 14 70 | IK08 | 400V AC | AIR | DYE | UL EU | DLG | halogen free | iQ







The Air ventilation elements

The Air ventilation element prevents condensate water, while maintaining the high protection class IP65. Any condensate occurring is transported out of the enclosure immediately via air exchange. The continuous and high rate of air exchange allows the interior air to mix constantly with the environmental air and transports the moisture outwards. Air exchange also takes place in environments with almost constant air humidity and temperature, as the air in the interior of the enclosure heats up, due to the components.

Advantages of the Air ventilation elements

- Prevention of condensation while maintaining the high IP65 protection rating
- High air exchange rate
- 100% Pressure equalisation
- 100% Protection against foreign bodies
- Maintenance-free

Please find further information like data sheets, AK Trailer and AK Product Manual in:
www.spelsberg.com/small-distribution-boards





Protection from rain/snow (precipitation)
The protection rating tests carried out as per DIN EN 60529 are used as comparative tests and for classification of properties. The tests are limited to a few minutes and cannot simulate exposure to rain/ snow or cleaning with water jets. In addition, the local conditions may differ so greatly that a general exposure test cannot be defined. For this reason, it is strictly required also to consider the construction regulations for the individual installation situation.

DIN VDE 0100-520:
522.3.1 Cable and wire conduits must be selected and installed in a way that no damage can be caused by condensation or penetration of water.

DIN VDE 0100-712: Photovoltaic systems 712.522.8.3 External influences that are expected, e.g. wind, formation of ice, extreme temperatures and sun radiation must be considered.

For the installation make sure that the enclosures are protected by roofing.

This roofing can already be present by structural conditions, can be built by the user, or can be provided by the accessories delivered by Spelsberg.

Protection against condensate water



With nearly 100% air humidity and 10°C of temperature, sensitive electronic equipment often reaches its limits. To keep them safe also under such extreme conditions and to prevent condensate water, the AK Air small distributors with integrated ventilation elements are used in the Iserlohner Dechenhöhle (dripstone cave).

High air humidity inside, fluctuating temperatures on the entries, continuous operation during the visiting hours and in the evenings, many hours without load – hard specifications for the distribution boards. However, thanks to the high and permanent air exchange of the Air ventilation elements the sensitive electronic equipment inside the AK distributor remains continuously protected from humidity.

AK Air - in a German dripstone cave


DLG-Prüfbericht 6393

G. Spelsberg GmbH & Co. KG

Installations-Kleinverteiler Serie AK III mit Zubehör

Ammoniakbeständigkeit

Ammoniakbeständigkeit


VDE Prüf- und Zertifizierungsinstitut

ZEICHENGENEHMIGUNG
MARKS APPROVAL

EN 60670-24


UL- EU CERTIFICATE

EN 62208


UL- EU CERTIFICATE

EN 61439-2


UL- EU CERTIFICATE

EN 61439-3


UL- EU CERTIFICATE

EN 61439-7

APPROVED BY DLG in individual criterions is a reduced-scope utility value test for product differentiation and special highlighting of innovations for machines and technical products.

The **VDE mark** for electrotechnical products indicated the conformity with the VDE directives or European or internationally harmonised standards.

Products with the **UL EU** test symbol have independently been certified by the UL (Underwriters Laboratories Inc.). Representative samples of this product were evaluated by UL and in accordance with the applicable European (EN) or international (IEC) standards.

Products with the **c UL us** test symbol have independently been certified by the UL (Underwriters Laboratories Inc.). Representative samples of this product were evaluated by UL and in accordance with the applicable national standards of USA and Canada.

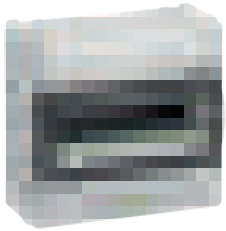
AK Air - approved safety for extreme conditions

Small Distribution Boards

AK Air

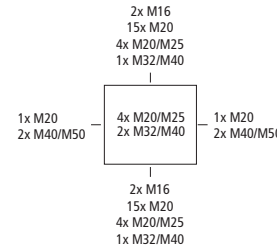
AK 14

315 x 300 x 155 mm



IP65 | 14 | IR | IK08 | 400V AC

Small distribution board - Industrial Quality -, 1-row, 14 distribution units, integrated ventilation elements to reduce the formation of condensate water, elastic entries on top, masking and labelling strips, additional double-membrane seals and other accessories



Description	Order no.
AK 14 screwless PE/N terminal rails each with 3 screwable clamping points, Clamping units 2.5 - 16 mm², 14 screwless type clamping units 1.5 - 4 mm²	73341401

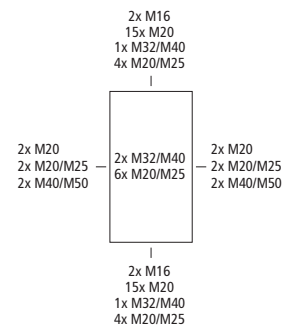
AK 14 Plus

315 x 450 x 155 mm



IP65 | 14 | IR | IK08 | 400V AC

Small distribution board - Industrial Quality - 1-row, 14 distribution units, integrated ventilation elements to reduce the formation of condensate water, elastic entries on top, masking and labelling strips, additional double-membrane seals and other accessories



Description	Order no.
AK 14 Plus with additional connection space, with 35 mm standard rails, without PE/N terminal rails	73361401



Small Distribution Boards

AK Air

AK-F 14

315 x 300 x 155 mm



IP65 | 14 | IR | IK08 | 400V AC | VDE | DLG | UL EU | halogen-free

Small distribution board - Industrial Quality -, Flange type, with open front sides, for the use with various flanges, for the combination of several AK-F distributors via combination flange, 1-row, 14 distribution units, integrated ventilation elements to reduce the formation of condensate water, masking and labelling strips, additional double-membrane seals and other accessories, flange and flange set must be purchased separately



Description	Order no.
AK-F 14 Screwless PE/N terminal rail, each with 3 screw-type clamping units 2.5 - 16 mm², 14 screwless type clamping units 1.5 - 4 mm²	73351401

Recommended accessories:	Order no.
AK3 FL00 Flange for AK-F without pre-embossings	73382001
AK3 FL01 Flange for AK-F with pre-embossings: 1 x M50/M40, 2 x M40/32, 2 x M20	73382101
AK3 FL02 Flange for AK-F with pre-embossings: 5 x M25/M20, 4 x M20, 2 x M16	73382201
AK3 FL13 Flange for AK-F with insert via double membrane seals DMS M32 and opening for flange types FL13 as per standard SEN 28 09 01	73382801
AK3 KFL Flange for AK-F	73382901



Small Distribution Boards

AK Air

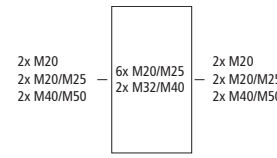
AK-F 14 Plus

315 x 450 x 155 mm



IP65 | 14 | IR | IK08 | 400V AC

Small distribution board - Industrial Quality -, Flange type, with open front sides, for the use with various flanges, for the combination of several AK-F distributors via combination flange, 1-row, 14 distribution units, integrated ventilation elements to reduce the formation of condensate water, masking and labelling strips, additional double-membrane seals and other accessories, flange and flange set must be purchased separately



Description	Order no.
AK-F 14 Plus with additional connection space, with 35 mm standard rails, without PE/N terminal rails	73371401

Recommended accessories:	Order no.
AK3 FL00 Flange for AK-F without pre-embossings	73382001
AK3 FL01 Flange for AK-F with pre-embossings: 1 x M50/M40, 2 x M40/32, 2 x M20	73382101
AK3 FL02 Flange for AK-F with pre-embossings: 5 x M25/M20, 4 x M20, 2 x M16	73382201
AK3 FL13 Flange for AK-F with insert via double membrane seals DMS M32 and opening for flange types FL13 as per standard SEN 28 09 01	73382801
AK3 KFL Flange for AK-F	73382901

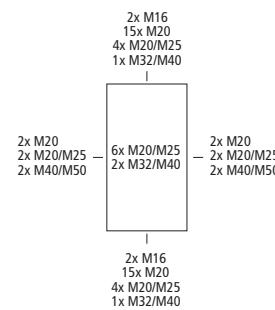
AK 28

315 x 450 x 155 mm



IP65 | 28 | IR | IK08 | 400V AC

Small distribution board - Industrial Quality -, 2-row, 28 distribution units, 150 mm rail spacing, integrated ventilation elements to reduce the formation of condensate water, elastic entries on top, masking and labelling strips, additional double-membrane seals and other accessories



Description	Order no.
AK 28 Screwless PE/N terminal rail, each with 6 screw-type clamping units 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm²	73342801

Small Distribution Boards

AK Air

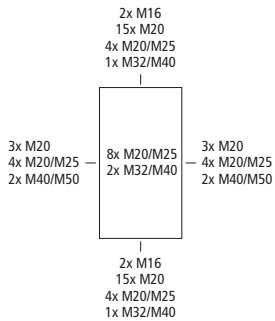
AK 28 Plus

315 x 600 x 155 mm



IP65 | 28 | IR | IK08 | 400V AC | VDE | DLG | UL EU | halogen-free

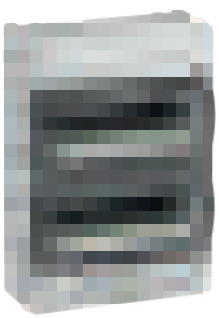
Small distribution board - Industrial Quality - 2-row, 28 distribution units, 150 mm rail spacing, integrated ventilation elements to reduce the formation of condensate water, elastic entries on top, masking and labelling strips, additional double-membrane seals and other accessories



Description	Order no.
AK 28 Plus with additional connection space, with 35 mm standard rails, without PE/N terminal rails	73362801

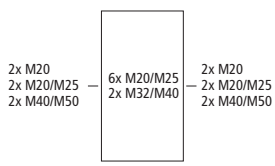
AK-F 28

315 x 450 x 155 mm



IP65 | 28 | IR | IK08 | 400V AC | VDE | DLG | UL EU | halogen-free

Small distribution board - Industrial Quality -, Flange type, with open front sides, for the use with various flanges, for the combination of several AK-F distributors via combination flange, 2-row, 28 distribution units, 150 mm rail spacing, integrated ventilation elements to reduce the formation of condensate water, masking and labelling strips, additional double-membrane seals and other accessories, flange and flange set must be purchased separately



Description	Order no.
AK-F 28 Screwless PE/N terminal rail, each with 6 screw-type clamping units 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm²	73352801
Recommended accessories:	**Order no.**
AK3 FL00 Flange for AK-F without pre-embossings	73382001
AK3 FL01 Flange for AK-F with pre-embossings: 1 x M50/M40, 2 x M40/32, 2 x M20	73382101
AK3 FL02 Flange for AK-F with pre-embossings: 5 x M25/M20, 4 x M20, 2 x M16	73382201
AK3 FL13 Flange for AK-F with insert via double membrane seals DMS M32 and opening for flange types FL13 as per standard SEN 28 09 01	73382801
AK3 KFL Flange for AK-F	73382901

Small Distribution Boards

AK Air

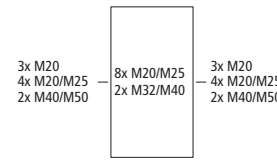
AK-F 28 Plus

315 x 600 x 155 mm



IP65 | 28 | IR | IK08 | 400V AC | halogen-free

Small distribution board - Industrial Quality -, Flange type, with open front sides, for the use with various flanges, for the combination of several AK-F distributors via combination flange, 2-row, 28 distribution units, 150 mm rail spacing, integrated ventilation elements to reduce the formation of condensate water, masking and labelling strips, additional double-membrane seals and other accessories, flange and flange set must be purchased separately

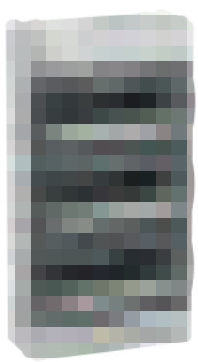


Description	Order no.
AK-F 28 Plus with additional connection space, with 35 mm standard rails, without PE/N terminal rails	73372801

Recommended accessories:	Order no.
AK3 FL00 Flange for AK-F without pre-embossings	73382001
AK3 FL01 Flange for AK-F with pre-embossings: 1 x M50/M40, 2 x M40/32, 2 x M20	73382101
AK3 FL02 Flange for AK-F with pre-embossings: 5 x M25/M20, 4 x M20, 2 x M16	73382201
AK3 FL13 Flange for AK-F with insert via double membrane seals DMS M32 and opening for flange types FL13 as per standard SEN 28 09 01	73382801
AK3 KFL Flange for AK-F	73382901

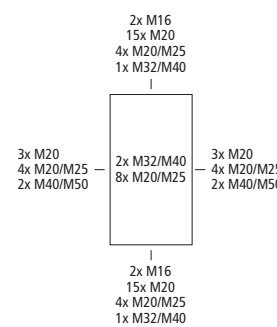
AK 42

315 x 600 x 155 mm



IP65 | 42 | IR | IK08 | 400V AC | halogen-free

Small distribution board - Industrial Quality -, 3-row, 42 distribution units, 150 mm rail spacing, integrated ventilation elements to reduce the formation of condensate water, elastic entries on top, masking and labelling strips, additional double-membrane seals and other accessories



Description	Order no.
AK 42 Screwless PE/N terminal rail, each with 6 screw-type clamping units 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm²	73344201

Small Distribution Boards

AK Air

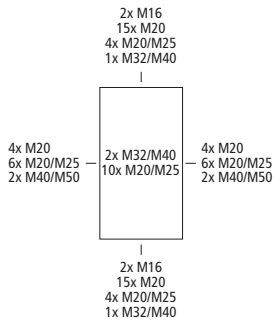
AK 42 Plus

315 x 750 x 155 mm



IP65 | 42 | IR | IK08 | 400V AC | VDE | DLG | UL EU | halogen-free

Small distribution board - Industrial Quality -, 3-row, 42 distribution units, 150 mm rail spacing, integrated ventilation elements to reduce the formation of condensate water, elastic entries on top, masking and labelling strips, additional double-membrane seals and other accessories



Description	Order no.
AK 42 Plus with additional connection space, with 35 mm standard rails, without PE/N terminal rails	73364201

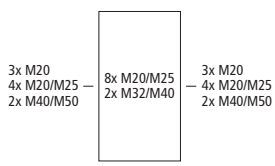
AK-F 42

315 x 600 x 155 mm



IP65 | 42 | IR | IK08 | 400V AC | VDE | DLG | UL EU | halogen-free

Small distribution board - Industrial Quality -, Flange type, with open front sides, for the use with various flanges, for the combination of several AK-F distributors via combination flange, 3-row, 42 distribution units, 150 mm rail spacing, integrated ventilation elements to reduce the formation of condensate water, masking and labelling strips, additional double-membrane seals and other accessories, flange and flange set must be purchased separately



Description	Order no.
AK-F 42 Screwless PE/N terminal rail, each with 6 screw-type clamping units 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm²	73354201

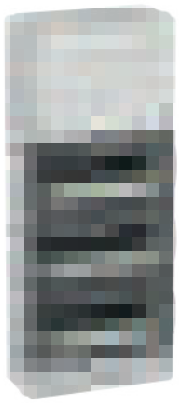
Recommended accessories:	Order no.
AK3 FL00 Flange for AK-F without pre-embossings	73382001
AK3 FL01 Flange for AK-F with pre-embossings: 1 x M50/M40, 2 x M40/32, 2 x M20	73382101
AK3 FL02 Flange for AK-F with pre-embossings: 5 x M25/M20, 4 x M20, 2 x M16	73382201
AK3 FL13 Flange for AK-F with insert via double membrane seals DMS M32 and opening for flange types FL13 as per standard SEN 28 09 01	73382801
AK3 KFL Flange for AK-F	73382901

Small Distribution Boards

AK Air

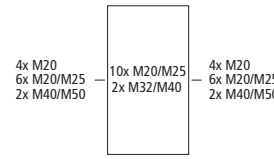
AK-F 42 Plus

315 x 750 x 155 mm



IP65 | 42 | IR | IK08 | 400V AC

Small distribution board - Industrial Quality -, Flange type, with open front sides, for the use with various flanges, for the combination of several AK-F distributors via combination flange, 3-row, 42 distribution units, 150 mm rail spacing, integrated ventilation elements to reduce the formation of condensate water, masking and labelling strips, additional double-membrane seals and other accessories, flange and flange set must be purchased separately

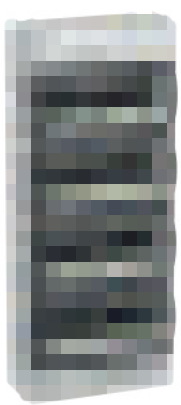


Description	Order no.
AK-F 42 Plus with additional connection space, with 35 mm standard rails, without PE/N terminal rails	73374201

Recommended accessories:	Order no.
AK3 FL00 Flange for AK-F without pre-embossings	73382001
AK3 FL01 Flange for AK-F with pre-embossings: 1 x M50/M40, 2 x M40/32, 2 x M20	73382101
AK3 FL02 Flange for AK-F with pre-embossings: 5 x M25/M20, 4 x M20, 2 x M16	73382201
AK3 FL13 Flange for AK-F with insert via double membrane seals DMS M32 and opening for flange types FL13 as per standard SEN 28 09 01	73382801
AK3 KFL Flange for AK-F	73382901

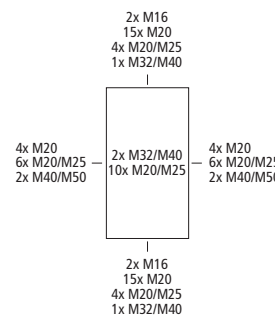
AK 56

315 x 750 x 155 mm



IP65 | 56 | IR | IK08 | 400V AC

Small distribution board - Industrial Quality -, 4-row, 56 distribution units, 150 mm rail spacing, integrated ventilation elements to reduce the formation of condensate water, screwless PE/N terminal rails each with 6 screwable clamping points, 2.5 - 16 mm², elastic entries on top, masking and labelling strips, additional double membrane seals and further accessories



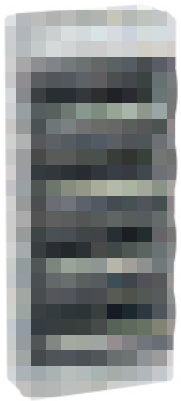
Description	Order no.
AK 56 Screwless PE/N terminal rail, each with 6 screw-type clamping units 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm²	73345601

Small Distribution Boards

AK Air

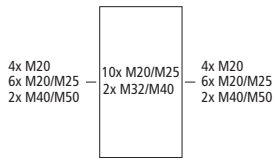
AK-F 56

315 x 750 x 155 mm



IP65 | 56 | IR | IK08 | 400V AC | VDE | DLG | UL EU | halogen-free

Small distribution board - Industrial Quality -, Flange type, with open front sides, for the use with various flanges, for the combination of several AK-F distributors via combination flange, 4-row, 56 distribution units, 150 mm rail spacing, integrated ventilation elements to reduce the formation of condensate water, masking and labelling strips, additional double-membrane seals and other accessories, flange and flange set must be purchased separately



Description	Order no.
AK-F 56 Screwless PE/N terminal rail, each with 6 screw-type clamping units 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm²	73355601

Recommended accessories:	Order no.
AK3 FL00 Flange for AK-F without pre-embossings	73382001
AK3 FL01 Flange for AK-F with pre-embossings: 1 x M50/M40, 2 x M40/32, 2 x M20	73382101
AK3 FL02 Flange for AK-F with pre-embossings: 5 x M25/M20, 4 x M20, 2 x M16	73382201
AK3 FL13 Flange for AK-F with insert via double membrane seals DMS M32 and opening for flange types FL13 as per standard SEN 28 09 01	73382801
AK3 KFL Flange for AK-F	73382901

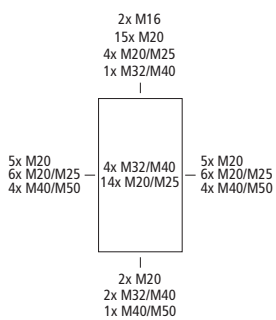
AK 70

315 x 1050 x 155 mm



IP65 | 70 | IR | IK08 | 400V AC | VDE | DLG | UL EU | halogen-free

Small distribution board - Industrial Quality - comprised of 2 individual housings, 70 distribution units, 150 mm rail spacing, integrated ventilation elements to reduce the formation of condensate water, screwless PE/N terminal rails each with 6 screwable clamping points, 2.5 - 16 mm², elastic entries on top, masking and labelling strips, additional double-membrane seals and other accessories



Description	Order no.
AK 70 Screwless PE/N terminal rail, each with 6 screw-type clamping units 2.5 - 16 mm², 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm²	73347001

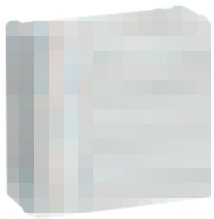


Small Distribution Boards

AK 14 L

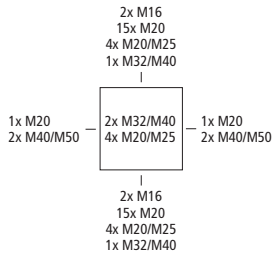
AK 14 L

315 x 300 mm



IP65 IK08

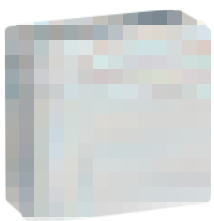
Expansion enclosure / empty enclosure - Industrial Quality -, for small distribution boards AK 14-56, for individual expansion with standard rails or mounting plates, integrated ventilation elements to reduce the formation of condensate water, for installation of rail-mounted devices as per DIN 43880 model size 1-3, U_n=400 V, U_i=1.000V AC / 1.500V DC, I_n=125A



Description	Cover	Knockouts	Order no.
AK 14 L-g	grey	metric	73341001
AK 14 L-t	transparent	metric	73341101

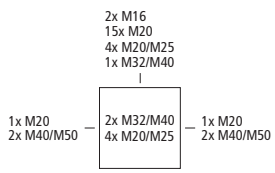
AK-F 14 L

315 x 300 mm



IP65 IK08

Expansion enclosure / empty enclosure - Industrial Quality -, for small distribution boards AK-F 14-56, for individual expansion with standard rails or mounting plates, integrated ventilation elements to reduce the formation of condensate water, U_n=400 V, U_i=1.000V AC / 1.500V DC, I_n=125A



Description	Cover	Knockouts	Order no.
AK-F 14 L-g	grey	metric	73351001
AK-F 14 L-t	transparent	metric	73351101

Recommended accessories:	Order no.
AK3 FL00 Flange for AK-F without pre-embossings	73382001
AK3 FL01 Flange for AK-F with pre-embossings: 1 x M50/M40, 2 x M40/32, 2 x M20	73382101
AK3 FL02 Flange for AK-F with pre-embossings: 5 x M25/M20, 4 x M20, 2 x M16	73382201
AK3 FL13 Flange for AK-F with insert via double membrane seals DMS M32 and opening for flange types FL13 as per standard SEN 28 09 01	73382801
AK3 KFL Flange for AK-F	73382901

Small Distribution Boards

AK 14 L

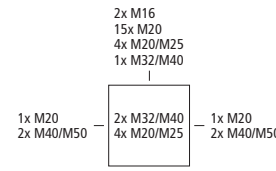
AK-F/DMS 14 L

315 x 300 mm



IP65 IK08

Expansion enclosure / empty enclosure - Industrial Quality -, for small distribution boards AK-F 14-56, for individual expansion with standard rails or mounting plates, integrated ventilation elements to reduce the formation of condensate water, for installation of rail-mounted devices as per DIN 43880 model size 1-3, U_n=400 V, U_i=1.000V AC / 1.500V DC, I_n=125A



Description	Cover	Knockouts	Order no.
AK-F/DMS 14 L-g	grey	metric	73331001
AK-F/DMS 14 L-t	transparent	metric	73331101

Recommended accessories:	Order no.
AK3 FL00 Flange for AK-F without pre-embossings	73382001
AK3 FL02 Flange for AK-F with pre-embossings: 5 x M25/M20, 4 x M20, 2 x M16	73382201
AK3 FL13 Flange for AK-F with insert via double membrane seals DMS M32 and opening for flange types FL13 as per standard SEN 28 09 01	73382801
AK3 KFL Flange for AK-F	73382901







In increasingly global markets, products have to meet the requirements and standards of different countries. Especially in North American and Canadian markets, standards vary widely from those in Europe. With the small distribution board AK UL Spelsberg offers an enclosure for electrical devices, which has been tested and certified by UL according to the standards UL 50, UL 50E, CSA 22.2 No. 94.1 and CSA 22.2 No. 94.2 Those standards are also accepted in numerous other countries as a statement of safety and reliability. With the Type ratings 3R, 12, 12K, AK UL it is suitable both for indoors as well as for outdoor installation. Of course, the AK UL corresponds also to the international standard IEC 61439-3.

A real global player.

Small Distribution Boards AK UL

Small Distribution Boards

AK UL

AK UL

315 x 155 mm



IP65 | IK08 | 400V AC

Small distribution board - Industrial Quality -, with additional connection space, with 35 mm standard rails, integrated ventilation elements to reduce the formation of condensate water, small-scale distributors - Industrial Quality -, without double membrane seals, top 10 apertures, M20, for UL-compliant line insertion points, without PE/N terminal rails

Description	Order no.
AK 14 UL 1-row, 14 distribution units, UL Type Ratings: 3R, 12, 12K	73341452
AK 28 UL 2-row, 28 distribution units, UL Type Ratings: 3R, 12, 12K	73342852
AK 42 UL 3-row, 42 distribution units, UL Type Ratings: 3R, 12, 12K	73344252
AK 56 UL 4-row, 56 distribution units, UL Type Ratings: 3R, 12, 12K	73345652

Recommended accessories:	Order no.
AK AS UL Masking off strips Width 108 mm for 6 distribution units	79901252

AK-F UL

315 x 155 mm



IP65 | IK08 | 400V AC

Small distribution board - Industrial Quality -, Flange type, with open front sides, for the use with various flanges, for the combination of several AK-F distributors via combination flange, integrated ventilation elements to reduce the formation of condensate water, flange and flange set must be purchased separately

Description	Order no.
AK-F 14 UL 1-row, 14 distribution units, UL Type Ratings: 3R, 12, 12K	73351452
AK-F 28 UL 2-row, 28 distribution units, UL Type Ratings: 3R, 12, 12K	73352852
AK-F 42 UL 3-row, 42 distribution units, UL Type Ratings: 3R, 12, 12K	73354252
AK-F 56 UL 4-row, 56 distribution units, UL Type Ratings: 3R, 12, 12K	73355652

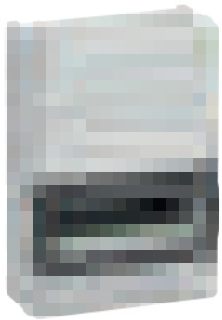
Recommended accessories:	Order no.
AK3 FL00 Flange for AK-F without pre-embossings	73382001
AK3 FL01 Flange for AK-F with pre-embossings: 1 x M50/M40, 2 x M40/32, 2 x M20	73382101
AK3 FL02 Flange for AK-F with pre-embossings: 5 x M25/M20, 4 x M20, 2 x M16	73382201
AK3 KFL Flange for AK-F	73382901

Small Distribution Boards

AK UL

AK Plus UL

315 x 155 mm



IP65 | IR | IK08 | 400V AC | VDE | DLG | UL EU | cULus | halogen-free

Small distribution board - Industrial Quality -, with additional connection space, with 35 mm standard rails, integrated ventilation elements to reduce the formation of condensate water, Top 10 apertures, M20, for UL-compliant line insertion points, Without double membrane seals, without PE/N terminal rails

Description	Order no.
AK 14 Plus UL 1-row, 14 distribution units, UL Type Ratings: 3R, 12, 12K	73361452
AK 28 Plus UL 2-row, 28 distribution units, UL Type Ratings: 3R, 12, 12K	73362852
AK 42 Plus UL 3-row, 42 distribution units, UL Type Ratings: 3R, 12, 12K	73364252

Recommended accessories:	Order no.
AK AS UL Masking off strips Width 108 mm for 6 distribution units	79901252

AK-F Plus UL

315 x 155 mm



IP65 | IR | IK08 | 400V AC | VDE | DLG | UL EU | cULus | halogen-free

Small distribution board - Industrial Quality -, with additional connection space, with 35 mm standard rails, Flange type, with open front sides, for the use with various flanges, for the combination of several AK-F distributors via combination flange, integrated ventilation elements to reduce the formation of condensate water, flange and flange set must be purchased separately

Description	Order no.
AK-F 14 Plus UL 1-row, 14 distribution units, UL Type Ratings: 3R, 12, 12K	73371452
AK-F 28 Plus UL 2-row, 28 distribution units, UL Type Ratings: 3R, 12, 12K	73372852
AK-F 42 Plus UL 3-row, 42 distribution units, UL Type Ratings: 3R, 12, 12K	73374252

Recommended accessories:	Order no.
AK3 FL01 Flange for AK-F with pre-embossings: 1 x M50/M40, 2 x M40/32, 2 x M20	73382101
AK3 FL02 Flange for AK-F with pre-embossings: 5 x M25/M20, 4 x M20, 2 x M16	73382201
AK3 KFL Flange for AK-F	73382901
AK AS UL Masking off strips Width 108 mm for 6 distribution units	79901252

Small Distribution Boards

AK Air accessories

AK3 KS M50



M50 combination cable gland for lateral connection of enclosures AK/AK-F 14/28/42/56/70 including Plus types as well as industrial and outdoor enclosures of the GEOS series

Description	Order no.
AK3 KS M50	73383001

AK3 FL



Enclosure wall including flange connector for sealing the face of AK-F enclosures

Description	Order no.
AK3 FL00 without pre-embossings	73382001
AK3 FL01 with pre-embossings: 1 x M50/M40, 2 x M40/32, 2 x M20	73382101
AK3 FL02 with pre-embossings: 5 x M25/M20, 4 x M20, 2 x M16	73382201
AK3 FL13 with insert via double membrane seals DMS M32 and opening for flange types FL13 as per standard SEN 28 09 01	73382801

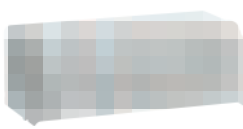
AK3 KFL



Combination flange incl. flange connector for the front connection of AK-F housings

Description	Order no.
AK3 KFL	73382901

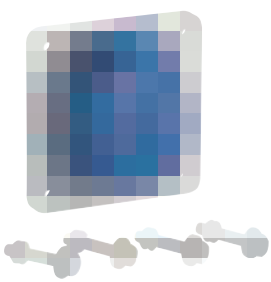
AK3 KBL



Cable cover for the attachment to AK/AK-F 14/28/42/56/70 housings, as well as Plus types, can be retroactively mounted on the end

Description	Order no.
AK3 KBL	73383101

AK3 STD



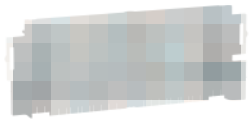
mounting socket 16 A, for the lateral assembly on housings AK/AK-F 14/28/42/56/70, as well as Plus types

Description	Order no.
AK3 STD Schuko®, IP54	73383401
AK3 SDP Belgian/French standard, with protection rating IP44	73383601

Small Distribution Boards

AK Air accessories

AK3 TW



Divider made of plastic, suitable for the interior subdivision of AK/AK-F 14/28/42/56 housings, as well as Plus types, with pre-embossing for the cable bushing

Description	Order no.
AK3 TW	73383201

Assembly plate insulating material



Mounting plate made from insulating material, incl. fixing screws

Description	Order no.
AK3 MPI 14 L for AK 14 L addition and empty enclosure	73383801
AK3 MPI With opening for AIR ventilation element, for Plus range	73383501

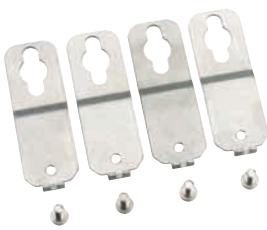
AK3 AS



External hinge set

Description	Order no.
AK3 AS only for AK 14 L - addition and empty enclosure	73383701

AK3 ABL-ES



Stainless steel external fixing lugs, suitable for enclosure AK/AK-F 14/28/42/56/70, as well as Plus types, 1 set = 4 pcs.

Description	Order no.
AK3 ABL-ES	73383301

AK3 NS35



Standard rail as profile rail 35 x 7.5 mm

Description	Order no.
AK3 NS35-14 for 14 modules, Incl. profile rail mount for all AK/AK-F 14/28/42/56/70, as well as Plus types	73381201
AK3 NS35-275 Length 275 mm, Incl. universal floor fixing mounts for all AK/AK-F 14/28/42/56/70, as well as Plus types and AKi empty enclosures	73381301

Small Distribution Boards

AK Air accessories

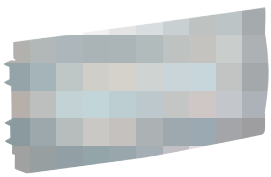
AK lock fittings



Lock fittings, for installation in hinged doors of distribution boxes AK 03 to AK/AKi 70 and AK/AKi Plus 14 to 56, with 2 keys and installation instructions

Description	Order no.
AK SGA-1 Identical locks	70610201
AK SGA-2 Different closures, max. 10 different closures possible	70690201

AK3 KF



AK3 hinged window as a replacement part for all AK/AK-F 14/28/42/56, as well as Plus types, incl. hinge and handle

Description	Order no.
AK3 KF	73380101

Screwless PE/N terminal



PE/N screwless terminal, for installation in AK/AKi small-scale distributors from AK/AKi 14, as additional terminals or for replacement, incl. adapters for installation in AK and AK-F distribution boards and Plus types with Air technology

Description	Order no.
AK 14 PEN-SL Single-stage PE/N terminal rail with each, 3 screwable clamping points, 2.5 mm² - 16 mm² and 14 screwless terminal points, 1.5 - 4 mm²	79031701
AK 28 PEN-SL Two-row PE/N terminal rail each with, 6 screwable clamping points, 2.5 mm² - 16 mm² and 21 / 2 x 14 screwless clamping points 1.5 mm² - 4 mm²	79032701
AK N-SL Single-stage N terminal rail, with 4 screwable clamping points 2.5 mm² - 16 mm², and 28 screwless clamping points 1.5 mm² - 4 mm², following removal of the cross-connection, distribution into, 2 N potentials each with 3 screwable terminal points, 2.5 mm² - 16 mm² and 14 screwless, terminal points 1.5 mm² - 4 mm²	79031801

Terminal block



Terminal, for rigid conductors, 15 clamping points, 1 screwable clamping point 25 mm², 2 screwless clamping points 4 mm², 12 screwless clamping points 2.5 mm², for assembly on 35 mm DIN mounting rail, for current carrying capacity of 76 A

Description	Order no.
KLS L 1/14-SL Grey	79032001
KLS N 1/14-SL Blue	79032101
KLS PE 1/14-SL Green	79032201

Small Distribution Boards

AK Air accessories

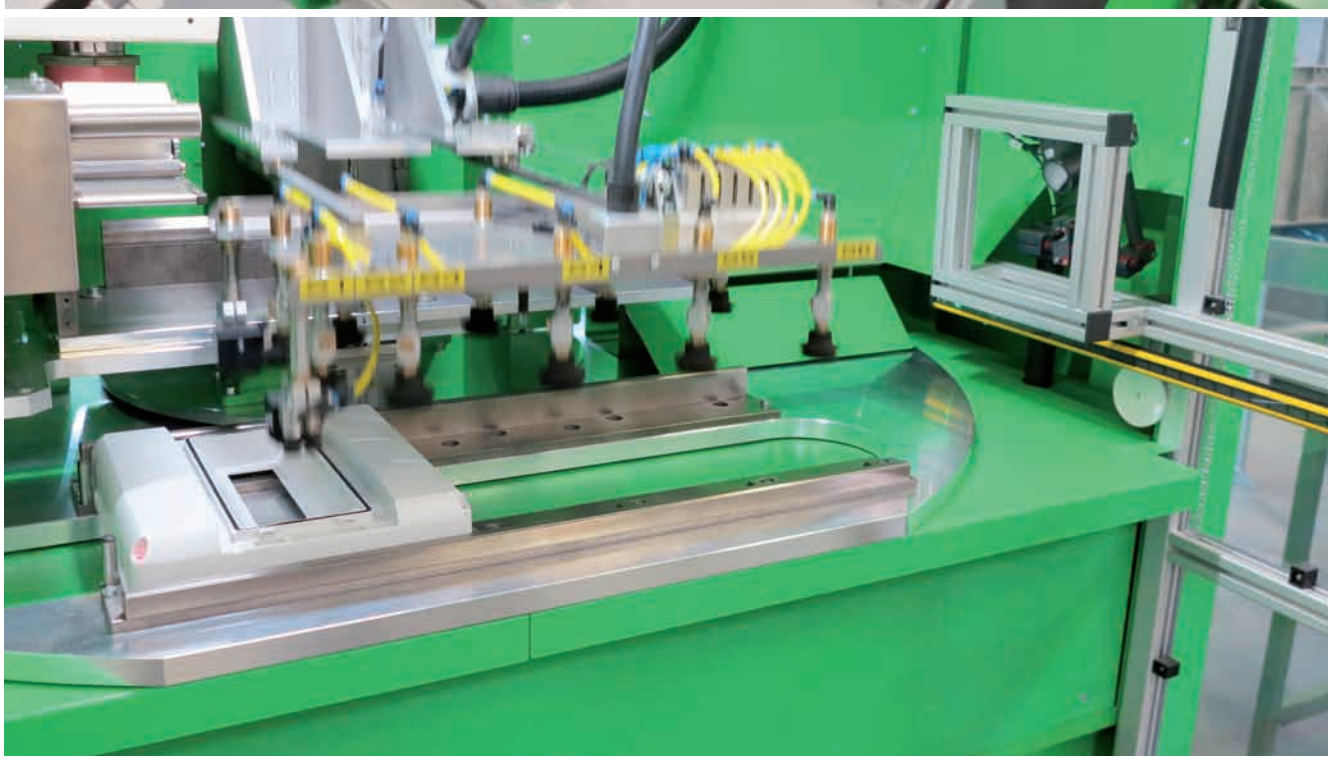
Masking off strips



Masking off strips, to close off unused circuit-breaker positions, detachable, grey

Description	Order no.
AK AS Width 108 mm for 6 distribution units	79901201
AK AS-v Width 216 mm for 12 distribution units, lockable	79901301
AK AS UL Width 108 mm for 6 distribution units	79901252









- Quick installation thanks to patented sealing membranes
- Special designs on request
- Cylinder lock can be installed later
- Simple combination options



IP65 | 3-24 | IK07 | 400V AC | halogen-free

IP65 | 3-24 | IK08 | 400V AC | halogen-free | iQ

Small Distribution Boards AK / AKi compact

Small Distribution Boards

AK | AKi Compact

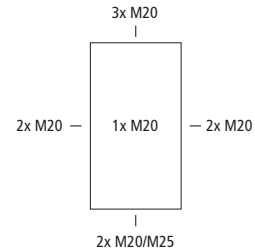
AK 03

100 x 150 x 96 mm



IP65 | 3 | IK07 | 400V AC | halogen-free

Small distribution board, 3 distribution units, PE/N terminal, with each 1 clamping point 16 mm², 3 clamping points 6 mm², 3 elastic entries on top, masking and labelling strips, insulating seals, additional double-membrane seals



Description	Order no.
AK 03	73540301

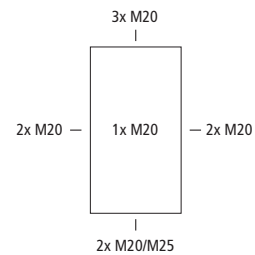
AKi 03

100 x 150 x 96 mm



IP65 | 3 | IK08 | 400V AC | halogen-free | iQ

Small distribution board - Industrial Quality -, 3 distribution units, PE/N terminal, with each 1 clamping point 16 mm², 3 clamping points 6 mm², 3 elastic entries on top, masking and labelling strips, insulating seals, additional double-membrane seals



Description	Order no.
AKi 03	73640301

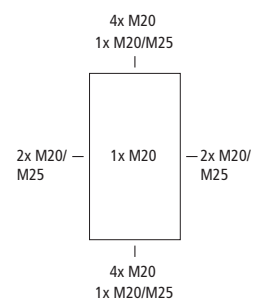
AK 05

125 x 200 x 122 mm



IP65 | 5 | IK07 | 400V AC | halogen-free

Small distribution board, 5 distribution units, PE/N terminal, with each 2 clamping points 16 mm², 3 clamping points 6 mm², 4 elastic entries on top, masking and labelling strips, insulating seals, additional double-membrane seals



Description	Order no.
AK 05	73540501

Small Distribution Boards

AK | AKi Compact

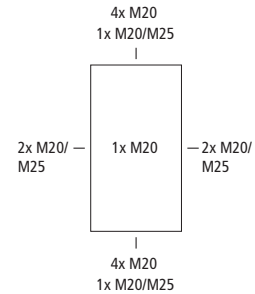
AKi 05

125 x 200 x 122 mm



IP65 | 5 | IK08 | 400V AC | halogen-free | iQ

Small distribution board - Industrial Quality -, 5 distribution units, PE/N terminal, with each 2 clamping points 16 mm², 3 clamping points 6 mm², 4 elastic entries on top, masking and labelling strips, insulating seals, additional double-membrane seals



Description	Order no.
AKi 05	73640501

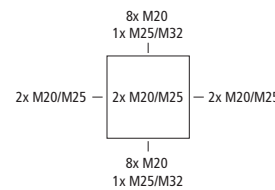
AK 09

200 x 200 x 122 mm



IP65 | 9 | IK07 | 400V AC | halogen-free

Small distribution board, 9 distribution units, PE/N terminal, with each 2 clamping points 16 mm², 5 clamping points 6 mm², 6 elastic entries on top, masking and labelling strips, insulating seals, additional double-membrane seals



Description	Order no.
AK 09	73540901

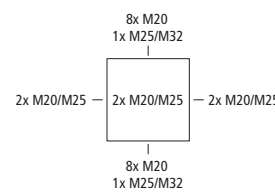
AKi 09

200 x 200 x 122 mm



IP65 | 9 | IK08 | 400V AC | halogen-free | iQ

Small distribution board - Industrial Quality -, 9 distribution units, PE/N terminal, with each 2 clamping points 16 mm², 5 clamping points 6 mm², 6 elastic entries on top, masking and labelling strips, insulating seals, additional double-membrane seals



Description	Order no.
AKi 09	73640901

Small Distribution Boards

AK | AKi Compact

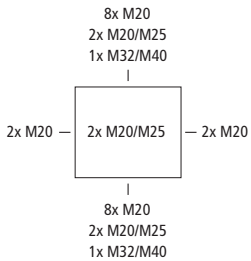
AK 12

250 x 200 x 122 mm



IP65 | 12 | IK07 | 400V AC | halogen-free

Small distribution board, 12 distribution units, PE/N terminal, with each 2 clamping points 16 mm², 10 clamping points 6 mm², 8 elastic entries on top, masking and labelling strips, insulating seals, additional double-membrane seals



Description	Order no.
AK 12	73541201

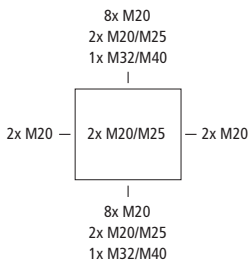
AKi 12

250 x 200 x 122 mm



IP65 | 12 | IK08 | 400V AC | halogen-free | iQ

Small distribution board - Industrial Quality -, 12 distribution units, PE/N terminal, with each 2 clamping points 16 mm², 10 clamping points 6 mm², 8 elastic entries on top, masking and labelling strips, insulating seals, additional double-membrane seals



Description	Order no.
AKi 12	73641201

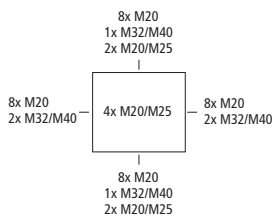
AK 24

250 x 370 x 122 mm



IP65 | 24 | IK07 | 400V AC | halogen-free

Small distribution board, 24 distribution units, PE/N terminal, with each 2 clamping points 16 mm², 14 clamping points 6 mm², 8 elastic entries on top, masking and labelling strips, insulating seals, additional double-membrane seals



Description	Order no.
AK 24	73542401

Small Distribution Boards

AK | AKi Compact

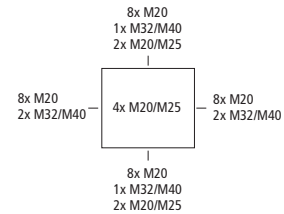
AKi 24

250 x 370 x 122 mm



IP65 | 24 | IK08 | 400V AC | halogen-free | iQ

Small distribution board - Industrial Quality -, 24 distribution units, PE/N terminal, with each 2 clamping points 16 mm², 14 clamping points 6 mm², 8 elastic entries on top, masking and labelling strips, insulating seals, additional double-membrane seals



Description	Order no.
AKi 24	73642401







- **Individual transparent doors can be lead sealed, blanking off of individual rows**



▶ Including PE/N terminals



▶ Including stepped nipples for cable entry



IP55 | 3 48 | IK07 | 400V AC | halogen free

Small Distribution Boards AKe

Small Distribution Boards

AKe

AKe 03

100 x 150 x 96 mm



IP55 | 3 | IK07 | 400V AC | halogen-free

Small distribution board, 1-row, masking and labelling strips, insulating seals, additional stepped nipple

Description	Order no.
AKe 03 PE/N terminal 2x4-pole, 6/16 mm²	73550301
AKe 03-L Without PE/N terminals	73560301

AKe 05

125 x 200 x 122 mm



IP55 | 5 | IK07 | 400V AC | halogen-free

Small distribution board, 1-row, masking and labelling strips, insulating seals, additional stepped nipple

Description	Order no.
AKe 05 PE/N terminal 2x5-pole, 6/16 mm²	73550501
AKe 05-L Without PE/N terminals	73560501

Small Distribution Boards

AKe

AKe 09

200 x 200 x 122 mm



IP55 | 9 | IK07 | 400V AC | halogen-free

Small distribution board, 1-row, masking and labelling strips, insulating seals, additional stepped nipple

Description	Order no.
AKe 09 PE/N terminal 2x7-pole, 6/16 mm²	73550901
AKe 09-L Without PE/N terminals	73560901

AKe 12

250 x 200 x 122 mm



IP55 | 12 | IK07 | 400V AC | halogen-free

Small distribution board, 1-row, masking and labelling strips, insulating seals, additional stepped nipple

Description	Order no.
AKe 12 PE/N terminal 2x12-pole, 6/16 mm²	73551201
AKe 12-L Without PE/N terminals	73561201

Small Distribution Boards

AKe

AKe 24

250 x 370 x 122 mm



IP55 | 12 | IK07 | 400V AC | halogen-free

Small distribution board, 2-row, 150 mm rail spacing, masking and labelling strips, insulating seals, additional stepped nipple

Description	Order no.
AKe 24 Compact PE/N terminal 2 x 16-pole, 6/16 mm²	73572401
AKe-L 24 Compact Without PE/N terminals	73582401

AKe 36

300 x 600 x 142 mm



IP55 | 36 | IK07 | 400V AC | halogen-free

Small distribution board, 3-row, 150 mm rail spacing, masking and labelling strips, insulating seals, additional stepped nipple

Description	Order no.
AKe 36 PE/N terminal 2 x 25-pole, 6/16/25 mm²	73553601
AKe 36-L Without PE/N terminals	73563601

Small Distribution Boards

AKe

AKe 48

300 x 750 x 142 mm



IP55 | 48 | IK07 | 400V AC | halogen-free

Small distribution board, 4-row, 150 mm rail spacing, masking and labelling strips, insulating seals, additional stepped nipple

Description	Order no.
AKe 48 PE/N terminal 2 x 25-pole, 6/16/25 mm²	73554801
AKe 48-L Without PE/N terminals	73564801

Small Distribution Boards

Accessories AKe | AK Compakt

PE/N terminal



PE/N terminal rail, for installation in AK/AKi small-scale distributors as additional terminals or for replacement, AK14/28 PEN-S and AK 24 PEN-S only with screw set SR NS35

Description	Order no.
AK 03 PEN-S	79020401
AK 05 PEN-S	79020501
AK 09 PEN-S	79020701
AK 12 PEN-S	79021101
AK 24 PEN-S	79021801
AK 14/28 PEN-S	79021701
AK 42 PEN-S	79022501

AK lock fittings



Lock fittings, for installation in hinged doors of distribution boxes AK 03 to AK/AKi 70 and AK/AKi Plus 14 to 56, with 2 keys and installation instructions

Description	Order no.
AK SGA-1 Identical locks	70610201
AK SGA-2 Different closures, max. 10 different closures possible	70690201

Combi connector



Combination socket for connecting enclosures, polyethylene, grey, for wall thickness 1.5 - 4.0 mm

Description	Order no.
KST M32 Length 25 mm, for vertical and horizontal connection of AK/AKi 24 distribution boards, ZKi meter housings and AKL/AKi 1-4 empty enclosures, for vertical connection of AK/AKi 09/12 distribution boards, as well as TK empty enclosures with M32 knock-outs	19303201
KST M25-33 Length 33 mm, for vertical connection of AK 14 - 56, AK/AKi 24 distribution boards, ZKi meter enclosures and AKL/AKi 1 - 4 empty enclosures, as well as for horizontal connection of AK 28 – 56 distribution boards	19302601
KST M25-17 Length 17 mm, for vertical connection of AK/AKi 03 - 12 distribution boards, AKL / AKi 1-4, as well as TK and SVi enclosures with M25 knock-outs	19302501

Combi set



Combination set for connecting enclosures with metric entries, polystyrene, grey, complete with locknut and partition seal

Description	Wall thickness	Thread lenght/mm	Order no.
KS M20	2 x 3,0	12	19202001
KS M25	2 x 3,0	12	19202501
KS M25-gro	2 x 8,0	22	19202601
KS M32	2 x 3,5	14	19203201

Masking off strips



Masking off strips, to close off unused circuit-breaker positions, detachable, grey

Description	Order no.
AK AS Width 108 mm for 6 distribution units	79901201
AK AS-v Width 216 mm for 12 distribution units, lockable	79901301
AK AS UL Width 108 mm for 6 distribution units	79901252

Ventilation plug



Ventilation Plug, IP44, with ventilation seal to avoid condensation formation in enclosures, flow rate 100 l/min. at 0.1 bar overpressure, thermoplastic elastomer, grey, recommended for insertion on the left and right enclosure sides in different heights (see Technical Appendix - protection against condensate water), f. wall thicknesses 1.5 - 4.5 mm

Description	for wall thickness	Order no.
BST M20 Grey	4,5 - 1,5	26242001
BST M20/sw Black	4,5 - 1,5	26202001

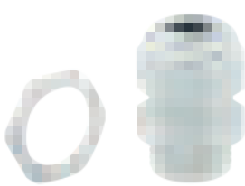
Double membrane seals, grey



Double membrane seals, IP66, with two sealing membranes, closed, thermoplastic elastomer (TPE), grey, for wall thicknesses 1.5 - 4.5 mm

Description	Sealing area/mm	Order no.
DMS M16	5 - 9	26041601
DMS M20	7 - 12	26042001
DMS M25	9 - 16	26042501
DMS M32	14 - 21	26043201
DMS M40	19 - 28	26044001

Cable gland, grey



Cable gland IP68 with strain relief, polyamide, M_ x 1.5 mm, with lock nut

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12-MGM	2 - 6.5	8	22741201
KVR M16-MGM	4 - 10.0	8	22741601
KVR M20-MGM	6 - 12.0	9	22742001
KVR M20-GDB/MGM	7 - 14.0	9	22742101
KVR M25-MGM	9 - 16,0	11	22742501
KVR M32-MGM	11 - 21.0	11	22743201
KVR M40-MGM	16 - 28.0	11	22744001
KVR M50-MGM	21 - 34.5	13	22745001
KVR M63-MGM	30 - 44.5	17	22746301



Protection class (IP code)
as per DIN EN 60529 (VDE 0470-1)



Maximum number **Partition units**



Protection class (IK code)
against mechanical stresses
as per DIN EN 50102 (VDE 0470-100)



Protection class II
Equipment with protective insulation
as per DIN VDE 0100-410



Rated voltage
for use in **AC voltage systems**, maximum permissible nominal voltage of the electrical grid



The **VDE mark** stands for approved safety of the product referring electrical, mechanical, thermal and other hazards



UL EU
Products with the **UL EU** test symbol have independently been certified by the UL (Underwriters Laboratories Inc.). Representative samples of this product were evaluated by UL and in accordance with the applicable European (EN) or international (IEC) standards.



c UL us (Underwriters Laboratories)
Products with the **c UL us** test symbol have independently been certified by the UL (Underwriters Laboratories Inc.). Representative samples of this product were evaluated by UL and in accordance with the applicable national standards of USA and Canada.



AK Air ventilation elements
to avoid condensation while keeping the protection class IP65.



Halogen-free enclosure,
without halogens such as fluorine, chlorine and bromine.



Industrial Quality



DLG Focus Test
for especially pointing out the innovations in machines and technical products
- predominantly in agricultural and forestry applications.

Pictograms | Small distribution boards

Standard Quality

Industry Quality

Overview of the **ambient conditions** and **mechanical properties** of the **els products**	Enclosure empty			Enclosure with fittings						
	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Max. relative humidity at 40 °C	Max. relative humidity at 25 °C (short-term)	Protection rating according to DIN EN 60529 / VDE 0470-1[1)]	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
AK compact small distribution boards	-25°C	40°C	35°C	-25°C	40°C	35°C	50%	95%	IP65	IK07
AKi compact small distribution boards	-35 °C	80°C	60°C	-25°C	40°C	35°C	50%	95%	IP65	IK08
AK small distribution boards	-35 °C	80°C	60°C	-25°C	40°C	35°C	50%	95%	IP65	IK08

Additional note: The specified temperatures may be limited by the installed devices.

[1)] When used with suitable connectors or cable screw couplings

Overview of the **Properties** of the materials used in the **els installations systems**		Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzene	Mineral oil	Diesel	Ammonia, gaseous (DLG Focus Test)	Vegetable fats	Animal fats	Halogen-free	Free from heavy metals, PVC and silicone	Flammability according to DIN EN 60695 (VDE 0471) / UL94
Material	**Use in the products:**															
Polycarbonate, glass-fibre reinforced	AK small distributor	O	X	X	X	O	Ø	X	O	Ø	O	O	Ø	yes	yes	960°C / V-2 (5VA*)
Polycarbonate, transparent	hinged covers AK Small-scale distributors	O	X	X	X	Ø	Ø	X	O	Ø	O	O	O	yes	yes	850 °C / V-2
Polyamide 6, glass-fibre reinforced	Screwed connections IP 68, cover screws	X	X	O	O	O	O	Ø	O	O	O	O	O	yes	yes	750°C / HB/V-2
Polystyrene, impact proof	AK compact system	O	Ø	O	O	O	X	X	O	X	not specified	O	X	yes	yes	650°C / HB

* 5 Inch (127 mm) Flame test according to UL 746 C (comparable with the requirements of UL 94, 5VA)

The materials used by Spelsberg were subjected to a weathering test according to DIN 53 387 (replaced by DIN EN ISO 4892-2), a 1000 hour test at the "State Examination Office" in Dortmund. The materials used in IQ products showed good result here.
The material also passed the UV resistance test according to UL 746 C, without any limitations.

When selecting the installation location, the climatic conditions and the occurrence of chemical influences should generally be examined in addition to the protection Details of material properties and chemical resistance of the materials can be seen from the table, **though these are simply guide values.**

Power dissipation details for AK Air small distribution boards	Max. power output (P_{de}) for **GP-enclosures** as per EN 60670-24 [per top-hat rail] 1)	Applicable power loss in **PD enclosures** as per EN 60670-24 [per top-hat rail] 2)
Type		
AK 14 / AK-F 14	26W [26W]	35W [35W]
AK 28 / AK-F 28	35W [17.5W]	48W [24W]
AK 42 / AK-F 42	45W [15W]	62W [20W]
AK 56 / AK-F 56	56W [14W]	77W [19W]
AK 70	66W [13W]	90W [18W]

	Max. power output (P_{de}) for **GP-enclosures** as per EN 60670-24 [per top-hat rail] 1)	Applicable power loss in **PD enclosures** as per EN 60670-24 [per top-hat rail] 2)
Type		
AK 14 Plus / AK-F 14 Plus	52W [52W]	70W [70W]
AK 28 Plus / AK-F 28 Plus	61W [30.5W]	92W [46W]
AK 42 Plus / AK-F 42 Plus	70W [23W]	113W [36.5W]
AK 56 Plus / AK-F 56 Plus	79W [19.5W]	134W [33.5W]

The AK small distribution boards can be used as GP (universal) enclosure or as PD enclosure for pre-specified equipment as per EN 60670-24 standard.

1) Proof of maximum power output (P_{de}) for universal enclosures - GP enclosures
The proof of heating up for empty GP enclosures and GP basis enclosures was carried out for AK small distribution boards with on-state slope resistances which generate the maximum power loss per standard rail listed in the table. With this, the external surface heated up by not more than 30K. In this case, temperature increase in the enclosure is higher and can possibly exceed the allowed operating temperature of the equipment used.

2) Proof of heating up for enclosures for the pre-specified equipment - PD enclosures
The proof of heating up for empty PD enclosures and PD basis enclosures was carried out for AK small distribution boards with combinations of equipment devices which generate the maximum power loss per standard rail listed in the table. With this, the external surface heated up by not more than 40K. In this case, temperature increase in the enclosure is higher and can possibly
exceed the allowed operating temperature of the equipment used.

Power dissipation details
for AK installation small distribution boards and individually mounted empty AK enclosures

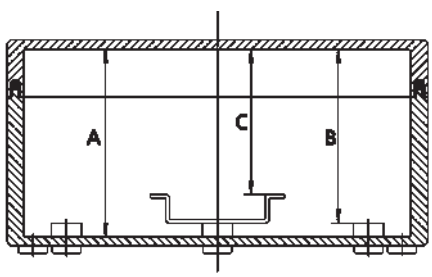
	Individually mounted			
	[W]			
Type	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
AK 03 / AKi 03	2.4	5.7	9.4	13.4
	[1.8]	[4.4]	[7.2]	[10.4]
AK 05 / AKi 05	3.8	9.0	14.9	21.4
	[2.9]	[6.9]	[11.5]	[16.4]
AK 09 / AKi 09	5.0	11.8	19.5	27.9
	[4.1]	[9.6]	[15.9]	[22.8]
AK 12 / AKi 12	5.7	13.6	22.5	32.2
	[4.8]	[11.4]	[18.9]	[27.1]
AK 24 / Aki 24	8.9	21.2	35.1	50.2
	[6.9]	[16.4]	[27.2]	[38.8]



	Installation horizontal				Installation upright			
	[W]				[W]			
Type	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
AK 14 L / AK-F 14 L / AK-F / DMS 14 L	9.7	23.0	38.0	54.4	9.7	23.0	38.0	54.4
	[8.0]	[18.8]	[31.2]	[44.6]	[8.0]	[18.8]	[31.2]	[44.6]

Permissible power loss Pper in Watt as per DIN VDE 0660-507 for **individually surface-mounted installation small distribution boards** and **empty surface-mounted enclosures** at specified ΔT. Power loss at 50% of the enclosure height and [75%] of the enclosure height.

Assembly and installation instructions

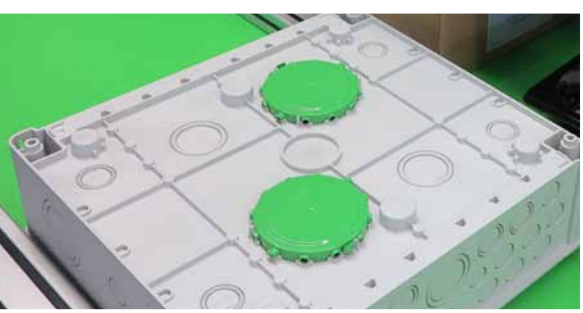


Installation dimensions of AK small distribution boards

AK Series	A [mm]	B [mm]	C [mm]
AK 14-70	82.5	77.5	48/60

AK- / AKi compact	[mm]	[mm]	[mm]
AK 03	85	79	71.5
AK 05 to 12	111	105	98.5











Our flexible socket distributors and enclosures:

- Compact or with space for additional rail-mounted devices
- pre-wired with already integrated CEE- and protective contact socket for Belgium and France incl. wiring cables, for the installation of exactly that trademarked rail-mounted devices that are required

Socket Distribution Boards / Enclosures

Table of Contents

	Types	Series	Page
	**Socket enclosures, ready for connection** IP44	**STG**	**181**
	**Socket distribution boards, pre-wired or ready for connection** IP44	STV	**182**
	**Socket distribution boards, empty** IP44	**STV-L**	**185**
	**Accessories**	**STG / STV**	**189**
	**Bicycle charging station + accessories** IP44	**TG BCS**	**192**
	Technical Information	**Socket distribution boards**	**194**



STG

Ready for connection, with integrated CEE and protective contact socket for **Belgium and France**.

STV-S

With integrated CEE and protective contact socket for **Belgium and France**, pre-wired, incl. PE/N-terminal.

The enclosures can also be combined with AKi compact small-scale distributors.

The **special break-out contour** on the enclosure sides of the STG / STV 5 and STG / STV 9 enclosure allows the installation of further components, e.g. load disconnecting switches.

- **High mechanical loadability**
- **Temperature insensitive**
- **Compact dimensions**
- **Use of brand-name sockets**
- **Combinable**

IP44 IK08 400V AC halogen-free iQ Industrial Quality

Socket Distribution Boards / Enclosures STV / STG

Socket Distribution Boards / Enclosures

STG

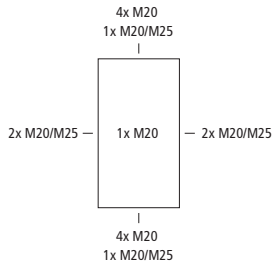
STG 5

125 x 200 x 122 mm



IP44 IK08 400V AC halogen-free iQ

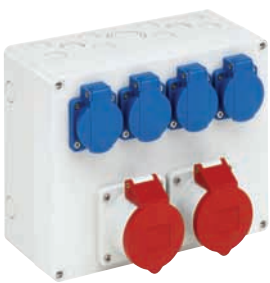
Socket enclosure, ready to connect, in accordance with EN 61439-3, high mechanical resilience, non-sensitive to temperature, combinable



Description	Order no.
STG 004 BE/FR 4 x Protective contact socket, French/Belgian standard (on side), 230V	73220405
STG 012 BE/FR 2 x Protective contact socket, French/Belgian standard (on side), 230V 1 x CEE plug socket outlet (on front) 16A, 400V	73221205

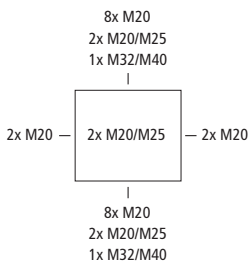
STG 12

250 x 200 x 122 mm



IP44 IK08 400V AC halogen-free iQ

Socket enclosure, ready to connect, in accordance with EN 61439-3, high mechanical resilience, non-sensitive to temperature, combinable



Description	Order no.
STG 008 BE/FR 8 x Protective contact socket, French/Belgian standard (on side), 230V	73220805
STG 024 BE/FR 4 x Protective contact socket, French/Belgian standard (on side), 230V 2 x CEE plug socket outlet (on front) 16A, 400V	73222405

Socket Distribution Boards / Enclosures

STV

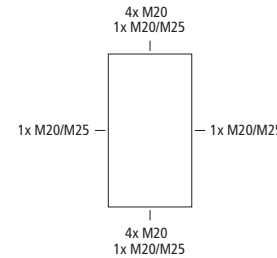
STV 502-S

125 x 200 x 122 mm



IP44 IK08 230V AC halogen-free iQ

Socket distribution board, partially fitted, for installation of rail mounted devices by the customer, with built-in socket outlets with protective contact, pre-wired on PE/N terminals, high mechanical resilience, non-sensitive to temperature



Description	Order no.
STV 502-S BE/FR Number of modular spacings: max. 4 2 x Protective contact socket, French/Belgian standard (on the side), 230V	72830205

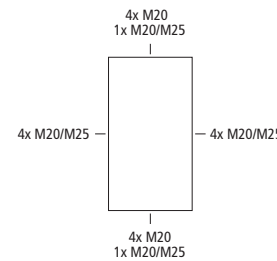
STV 5-S

125 x 400 x 122 mm



IP44 IK08 400V AC halogen-free iQ

Socket distribution board, partially fitted, for installation of rail mounted devices by the customer, with built-in socket outlets with protective contact and CEE socket outlets, pre-wired on PE/N terminals, high mechanical resilience, non-sensitive to temperature



Description	Order no.
STV 512-S BE/FR Number of modular spacings: 5 2 x Protective contact socket, French/Belgian standard (on side), 230V 1 x CEE plug socket outlet (on front) 16A, 400V	72831205

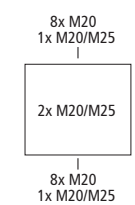
STV 904-S

200 x 200 x 122 mm



IP44 IK08 230V AC halogen-free iQ

Socket distribution board, partially fitted, for installation of rail mounted devices by the customer, with built-in socket outlets with protective contact and CEE socket outlets, pre-wired on PE/N terminals, high mechanical resilience, non-sensitive to temperature



Description	Order no.
STV 904-S BE/FR Number of modular spacings: max. 8 4 x Protective contact socket, French/Belgian standard (on the side), 230V	72930405

All prices are non-binding recommended gross prices in EUR excluding value-added tax. Prices as of 01/01/2020

Socket Distribution Boards / Enclosures

STV

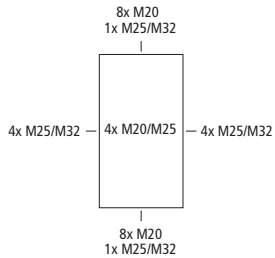
STV 9-S

200 x 400 x 122 mm



IP44 IK08 400V AC halogen-free iQ

Socket distribution board, partially fitted, for installation of rail mounted devices by the customer, with built-in socket outlets with protective contact and CEE socket outlets, pre-wired on PE/N terminals, high mechanical resilience, non-sensitive to temperature



Description	Order no.
STV 912-S BE/FR Number of modular spacings: 9 2 x Protective contact socket, French/Belgian standard (on side), 230V 1 x CEE plug socket outlet (on front) 16A, 400V	72931205
STV 912-S32 BE/FR Number of modular spacings: 9 2 x Protective contact socket, French/Belgian standard (on side), 230V 1 x CEE plug socket outlet (on front) 16A, 400V	72931305
STV 922-S BE/FR Number of modular spacings: 9 2 x Protective contact socket, French/Belgian standard (on side), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 16A, 400V	72932205
STV 923-S BE/FR Number of modular spacings: 9 3 x Protective contact socket, French/Belgian standard (on side), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 16A, 400V	72932305

Socket Distribution Boards / Enclosures

STV

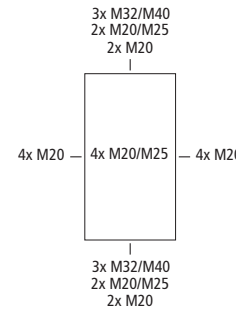
STV 12-S

250 x 400 x 122 mm



IP44 IK08 400V AC halogen-free iQ

Socket distribution board, partially fitted, for installation of rail mounted devices by the customer, with built-in socket outlets with protective contact and CEE socket outlets, pre-wired on PE/N terminals, high mechanical resilience, non-sensitive to temperature



Description	Order no.
STV 1208-S BE/FR Number of modular spacings: 12 8 x Protective contact socket, French/Belgian standard (on side), 230V	73130805
STV 1222-S BE/FR Number of modular spacings: 12 2 x Protective contact socket, French/Belgian standard (on side), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 16A, 400V	73132205
STV 1224-S BE/FR Number of modular spacings: 12 4 x Protective contact socket, French/Belgian standard (on side), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 16A, 400V	73132405
STV 1224-S16 BE/FR Number of modular spacings: 12 4 x Protective contact socket, French/Belgian standard (on side), 230V 2 x CEE plug socket outlet (on front) 16A, 400V	73122405
STV 1224-S32 BE/FR Number of modular spacings: 12 4 x Protective contact socket, French/Belgian standard (on side), 230V 2 x CEE plug socket outlet (on front) 16A, 400V	73112405

All prices are non-binding recommended gross prices in EUR excluding value-added tax. Prices as of 01/01/2020

Socket Distribution Boards / Enclosures

STV-L

STV 502-L

125 x 200 x 122 mm



IP44 IK08 400V AC halogen-free iQ

Socket distribution board, empty, for installation of rail mounted devices and socket outlets with protective contact by the customer, incl.PE-/N-terminal as well as adapters and screws for mounting the socket outlets, high mechanical resilience, non-sensitive to temperature, combinable

Description	Order no.
STV 502-L Number of modular spacings: max. 4 2 x Drill hole for socket with diameter of 44.5mm and drill hole distance for mounting vertical / horizontal of 38/38mm (on side)	72890201

STV 904-L

200 x 200 x 122 mm



IP44 IK08 400V AC halogen-free iQ

Socket distribution board, empty, for installation of rail mounted devices, socket outlets with protective contact and CEE socket outlets by the customer, incl.PE-/N-terminal as well as adapters and screws for mounting the socket outlets, high mechanical resilience, non-sensitive to temperature, combinable

Description	Order no.
STV 904-L Number of modular spacings: max. 8 4 x Drill hole for socket with diameter of 44.5mm and drill hole distance for mounting vertical / horizontal of 38/38mm (on side)	72990401

Socket Distribution Boards / Enclosures

STV-L

STV 5-L

125 x 400 x 122 mm



IP44 IK08 400V AC halogen-free iQ

Socket distribution board, empty, for installation of rail mounted devices, socket outlets with protective contact and CEE socket outlets by the customer, incl.PE-/N-terminal as well as adapters and screws for mounting the socket outlets, high mechanical resilience, non-sensitive to temperature, combinable

Description	Order no.
STV 504-L Number of modular spacings: 5 4 x Drill hole for socket with diameter of 44.5mm and drill hole distance for mounting vertical / horizontal of 38/38mm (on front)	72890401
STV 512-L Number of modular spacings: 5 2 x Drill hole for socket with diameter of 44.5mm and drill hole distance for mounting vertical / horizontal of 38/38mm (on front) 1 x Drill hole for socket with diameter of 66.5mm and drill hole distance for mounting vertical / horizontal of 60/60mm (on front)	72891201

Socket Distribution Boards / Enclosures

STV-L

STV 9-L

200 x 400 x 122 mm



IP44 IK08 400V AC halogen-free iQ

Socket distribution board, empty, for installation of rail mounted devices, socket outlets with protective contact and CEE socket outlets by the customer, incl.PE-/N-terminal as well as adapters and screws for mounting the socket outlets, high mechanical resilience, non-sensitive to temperature, combinable

Description	Order no.
STV 912-L Number of modular spacings: 9 2 x Drill hole for socket with diameter of 44.5mm and drill hole distance for mounting vertical / horizontal of 38/38mm (on front) 1 x Drill hole for socket with diameter of 66.5mm and drill hole distance for mounting vertical / horizontal of 60/60mm (on front)	72991201
STV 922-L Number of modular spacings: 9 2 x Drill hole for socket with diameter of 44.5mm and drill hole distance for mounting vertical / horizontal of 38/38mm (on front) 2 x Drill hole for socket with diameter of 66.5mm and drill hole distance for mounting vertical / horizontal of 60/60mm (on front)	72992201
STV 923-L Number of modular spacings: 9 3 x Drill hole for socket with diameter of 44.5mm and drill hole distance for mounting vertical / horizontal of 38/38mm (on front) 2 x Drill hole for socket with diameter of 66.5mm and drill hole distance for mounting vertical / horizontal of 60/60mm (on front)	72992301

Socket Distribution Boards / Enclosures

STV-L

STV 12-L

250 x 400 x 122 mm



IP44 IK08 400V AC halogen-free iQ

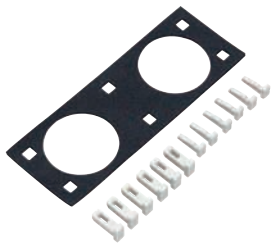
Socket distribution board, empty, for installation of rail mounted devices, socket outlets with protective contact and CEE socket outlets by the customer, incl.PE-/N-terminal as well as adapters and screws for mounting the socket outlets, high mechanical resilience, non-sensitive to temperature, combinable

Description	Order no.
STV 1208-L Number of modular spacings: 12 8 x Drill hole for socket with diameter of 44.5mm and drill hole distance for mounting vertical / horizontal of 38/38mm (on front)	73190801
STV 1222-L Number of modular spacings: 12 2 x Drill hole for socket with diameter of 44.5mm and drill hole distance for mounting vertical / horizontal of 38/38mm (on front) 2 x Drill hole for socket with diameter of 66.5mm and drill hole distance for mounting vertical / horizontal of 60/60mm (on front)	73192201
STV 1224-L Number of modular spacings: 12 4 x Drill hole for socket with diameter of 44.5mm and drill hole distance for mounting vertical / horizontal of 38/38mm (on front) 2 x Drill hole for socket with diameter of 66.5mm and drill hole distance for mounting vertical / horizontal of 60/60mm (on front)	73192401

Socket Distribution Boards / Enclosures

STG | STV Accessories

STV KS combi set



For horizontal combination with AKi 05/09 small distributors, complete with wedge connectors and intermediate seals

Description	Order no.
STV KS-IP 65	79100201

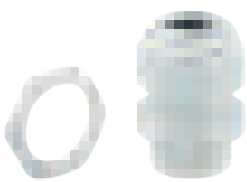
Combi set



Combination set for connecting enclosures with metric entries, polystyrene, grey, complete with locknut and partition seal

Description	Wall thickness	Thread lenght/mm	Order no.
KS M20	2 x 3,0	12	19202001
KS M25	2 x 3,0	12	19202501
KS M25-gro	2 x 8,0	22	19202601
KS M32	2 x 3,5	14	19203201

Cable gland, grey



Cable gland IP68 with strain relief, polyamide, M_ x 1.5 mm, with lock nut

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12-MGM	2 - 6.5	8	22741201
KVR M16-MGM	4 - 10.0	8	22741601
KVR M20-MGM	6 - 12.0	9	22742001
KVR M20-GDB/MGM	7 - 14.0	9	22742101
KVR M25-MGM	9 - 16,0	11	22742501
KVR M32-MGM	11 - 21.0	11	22743201
KVR M40-MGM	16 - 28.0	11	22744001
KVR M50-MGM	21 - 34.5	13	22745001
KVR M63-MGM	30 - 44.5	17	22746301

Double membrane seals, grey



Double membrane seals, IP66, with two sealing membranes, closed, thermoplastic elastomer (TPE), grey, for wall thicknesses 1.5 - 4.5 mm

Description	Sealing area/mm	Order no.
DMS M16	5 - 9	26041601
DMS M20	7 - 12	26042001
DMS M25	9 - 16	26042501
DMS M32	14 - 21	26043201
DMS M40	19 - 28	26044001

Socket Distribution Boards / Enclosures

STG | STV Accessories

KD BD blank cover



Blank cleat for empty enclosures, for closing off unused socket openings

Description	Order no.
KD BD/CEE	51006001
KD BD/Schuko®	51003801

Handle



Handle made of plastic, for mobile use of housing, screw spacing 120 mm

Description	Order no.
TG 2 with self-cutting screws	19180501
TG 1 with screws M6 and nuts made of plastic	19180001

Supply line



Supply line kit for socket combinations up to 16 A, 2 m cable HO7RN-F 5G2.5

Description	Order no.
NAL 2 m-S16 with CEE connector 16 A, 5-pole	50002501

Supply line



Supply line kit for socket combinations up to 32 A, 2 m cable HO7RN-F 5G4

Description	Order no.
NAL 2 m-S32 with CEE connector 16 A, 5-pole	50004001

All prices are non-binding recommended gross prices in EUR excluding value-added tax. Prices as of 01/01/2020



The particular highlight of the station is its ability to be customised:

Spelsberg is also offering a customised labelling.

With this, its appearance can individually be adapted to the provider's corporate design or the place of installation. Reaching from the company logo to coloured images - everything is possibly by our internal printing service at our headquarters in Schalksmühle.

There are still more possibilities for optical effects available due to the translucent material of the cover.

Using the lighted variant, customer requirements can be met more individually.

IP44 IK08 400V AC halogen-free iQ Industrial Quality

Bicycle Charging Station TG BCS

Socket Distribution Boards / Enclosures

TG BCS Bicycle Charging Station

TG BCS 3

110 x 202 x 152 mm



IP44 IK08 400V AC halogen-free iQ

Bicycle charging station, black, Cover screw with special head, Cable entries, 1 x M25 in the ground, 1 x M25 lower housing side, 1 x Ventilation seal M20, pre-wired to terminal Wago 221 (L1/L2/L3/N/PE)



Description	Order no.
TG BCS 3 3 x SCHUKO® plug socket (on front), 230V	20003001
TG BCS 3 LED With LED lighting 3 x SCHUKO® plug socket (on front), 230V	20003401
TG BCS 3 BE/FR 3 x Protective contact socket, French/Belgian standard (on side), 230V	20013001
TG BCS 3 BE/FR LED With LED lighting 3 x Protective contact socket, French/Belgian standard (on side), 230V	20013401

All prices are non-binding recommended gross prices in EUR excluding value-added tax. Prices as of 01/01/2020

Socket Distribution Boards / Enclosures

TG BCS Bicycle Charging Station Accessories

BCS weather protection cover



for mounting the TG BCS 3 bicycle charging station, Material: Stainless steel V2A, with M4 internal thread, for sabotage-proof case fastening

Description	Order no.
BCS WP1	20003101

Earth spike

for concreting in, Material: Stainless steel V2A, with 2 x M5 thread, incl. end cap and screws for fastening the weather protection cover, Covered cable routing in the ground spike possible

Description	Order no.
BCS WP2	20003201

Bit TX20-89



for actuating the special cover screws

Description	Order no.
Bit TX20-89	20003301



Protection class (IP code)
as per DIN EN 60529 (VDE 0470-1)



Protection class (IK code)
against mechanical stresses
as per DIN EN 50102 (VDE 0470-100)



Protection class II
Equipment with protective insulation
as per DIN VDE 0100-410



Rated voltage
for use in **AC voltage systems**,
maximum permissible nominal voltage
of the electrical grid



Halogen-free enclosure,
without halogens such as fluorine,
chlorine and bromine.



Industrial Quality

Pictograms | Socket distributors and enclosures

Industrial Quality

Overview of the **ambient conditions** and **mechanical properties** of the **els products**

	Enclosure without fittings			Enclosure with fittings						
	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Max. relative humidity at 40 °C	Max. relative humidity at 25 °C (short-term)	Protection rating according to	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
STV/ STG socket combinations	-35 °C	80°C	60°C	-25°C	40°C	35°C	50%	95%	IP44[1)]	IK08
TG BCS Bicycle charging station				-25°C	40°C	35°C	50%	95%	IP44[1)]	IK08

Additional note: The specified temperatures may be limited by the installed devices.

[1)] With the socket covers closed

Typical characteristics as per **EN 61439-3**

	U_n Rated voltage [V]	f_n Nominal frequency [Hz]	I_{nA} Rated current of switchgear combination [A]	max. back-up fuse [A]	RDF Rated load factor	I_{cc} Rated short-circuit current [kA]
STG 004	230	50	---	---	---	---
STG 012	230/400	50	---	---	---	---
STG 008	230	50	---	---	---	---
STG 024	230/400	50	---	---	---	---

Overview of the **Properties** of the materials used in the **els installations systems**

Material	Use in the products:	Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzene	Mineral oil	Diesel	Ammonia, gaseous (DLG Focus Test)	Vegetable fats	Animal fats	Halogen-free	Free from heavy metals, PVC and silicone	Flammability according to DIN EN 60695 (VDE 0471) / UL94
Polycarbonate, glass-fibre reinforced	STV/STG	O	X	X	X	O	Ø	X	O	Ø	O	O	Ø	yes	yes	960°C / V-2 (5VA*)
Polycarbonate, transparent	Hinged window STV	O	X	X	X	Ø	Ø	X	O	Ø	O	O	O	yes	yes	850 °C / V-2
polycarbonate	TG BCS	O	X	X	X	O	Ø	X	O	Ø	O	O	Ø	yes	yes	960°C / V-2 (5VA*)

* 5 Inch (127 mm) Flame test according to UL 746 C (comparable with the requirements of UL 94, 5VA) O = resistant Ø = partially resistant X = not resistant

The materials used by Spelsberg were subjected to a weathering test according to DIN 53 387 (replaced by DIN EN ISO 4892-2), a 1000 hour test at the "State Examination Office" in Dortmund. The materials used in IQ products showed good result here.
The material also passed the UV resistance test according to UL 746 C, without any limitations.

When selecting the installation location, the climatic conditions and the occurrence of chemical influences should generally be examined in addition to the protection rating. Details of material properties and chemical resistance of the materials can be seen from the table, **though these are simply guide values.**

Power dissipation details for STV empty enclosure

	[W]			
Type	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
STV 502-L / -S	3.8	9.0	14.9	21.4
	[2.9]	[6.9]	[11.5]	[16.4]
STV 512-L / -S	6.5	15.4	25.5	36.5
	[5.1]	[12.1]	[20.0]	[28.6]
STV 904-L / -S	5.0	11.8	19.5	27.9
	[4.1]	[9.6]	[15.9]	[22.8]
STV 912-L / -S **STV 922-L / -S** **STV 923-L / -S**	8.3	19.7	32.6	46.6
	[6.3]	[14.8]	[24.5]	[35.1]
STV 1222-L / -S /-16 **STV 1208-L / -S** **STV 1224-L / -S / -S32**	9.5	22.5	37.3	53.3
	[7.3]	[17.3]	[28.6]	[40.9]

Permissible power loss Pper in Watt as per DIN VDE 0660-507 for **surface-mounted empty enclosures** at specified ΔT.
Power loss at 50% of the enclosure height and [75%] of the enclosure height.



Meter housing ZKi

- Space-saving due to its flat design
- High mechanical loadability
- Transparent cover lockable by seal

Our meter housings find their space in the smallest room. Thanks to their flat design they can perfectly be inserted - individual special solutions are also possible on request.

IP54 IP65 | IK08 | 400V AC | halogen-free | iQ Industrial Quality

Meter housing ZKi

Meter Housings / Distributors

ZKi

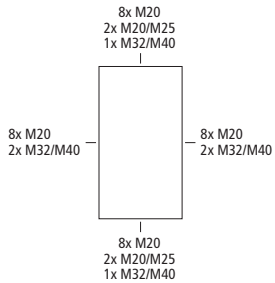
ZKi 1

250 x 370 mm



IP54 IP65 | IK08 | 400V AC | halogen-free | iQ

Meter housing - Industrial Quality - , with transparent cover, standard version sealable, with mounted meter crosspiece and meter fixing screws, with double membrane seals, sealing and insulating plugs



Description	Height/mm	Order no.
ZKi 1 for tri-phase counter	193	74900101
ZKi 1-f Suitable for ripple control receivers according to DIN 43861-2, for meter with three-point mounting and a depth of max. 80 mm	137	74900501

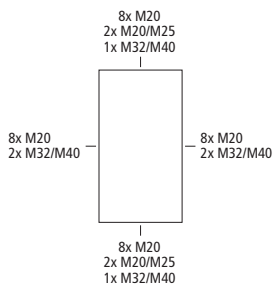
ZKi 11

250 x 520 mm



IP54 IP65 | IK08 | 400V AC | halogen-free | iQ

Meter housing - Industrial Quality - , with transparent cover, standard version sealable, with mounted meter crosspiece and meter fixing screws, standard version sealable consumer space at the top, with 35 mm standard rails and PE/N double terminals, with double membrane seals, sealing and insulating plugs



Description	Height/mm	Order no.
ZKi 11 for tri-phase counter	193	74901101
ZKi 11-f Suitable for ripple control receivers according to DIN 43861-2, for meter with three-point mounting and a depth of max. 80 mm	137	74901501

Meter Housings / Distributors

ZKi

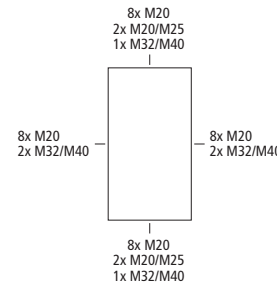
ZKi 100

250 x 520 mm



IP54 IP65 | IK08 | 400V AC | halogen-free | iQ

Meter housing - Industrial Quality - , with transparent cover, standard version sealable, with mounted meter crosspiece and meter fixing screws, additional connection space 150 mm at the bottom, with 35 mm standard rail, with double membrane seals, sealing and insulating plugs



Description	Height/mm	Order no.
ZKi 100 for tri-phase counter	193	74910001
ZKi 100-f Suitable for ripple control receivers according to DIN 43861-2, for meter with three-point mounting and a depth of max. 80 mm	137	74910501

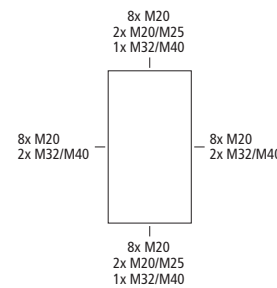
ZKi 110

250 x 670 mm



IP54 IP65 | IK08 | 400V AC | halogen-free | iQ

Meter housing - Industrial Quality - , with transparent cover, standard version sealable, with mounted meter crosspiece and meter fixing screws, additional connection space 150 mm at the bottom, with 35 mm standard rail, standard version sealable consumer space at the top, with 35 mm standard rails and PE/N double terminals, with double membrane seals, sealing and insulating plugs



Description	Height/mm	Order no.
ZKi 110 for tri-phase counter	193	74911001
ZKi 110-f Suitable for ripple control receivers according to DIN 43861-2, for meter with three-point mounting and a depth of max. 80 mm	137	74911501

Meter Housings / Distributors

ZKi

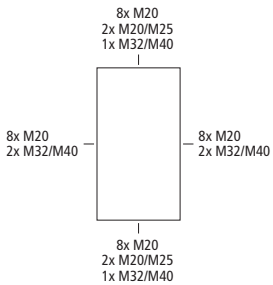
ZKi 120

250 x 820 mm



IP54 IP65 | IK08 | 400V AC | halogen-free | iQ

Meter housing - Industrial Quality - , with transparent cover, standard version sealable, with mounted meter crosspiece and meter fixing screws, additional connection space 150 mm at the bottom, with 35 mm standard rail, standard version sealable consumer space at the top, with 35 mm standard rails and PE/N double terminals, additional space with 35 mm standard rail, with double membrane seals, sealing and insulating plugs



Description	Height/mm	Order no.
ZKi 120 for tri-phase counter	193	74912001
ZKi 120-f Suitable for ripple control receivers according to DIN 43861-2, for meter with three-point mounting and a depth of max. 80 mm	137	74912501

IP65

Protection class (IP code)
acc. to DIN EN 60529 (VDE 0470-1)

IK08

Protection class (IK code)
against mechanical stress acc. to
DIN EN 50102 (VDE 0470-100)

Protection class II
Electrical equipment with protective insulation as per DIN VDE 0100-410

400V AC

Rated voltage
for use in AC voltage systems, maximum permissible nominal voltage of the electrical grid Observe the technical specifications of switchgears.

halogen-free

Halogen-free enclosure,
without halogens such as fluorine, chlorine and bromine.

iQ

Industrial Quality

12

Maximum number of **modules**

The **VDE symbol** stands for the tested safety of the product with regard to electrical, mechanical, thermal and other hazards.

Pictograms | Meter enclosure / -distributor

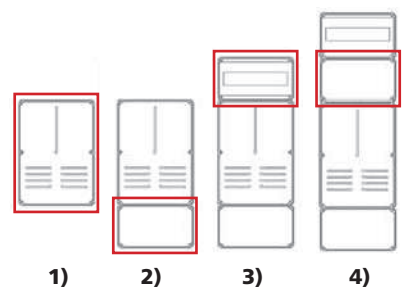
Industrial Quality

ZKi-meter housing

Permissible power loss P_{per} in Watts as per DIN VDE 0660-507 for **individually-mounted, surface-mounted, empty enclosures** at specified ΔT. Power loss at 50% of enclosure height and [75%] of enclosure height.

Enclosure area	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
1) Meter position with high cover (193 mm)	11.3 [8.7]*	26.7 [20.7]*	44.2 [34.2]*	63.2 [48.9]*
1) Meter position with flat cover (137 mm)	9.4 [7.3]*	22.4 [17.3]*	37.0 [28.7]*	53 [41.0]*
2) Connecting space bottom	4.3 [3.7]*	10.1 [8.8]*	16.7 [14.6]*	24 [20.8]*
3) Consumer space top	5.1 [4.4]*	12.1 [10.5]*	20.0 [17.4]*	28.6 [24.9]*
4) Additional space	4.3 [3.7]*	10.1 [8.8]*	16.7 [14.6]*	24.0 [20.8]*

*These maximum power losses are allowed to be applied in the connecting area (red marking) of the meter enclosures.



Overview of the **ambient conditions** and **mechanical properties** of the **els products**

	Empty enclosure			Enclosure with fittings						
	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Max. relative humidity at 40 °C	Max. relative humidity at 25°C (short-term)	Protection rating according to DIN EN 60529 / VDE 0470-1[1]	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
ZKi enclosure	-35 °C	80°C	60°C	-25°C	40°C	35°C	50%	95%	IP65[2]	IK07

Additional note: The specified temperatures may be limited by the installed devices.

[1] When used with suitable connectors or cable screw couplings

[2] Enclosures with slide-in seal ensure protective class IP54

Overview of the **properties** of the materials used in the **els installations systems**

Material	Use in the products:	Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzene	Mineral oil	Diesel	Ammonia, gaseous (DLG Focus Test)	Vegetable fats	Animal fats	Halogen-free	Free from heavy metals, PVC and silicone	Flammability according to DIN EN 60695 (VDE 0471) / UL94
Polycarbonate, glass-fibre reinforced	ZKi box	O	X	X	X	O	Ø	X	O	Ø	O	O	Ø	yes	yes	960°C / V-2 (5VA*)
Polycarbonate	Cover ZKi	O	X	X	X	Ø	Ø	X	O	Ø	O	O	O	yes	yes	850 °C / V-2
Polyamide 6, glass-fibre reinforced	Screwed connections IP 68, cover screws	X	X	O	O	O	O	Ø	O	O	O	O	O	yes	yes	750°C / HB/V-2

* 5 Inch (127 mm) Flame test according to UL 746 C (comparable with the requirements of UL 94, 5VA)

O = resistant Ø = partially resistant X = not resistant

The materials used by Spelsberg were subjected to a weathering test according to DIN 53 387 (replaced by DIN EN ISO 4892-2), a 1000 hour test at the "State Examination Office" in Dortmund. The materials used in IQ products showed good result here. The material also passed the UV resistance test according to UL 746 C, without any limitations.

When selecting the installation location, the climatic conditions and the occurrence of chemical influences should generally be examined in addition to the protection rating. Details of material properties and chemical resistance of the materials can be seen from the table, **though these are simply guide values.**

Universal Accessories

Universal Accessories

Twist plug, grey



Twist plug M_ x 1.5 mm with closed sealing membrane, polyethylene, grey

Description	Sealing area/mm	Thread lenght/mm	Order no.
WST M16	5 - 10	9	20341601
WST M20	8 - 13.5	12	20342001
WST M25	9 - 16	12	20342501
WST M32	11 - 22	14	20343201
WST M40	17 - 24	14	20344001
WST M50	22 - 35	18	20345001
WST M63	24 - 43	20	20346301

Twist plug, black



Twist plug M_ x 1.5 mm with closed sealing membrane, polyethylene

Description	Sealing area/mm	Thread lenght/mm	Order no.
WST M16/sw	5 - 10	9	20301601
WST M20/sw	8 - 13.5	12	20302001
WST M25/sw	9 - 16	12	20302501

Twist nipple, grey



Twist nipple M_ x 1.5 mm with open sealing membrane, polyethylene, grey

Description	Sealing area/mm	Thread lenght/mm	Order no.
WNI M16	5 - 10	9	21341601
WNI M20	8 - 13.5	12	21342001
WNI M25	9 - 16	12	21342501
WNI M32	13 - 23	14	21343201

Twist nipple, black



Twist nipple M_ x 1.5 mm with open sealing membrane, polyethylene

Description	Sealing area/mm	Thread lenght/mm	Order no.
WNI M16/sw	5 - 10	9	21301601
WNI M20/sw	8 - 13.5	12	21302001
WNI M25/sw	9 - 16	12	21302501

Universal Accessories

Universal Accessories

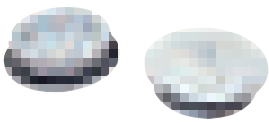
Sealing plug, grey



Sealing plugs IP54 with closed sealing membrane, thermoplastic elastomer (TPE), grey, for wall thickness 1.5 - 4.0 mm

Description	Sealing area/mm	Order no.
VST M16	6 - 10	23141601
VST M20	8 - 13.5	23142001
VST M25	9 - 16	23142501
VST M32	13 - 23	23143201
VST M40	17 - 30	23144001

PA blanking plug



Locking bolt M_ x 1.5 mm, polyamide, grey, for wall thicknesses from 0.5 - 3.0 mm

Description	Thread lenght/mm	Order no.
VSS PA M16	6	21111601
VSS PA M20	6	21112001
VSS PA M25	11	21112501
VSS PA M32	11	21113201

Attachment bushes



Attachment bushes, IP54, with open sealing membrane, no lock nuts required

Description	Sealing area/mm	Order no.
AST M16	6 - 10	23041601
AST M20	8 - 13.5	23042001
AST M25	9 - 18.5	23042501
AST M32	13 - 23	23043201
AST M40	17 - 30	23044001

Double membrane seals, grey



Double membrane seals, IP66, with two sealing membranes, closed, thermoplastic elastomer (TPE), grey, for wall thicknesses 1.5 - 4.5 mm

Description	Sealing area/mm	Order no.
DMS M16	5 - 9	26041601
DMS M20	7 - 12	26042001
DMS M25	9 - 16	26042501
DMS M32	14 - 21	26043201
DMS M40	19 - 28	26044001

Universal Accessories

Universal Accessories

Double membrane seals, black



Double membrane seals with two sealing membranes, closed, thermoplastic elastomer (TPE), black, for wall thickness 1.5 - 4.5 mm,

Description	Sealing area/mm	Order no.
DMS M16/sw	5 - 9	26001601
DMS M20/sw	7 - 12	26002001
DMS M25/sw	9 - 16	26002501
DMS M32/sw	14 - 21	26003201

4-fold double membrane seals, grey



Double membrane seals with two sealing membranes, closed, max. four cable insertions for control lines, thermoplastic elastomer (TPE), grey, for wall thicknesses 1.5 - 4.5 mm

Description	Sealing area/mm	Order no.
DMS M32/4	3.5 - 6	26043301

Stepped nipple, grey



Stepped nipple with closed sealing membrane, can be cut in several steps, thermoplastic elastomer

Description	Sealing area/mm	Order no.
SNI M20	5 - 16	21642001
SNI M25	5 - 21	21642501
SNI M32	13 - 26.5	21643201
SNI M40	13 - 34.0	21644001
SNI M63	14 - 54	21646301

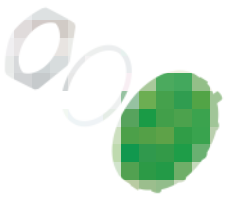
Ventilation plug



Ventilation Plug, IP44, with ventilation seal to avoid condensation formation in enclosures, flow rate 100 l/min. at 0.1 bar overpressure, thermoplastic elastomer, grey, recommended for insertion on the left and right enclosure sides in different heights (see Technical Appendix - protection against condensate water), f. wall thicknesses 1.5 - 4.5 mm

Description	for wall thickness	Order no.
BST M20 Grey	4,5 - 1,5	26242001
BST M20/sw Black	4,5 - 1,5	26202001

Ventilation element set



BEL Air ventilation element set, for preventing condensation build-up in enclosure, for vertical installation in enclosure walls and GFL combi flanges with corresponding knock-outs, at least two ventilation elements are required per enclosure

Description	Order no.
BEL Air M40 M40, set = 2 pcs., Air exchange rate: 30 l / day / set	26344001

Universal Accessories

Universal Accessories

Pressure compensation device



Pressure compensation device with air-permeable and waterproof special membrane foil to prevent condensation in enclosures, flow rate 0.8l/min. at 0.1 bar overpressure, polyamide, grey

Description	Order no.
DAE M12 M12 x 1.5 mm, Thread length 10 mm	26241201

Combi connector



Combination socket for connecting enclosures, polyethylene, grey, for wall thickness 1.5 - 4.0 mm

Description	Order no.
KST M32 Length 25 mm, for vertical and horizontal connection of AK/AKi 24 distribution boards, ZKi meter housings and AKL/AKi 1-4 empty enclosures, for vertical connection of AK/AKi 09/12 distribution boards, as well as TK empty enclosures with M32 knock-outs	19303201
KST M25-33 Length 33 mm, for vertical connection of AK 14 - 56, AK/AKi 24 distribution boards, ZKi meter enclosures and AKL/AKi 1 - 4 empty enclosures, as well as for horizontal connection of AK 28 – 56 distribution boards	19302601
KST M25-17 Length 17 mm, for vertical connection of AK/AKi 03 - 12 distribution boards, AKL / AKi 1-4, as well as TK and SVi enclosures with M25 knock-outs	19302501

Combi set



Combination set for connecting enclosures with metric entries, polystyrene, grey, complete with locknut and partition seal

Description	Wall thickness	Thread lenght/mm	Order no.
KS M20	2 x 3,0	12	19202001
KS M25	2 x 3,0	12	19202501
KS M25-gro	2 x 8,0	22	19202601
KS M32	2 x 3,5	14	19203201

Cable gland, grey



Cable gland, IP68, with strain relief, polyamide, M_ x 1.5 mm, without lock nut

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12	2 - 6.5	8	24741201
KVR M16	4 - 10	8	24741601
KVR M20	6 - 12	9	24742001
KVR M20-GDB	7 - 14	9	24742101
KVR M25	9 - 16	11	24742501
KVR M32	11 - 21	11	24743201
KVR M40	16 - 28	11	24744001
KVR M50	21 - 34.5	13	24745001

Universal Accessories

Universal Accessories

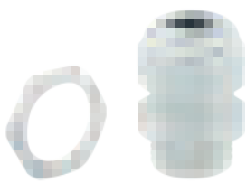
Cable gland, grey



Cable gland with strain relief, Long thread, M_ x 1.5 mm, without lock nut, polyamide, grey

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12 LG	2 - 6.5	12	24841201
KVR M16 LG	4 - 10	12	24841601
KVR M20 LG	6 - 12	15	24842001
KVR M25 LG	9 - 16	15	24842501
KVR M32 LG	11 - 21	15	24843201
KVR M40 LG	16 - 28	18	24844001
KVR M50 LG	21 - 34.5	18	24845001
KVR M63	30 - 44.5	17	24746301

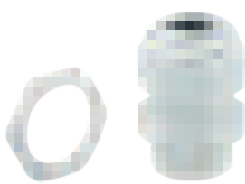
Cable gland, grey



Cable gland IP68 with strain relief, polyamide, M_ x 1.5 mm, with lock nut

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12-MGM	2 - 6.5	8	22741201
KVR M16-MGM	4 - 10.0	8	22741601
KVR M20-MGM	6 - 12.0	9	22742001
KVR M20-GDB/MGM	7 - 14.0	9	22742101
KVR M25-MGM	9 - 16,0	11	22742501
KVR M32-MGM	11 - 21.0	11	22743201
KVR M40-MGM	16 - 28.0	11	22744001
KVR M50-MGM	21 - 34.5	13	22745001
KVR M63-MGM	30 - 44.5	17	22746301

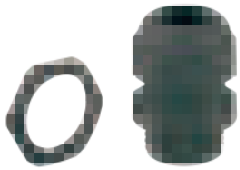
Cable gland, grey



Cable gland with strain relief, long thread, M_ x 1.5 mm, with lock nut, polyamide, grey

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12 LG-MGM	2 - 6.5	12	22941201
KVR M16 LG-MGM	4 - 10.0	12	22941601
KVR M20 LG-MGM	6 - 12.0	15	22942001
KVR M25 LG-MGM	9 - 16	15	22942501
KVR M32 LG-MGM	11 - 21.0	15	22943201
KVR M40 LG-MGM	16 - 28.0	18	22944001
KVR M50 LG-MGM	21 - 34.5	18	22945001

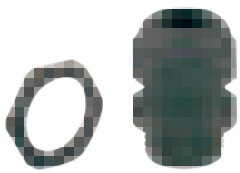
Cable gland, black



Cable gland IP68 with strain relief, polyamide, M_ x 1.5 mm, black, with lock nut

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M20-MGM/sw	6 - 12	9	22702001
KVR M20-GDB/MGM/sw	7 - 14	9	22702101
KVR M25-MGM/sw	9 - 16	11	22702501
KVR M32-MGM/sw	11 - 21	11	22703201
KVR M40-MGM/sw	16 - 28	11	22704001
KVR M50-MGM/sw	21 - 34.5	13	22705001

Cable gland, black



Cable gland with strain relief, long thread, M_ x 1.5 mm, with lock nut, polyamide, black

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12 LG-MGM/sw	2 - 6.5	12	22901201
KVR M16 LG-MGM/sw	4 - 10.0	12	22901601
KVR M20 LG-MGM/sw	6 - 12	15	22902001
KVR M25 LG-MGM/sw	9 - 16	15	22902501
KVR M32 LG-MGM/sw	11 - 21	15	22903201
KVR M40 LG-MGM/sw	16 - 28	18	22904001
KVR M50 LG-MGM/sw	21 - 34.5	18	22905001

Pipe plug, grey



Pipe socket to take smooth pipes, with locknut, polystyrene, grey

Description	for conduits Ø	Order no.
RST M16	16	28841601
RST M20	20	28842001
RST M20-16	16	28842101
RST M20-19	19	28842201
RST M25	25	28842501
RST M32	32	28843201

Locknut, polyamide, grey



Lock nut for metric twist nipple and cable glands, polyamide

Description	Order no.
GMU PA M12 Thread M12x1.5	20841201
GMU PA M16 Thread M16x1.5	20841601
GMU PA M20 Thread M20x1.5	20842001
GMU PA M25 Thread M25x1.5	20842501
GMU PA M32 Thread M32x1.5	20843201
GMU PA M40 Thread M40x1.5	20844001
GMU PA M50 Thread M50x1.5	20845001
GMU PA M63 Thread M63x1.5	20846301

Sealing washers



Sealing washers M_ x 1.50 mm for twist nipple and cable gland with metric thread, polyethylene

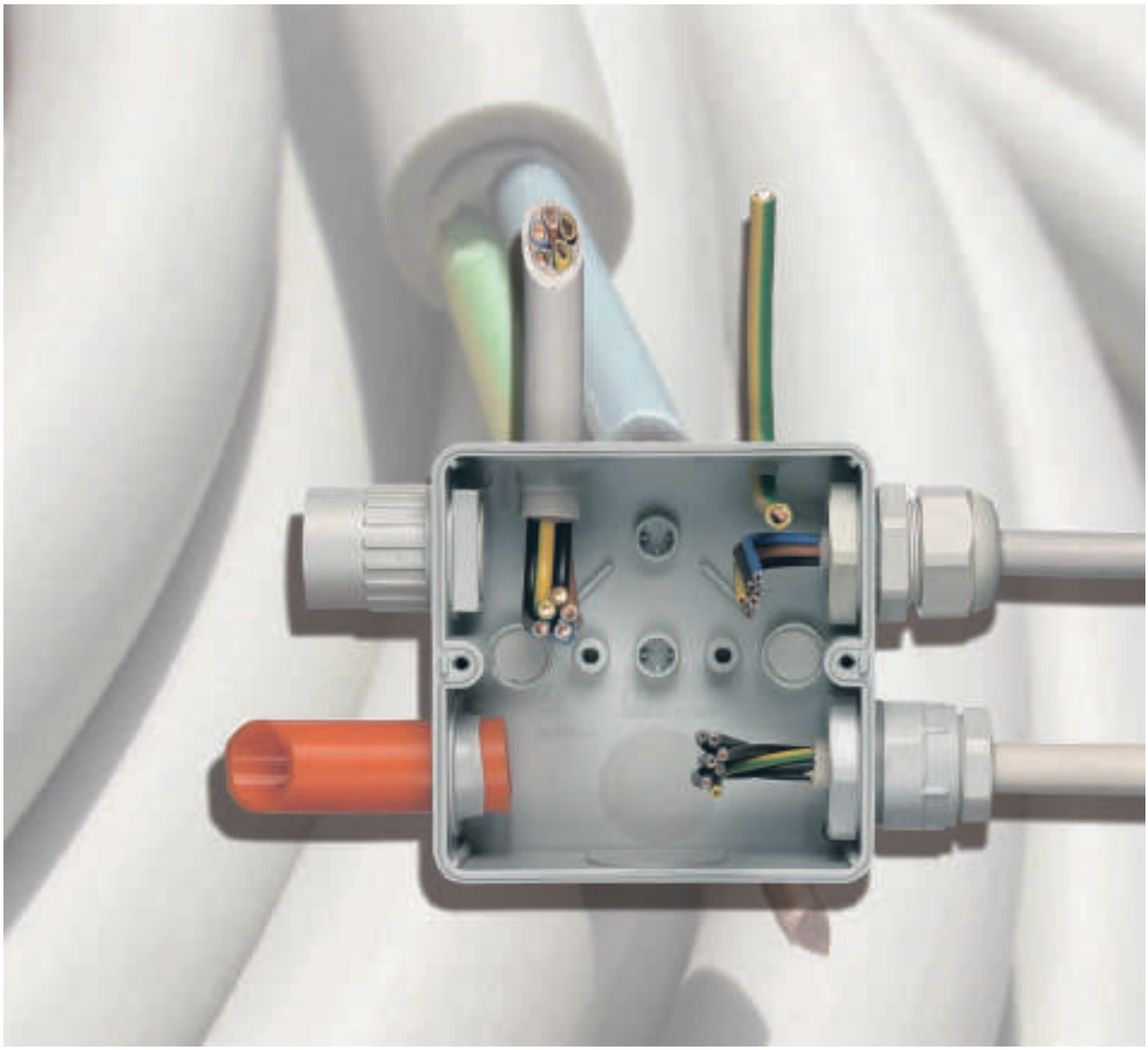
Description	Internal Ø	Ø	Order no.
ADR M12	12.0	16.0	24901201
ADR M16	16.0	20.0	24901601
ADR M20	20.4	25.0	24902001
ADR M25	25.0	30.0	24902501
ADR M32	32.0	38.0	24903201
ADR M40	40.0	45.0	24904001
ADR M50	50.0	56.0	24905001
ADR M63	63.0	70.0	24906301

Adapter ring without threads



Adapter ring for attaching metric accessories in housing with PG entries, for example for upgrades, polyethylene

Description	Nominal size	Order no.
ARI Pg 9	M12	25111201
ARI Pg 11	M16	25121601
ARI Pg 16	M20	25142001
ARI Pg 21	M25	25152501
ARI Pg 29	M32	25163201







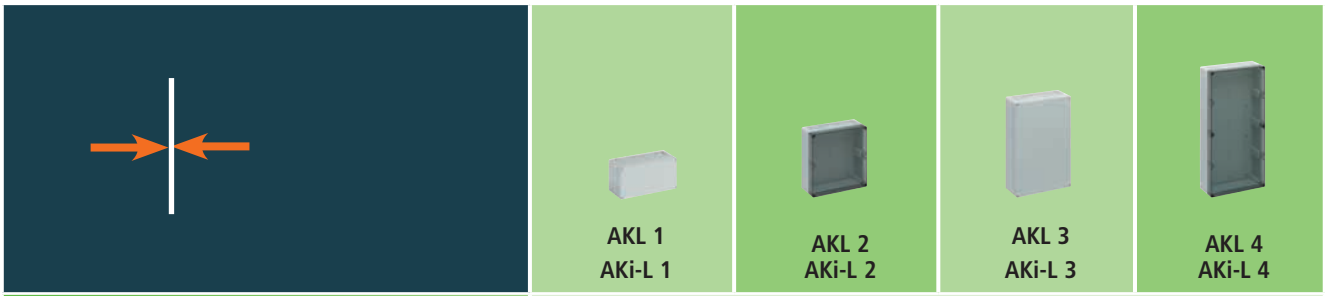
Combinations **vertical** | **AKL / AKi-L / AKe**



Combinations **vertical** | **AK**



Combination possibilities with **Combi connector IP54**







Combinations **horizontal** | **AKL / AKi-L / AKe**







Combinations **horizontal** | **AK**



		AK 03 / AKi 03	AKi 05 STG 04 / STG 012	AKi 09	AK 12 / AKi 12 / STG 008 / STG 024	AK 24 AKe 24 / AKi 24	ZKi 1
	AK 03 AKi 03	 KST M25-17					
	AKi 05 STG 04 STG 012		 KST M25-17				
	AKi 09			 KST M25-17 KST M32			
	AK 12 AKi12 STG 008 STG 024				 KST M25-17 KST M32	 KST M25-13 KST M32	 KST M25-13 KST M32
	AK 24 AKi 24 AKe 24				 KST M25-33 KST M32	 KST M25-33 KST M32	 KST M25-33 KST M32
	ZKi 1				 KST M25-33 KST M32	 KST M25-33 KST M32	 KST M25-33 KST M32

Combinations **vertical** | **AK / AKi Compakt**



Combination possibilities with **Combi connector IP54**

		AKi 05 STG 04 / STG 012	AKi 09	AK 24 AKe 24 / AKi 24	ZKi 1
	AKi 05 STG 04 STG 012	 KST M25-17	 KST M25-17		
	AKi 09	 KST M25-17	 KST M25-17		
	AK 24 AKi 24 AKe 24			 KST M32	 KST M32
	ZKi 1			 KST M32	 KST M32

Combinations **horizontal** | **AK / AKi Compakt**







As solid as concrete – our IBT enclosures for concrete installation.

With the IBTronic XL system, you have many choices for installation in all kinds of spaces thanks to integrated Fermacell® plasterboard. And without the need for lengthy, tedious planning.

Concrete Installation

Concrete Installation

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	**Installation boxes**	**IBT**	**222**
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Installation solutions for exposed concrete

The visible face of exposed concrete is a reflection of the formwork surface. Perfect surfaces with installation material: The innovative reinforcement box enables a perfect electrical installation within exposed concrete surfaces, without causing damage to the formwork surfaces.

Perforation is done as known using the IBT punch. The reinforcement box can quickly be snapped in the reinforcement. After positioning, the reinforcement adapter can be fixed with tie wire.

Patented spring technology...

The patented spring system of the reinforcement box compensates for different depths of concrete cover over the reinforcement and ensures optimum pressure on the formwork. The reinforcement box precisely adapts to every wall thickness like a shock absorber and guarantees an exact fit in the exposed concrete wall.



Concrete Installation

IBT Reinforcement Adapters / Reinforcement Boxes

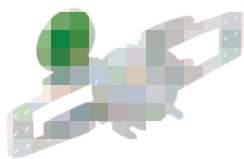
U 71 reinforcement adapter — 76 x 300 x 35 mm



combinable with a standard spacing of 71 mm, reinforcement adapter for the support of all U71 sockets (except for Perilex), face concrete for the opposing formwork without support with preinstallation in the reinforcement for the concrete construction

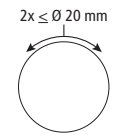
Description	Order no.
IBT BWA	97933001

U 71 BWD WAD-35 — 76 x 300 x 65 mm



IP30

Reinforcement box, 2-part, green rearward base with max. 1 x 25 mm insert, combinable, suitable for opposing formwork without support, pre-installation in the reinforcement bars, for concrete installation, combinable with a standard spacing of 71 mm



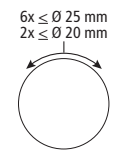
Description	Order no.
U 71 BWD WAD-35 height 65mm, 35 mm Ø discharge at the front, entries: 2 x to 20 mm Ø, concrete cover for the reinforcement of 20-40 mm, for connecting wall lights according to VDE 0100, with screw hole for light fitting	97016001

U 71 BWD GVD-2-60 — 76 x 300 x 65 mm



IP30

Reinforcement box, 2-part, green rearward base with max. 1 x 25 mm insert, combinable, suitable for opposing formwork without support, pre-installation in the reinforcement bars, for concrete installation, combinable with a standard spacing of 71 mm



Description	Order no.
U 71 BWD GVD-2-60 height 85mm, 60 mm Ø discharge at the front, entries: 6 x to 25 mm Ø, 2 x up to 20 mm Ø, concrete cover for the reinforcement of 20-60 mm, VDE certified as per DIN EN 60670 (VDE 0606)	97116501

Concrete Installation

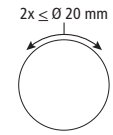
IBT Equipment Junction Boxes

U 71 FD flat box — 71 x 71 x 38 mm



IP30 | B | halogen-free

Flat box for installation in concrete, flat construction type for extremely thin walls, 2 screw bosses with 60 mm screw spacing, combinable with normal 71 mm spacing, fully insulated cable transition, suitable for all types of formwork and opposing formwork



Description	Order no.
U 71 FD with smooth face for nail and adhesive fixing	97103501

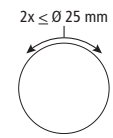
Recommended accessories:	Order no.
VD 75 sealing plate with fixing screws	97910001

U 71 GRD receptacle — 71 x 71 x 50 mm



IP30 | B | VDE | halogen-free

Receptacle for installation in concrete, 2-part, 2 screw bosses with 60 mm screw spacing, combinable with normal 71 mm spacing, fully insulated cable transition, suitable for all types of formwork and opposing formwork, VDE certified as per DIN EN 60670 (VDE 0606)



Description	Order no.
U 71 GRD for nail and magnet installation	97104501
U 71 K GRD with smooth face for nail and adhesive fixing	97174501

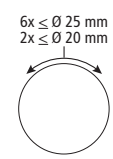
Recommended accessories:	Order no.
VD 75 sealing plate with fixing screws	97910001

U 71 GVD-2 equipment junction box, 2 parts — 71 x 71 x 68 mm



IP30 | B | VDE | halogen-free

Equipment junction box for installation in concrete, 2-part, with enlarged connection space, 4 screw bosses with 60 mm screw spacing, combinable with normal 71 mm spacing, fully insulated cable transition, suitable for all types of formwork and opposing formwork, VDE certified as per DIN EN 60670 (VDE 0606)



Description	Order no.
U 71 GVD-2 for nail and magnet installation	97106501
U 71 K GVD-2 with smooth face for nail and adhesive fixing	97176501

Recommended accessories:	Order no.
VD 75 sealing plate with fixing screws	97910001

Concrete Installation

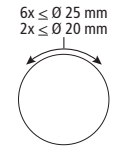
IBT Equipment Junction Boxes

U 71 GVD-3 equipment junction box, 3 parts — 71 x 71 x 68 mm



IP30 | B | VDE | halogen-free

Equipment junction box for installation in concrete in component factories, 3-part, 4 screw bosses with 60 mm screw spacing, combinable with normal 71 mm spacing, fully insulated cable transition, suitable for all types of formwork and opposing formwork, VDE certified as per DIN EN 60670 (VDE 0606)



Description	Order no.
U 71 GVD-3 for nail and magnet installation	97136501
U 71 K GVD-3 with smooth face for nail and adhesive fixing	97186501

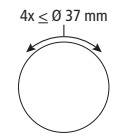
Recommended accessories:	Order no.
VD 75 sealing plate with fixing screws	97910001

U 71 GRO large conduit box — 71 x 71 x 76 mm



IP30 | B | VDE | halogen-free

Large conduit box for installation in concrete, 2-part, 4 screw bosses with 60 mm screw spacing, combinable with normal 71 mm spacing, fully insulated cable transition, suitable for all types of formwork and opposing formwork, VDE certified as per DIN EN 60670 (VDE 0606)



Description	Order no.
U 71 GRO for nail and magnet installation	97296001
U 71 K GRO with smooth face for nail and adhesive fixing	97276001

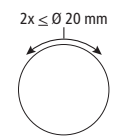
Recommended accessories:	Order no.
VD 75 sealing plate with fixing screws	97910001

WAD wall outlet socket — 71 x 71 x 48 mm



IP30 | B | VDE | halogen-free

Wall outlet box for installation in concrete, for connecting wall luminaires acc. to VDE 0100, with screwed hole for light fixing, combinable, front outlet of 35 mm



Description	Order no.
WAD suitable for opposing formwork	97056001
WAD VD Sealing cover white, 35 mm Ø, outlet cover	97056201

Concrete Installation

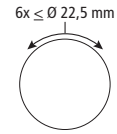
IBT Socket Enclosures

U 71 Perilex® socket enclosure — 71 x 71 x 50 mm



IP30 | B | halogen-free

Perilex® receptacle for installation in concrete, 2-part, 67 mm screw spacing, for Perilex® inserts 16 A, FR-UP equipment, CEE sockets 5-pole 16 A



Description	Order no.
U 71 Perilex suitable for opposing formwork, for nail and magnet installation	97305001

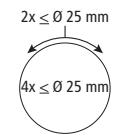
Recommended accessories:	Order no.
VD 75 sealing plate with fixing screws	97910001

U 71 KUD dome box — 71 x 71 x 91 mm



IP30 | B | halogen-free

Dome box for installation in concrete, 2-part, also usable as a ceiling socket, 2 screw bosses with 60 mm screw spacing, combinable with normal 71 mm spacing, fully insulated cable transition, suitable for all types of formwork and opposing formwork



Description	Order no.
U 71 KUD for nail and magnet installation	97104701
U 71 KUD-M5 with M5 threaded bush to take a ceiling hook (979 122 01), for nail and magnet installation	97124801

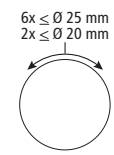
Recommended accessories:	Order no.
DH 90 ceiling hook	97911601
VD 75 sealing plate with fixing screws	97910001
DH 90-M5 ceiling hook 90 mm	97912201

U 71 TD-44 — 71 x 71 x 49 mm



B | halogen-free

Deep box for installation in concrete, as top enclosure for all U 71 boxes when using large conduits, screw spacing 60 mm



Description	Order no.
U 71 TD-44 deep box M25, 44 mm deep	97292501

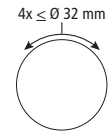
Concrete Installation

IBT Socket Enclosures

U 71 TD-49 — 71 x 71 x 49 mm



Deep box for installation in concrete, as top enclosure for all U 71 boxes when using large conduits, screw spacing 60 mm



Description	Order no.
U 71 TD-49 deep box M32, 49 mm deep	97294501



Concrete Installation

IBT Installation Boxes

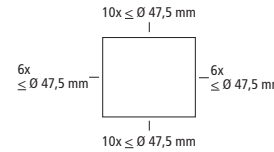
K4 - H EK installation box

311 x 202 x 158 mm



IP30 | B | halogen-free

Mounting box for installation in concrete, prepared to take the WK terminal blocks 2.5 – 25 mm², suitable to take a 40-pole telephone terminal strip, as a telephone continuity box acc. to DIN 47614-615 or IBT distribution set UP 015 (1-row, 15 distribution units), halogen-free, for installing LV/HV/LED luminaires and speakers.



Description	Order no.
K4-H EK suitable for opposing formwork, for nail and magnet installation, without Fermacell® plasterboard, lamp output max. 50W/LED 40W	98000501
K4-H-P EK Fermacell® plasterboard with recess (max. load-bearing capacity 10 kg), variable to max. 220 x 150 mm, max. installation height LV lights: 130 mm, HV lights: 135 mm, electronic transformer up to max. 150 VA, lamp output max. 50W/LED 40W	98000601

Recommended accessories:	Order no.
K4 VD sealing plate	98010401

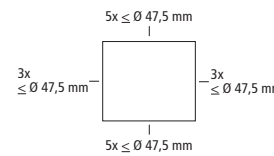
K4 EK installation box

311 x 202 x 87 mm



IP30 | B | halogen-free

Mounting box for installation in concrete, prepared to take the WK terminal blocks 2.5 – 25 mm², suitable to take a 40-pole telephone terminal strip, as a telephone continuity box acc. to DIN 47614-615 or IBT distribution set UP 015 (1-row, 15 distribution units), combinable



Description	Order no.
K4 EK suitable for opposing formwork, for nail and magnet installation	98000401

Recommended accessories:	Order no.
K4 VD sealing plate	98010401

UP 015 – Distributor kit

311 x 202 x 87 mm



B | halogen-free

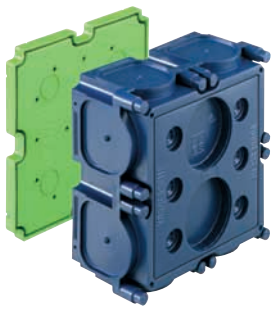
Distributor kit 1-row, 15 modules, plastic frame and door, white, with spring latch, 35 mm DIN standard rails, PE/N terminals, masking off strips and labelling strips

Description	Order no.
UP 015 for installation box K4 EK	98600001

Concrete Installation

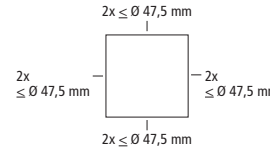
IBT Installation Boxes

K3 EK installation box — 142 x 142 x 70 mm



IP30 | B | halogen-free

Mounting box for installation in concrete, prepared to take the WK terminal blocks 2.5 - 25 mm², suitable to take a 20-pole telephone terminal strip or as a telephone continuity box to DIN 47614-615, combinable



Description	Order no.
K3 EK suitable for opposing formwork, for nail and magnet installation	98000201

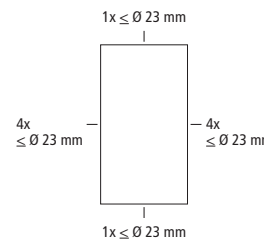
Recommended accessories:	Order no.
K3 VD sealing plate	98010001

K2 EK installation box — 91 x 149 x 53 mm



IP30 | B | halogen-free

Mounting box for installation in concrete, suitable as a junction box or mounting box for Zettler light call E2 or for diverse intercom systems



Description	Order no.
K2 EK suitable for opposing formwork, for nail and magnet installation	97500201

Recommended accessories:	Order no.
K2 VD sealing plate	97510201
K1 K2 BL Blank strip	97953101

Concrete Installation

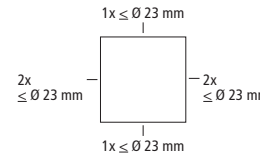
IBT Installation Boxes

K1 EK installation box — 85 x 91 x 53 mm



IP30 | B | halogen-free

Mounting box for installation in concrete, suitable as a junction box or mounting box for Zettler light call E1



Description	Order no.
K1 EK suitable for opposing formwork, for nail and magnet installation	97500101

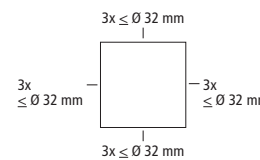
Recommended accessories:	Order no.
K1 VD sealing plate	97510001
K0 K15 BL Blank strip 2 blank cleats per box required	97953201

K15 EK installation box — 116 x 111 x 61 mm



IP30 | B | halogen-free

Mounting box for installation in concrete, suitable as a junction box with large terminal space, screw spacing 2 x 83.5 mm (3 9/32 inch) and 1 x 100 mm, complies with AFI standard, mounting box for installation in concrete, for installing "American Standard", equipment acc. to NEMA Publ. NO.OS 1, corresponds to the »"4" square box« for 2 units, screw spacing 2 x 83.5 mm (3 9/32 inch.), combinable



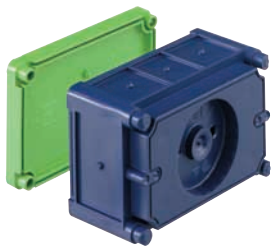
Description	Order no.
K15 EK suitable for opposing formwork, for nail and magnet installation	97700201

Recommended accessories:	Order no.
K15 VD sealing plate	97710501
K0 K15 BL Blank strip 2 blank cleats per box required	97953201

Concrete Installation

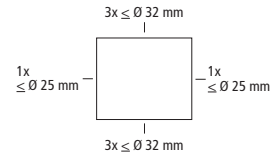
IBT Installation Boxes

K0 EK installation box — 111 x 71 x 61 mm



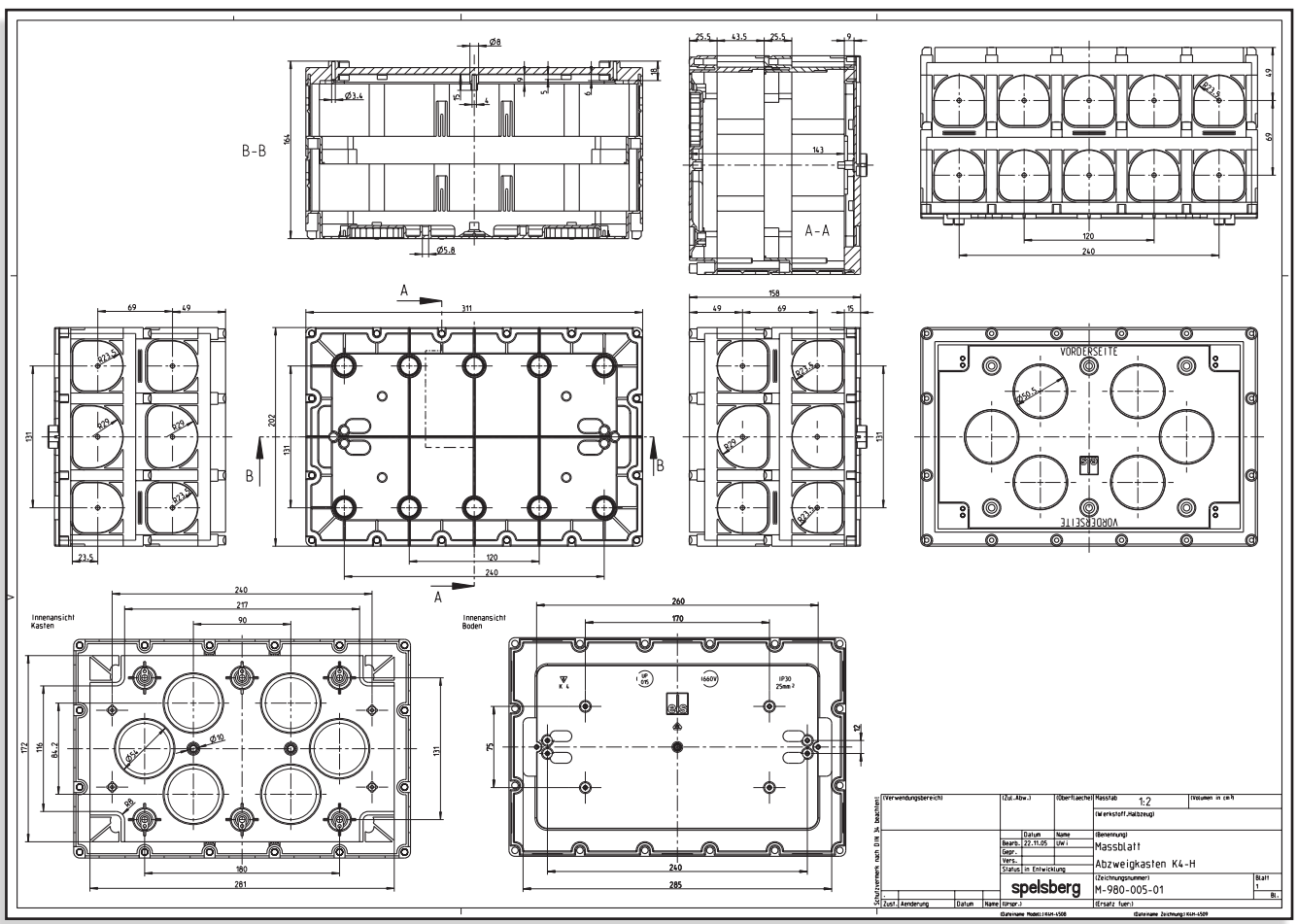
IP30 | B | halogen-free

Mounting box for installation in concrete, suitable as a junction box, screw spacing 83.5 mm (3 9/32 inch) and 100 mm, complies with AFI standard, for installing "American Standard 432", equipment per NEMA Publ. NO.OS 1, combinable

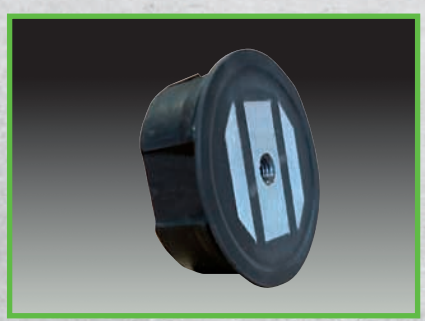


Description	Order no.
K0 EK suitable for opposing formwork, for nail and magnet installation	97700101

Recommended accessories:	Order no.
K0 VD sealing plate	97710001
K0 K15 BL Blank strip 2 blank cleats per box required	97953201



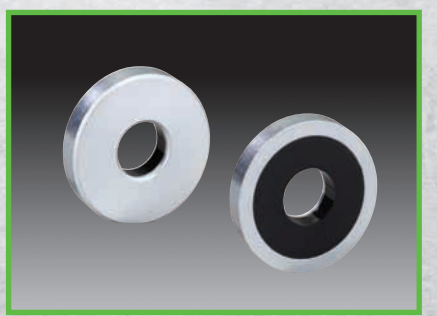




Universal magnetic fixation



Adhesive fixation



Magnetic fixation
Magnetic clamp by Spelsberg

The advantages at a glance:
Receptacles, branch sockets and large conduit boxes as per DIN EN 60670

- 3 basic types (GRD, GVD, GRO)
- Especially for laying factory production
- Highest efficiency and safety
- As per DIN 49073 for mounting of installation equipment
- As per DIN EN 60670 (VDE 0606)
- 4 screw bosses, Screw spacing 60 mm
- Combinable with each other In standard distances of 71 mm, Fully insulated cable transition
- Suitable for opposing formwork
- Optimised for processing of precast concrete elements at the factory
- Safe fixation of conduit inlets
- Can be used easily and fast without additional tools
- Safe, precisely fitting and fast installation

IP30 B 90°C



With EasyCut!

Easy installation of the conduit adapter without tools

Receptacles P 71 GRD

- Dimensions: 71 x 71 x 55.5 mm
- Inlets on the side:
  4 x EasyCut membrane
  for RA 16, RA 20, RA 25
- 1 x cap inlet up to 25 mm Ø

Branch sockets P 71 GVD

- Dimensions: 71 x 71 x 67.5 mm
- Inlets on the side:
  2 integrated combi-conduit inlets
  M20 and M25 or 2x M25 with
  strain relief and conduit stoppers
- 4 x EasyCut membrane
  for RA 16, RA 20, RA 25
- 1 x cap inlet up to 25 mm Ø

Large conduit boxes P 71 GRO

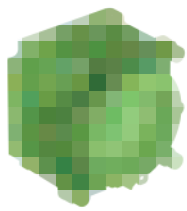
- Dimensions: 71 x 71 x 76.5 mm
- Inlets on the side:
  1 integrated conduit inlet M40
  with strain relief and conduit stoppers
- 3 x EasyCut membrane for
  RA 32 and RA 40
- 1 x cap inlet up to 25 mm Ø

Concrete Installation

IBT Precon

P71 GRD equipment receptacle

71 x 71 x 55,5 mm



IP30

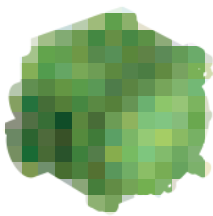
Device socket for horizontal factory finishing, 1-part, 71 x 71 x 56 mm, Diameter 60 mm Ø, 4 screw bosses with a 60 mm screw spacing, combinable, with claw fixing, combination possibility with the standard spacing 71 mm, suitable for opposing formwork, VDE certified as per DIN EN 60670 (VDE 0606)

EasyCut membrane:
4 x up to M25

Description	Order no.
P 71 GRD for 50mm HM-UNI magnetic clamp	98404501
P 71 GRD-K with special front section for adhesive fixing	98474501
P 71 GRD-O open front section for special magnetic clamp	98494501

P71 GVD equipment junction box

71 x 71 x 67,5 mm



IP30

Equipment junction box for horizontal factory finishing, 1-part, 71 x 71 x 68 mm, diameter 60 mm Ø, with enlarged terminal compartment, 4 screw bosses with a 60 mm screw spacing, combinable, with claw fixing, combinable with a standard spacing of 71 mm, suitable for opposing formwork, VDE certified as per DIN EN 60670 (VDE 0606)

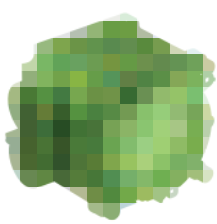
Integrated conduit insertion:
1 x M25 and 1 x M20

EasyCut membrane:
4 x up to M25

Description	Order no.
P 71 GVD for 50mm HM-UNI magnetic clamp	98406501
P 71 GVD-K with special front section for adhesive fixing	98476501
P 71 GVD-O open front section for special magnetic clamp	98496501

IBT P71 GVD 2xM25

71 x 71 x 67,5 mm



IP30

Equipment junction box for horizontal factory finishing, 1-part, diameter 60 mm, with enlarged terminal compartment, 4 screw bosses with 60 mm screw spacing, combinable, with claw fasteners, combinable in normal 71 mm spacing, also suitable for opposing formwork, VDE certified in accordance with DIN EN 60670 (VDE 0606)

Integrated conduit insertion:
2 x M25

EasyCut membrane:
4 x up to M25

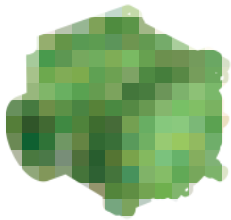
Description	Order no.
P 71 GVD 2xM25 NEW for 50mm HM-UNI magnetic clamp	98406601
P 71 GVD-K 2xM25 NEW with special front section for adhesive fixing	98476601
P 71 GVD-O 2xM25 NEW open front part for special magnetic clamp	98496601

Concrete Installation

IBT Precon

P71 GRO large conduit box

71 x 71 x 76,5 mm



IP30

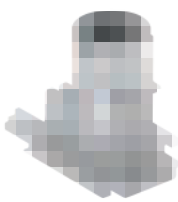
Large conduit box for horizontal factory finishing, 1-part, 71 x 71 x 77 mm, diameter 60 mm Ø, with enlarged terminal compartment, 4 screw bosses with a 60 mm screw spacing, combinable, suitable for opposing formwork, combinable with a standard spacing of 71 mm, VDE certified as per DIN EN 60670 (VDE 0606)

Integrated conduit insertion:
1 x M40

EasyCut membrane:
3 x up to M40

Description	Order no.
P 71 GRO for 50mm HM-UNI magnetic clamp	98407501
P 71 GRO-K with special front section for adhesive fixing	98477501
P 71 GRO-O open front section for special magnetic clamp	98497501

P71 RA accessory



Conduit adapter, for receiving conduits without tools, integrated conduit stoppers and strain relief for P 71 GRD and P 71 GVD

Description	Order no.
RA 16 M16 conduit adapter, suitable for P 71 GRD and P 71 GVD	98401601
RA 20 M20 conduit adapter, suitable for P 71 GRD and P 71 GVD	98402001
RA 25 M25 conduit adapter, suitable for P 71 GRD and P 71 GVD	98402501
RA 32 M32 conduit adapter, integrated conduit stoppers and strain relief for P 71 GRO	98403201
RA 40 M40 conduit adapter, integrated conduit stoppers and strain relief for P 71 GRO	98404001

Concrete Installation

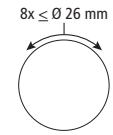
IBT Ceiling Boxes for In-situ Concrete and Prefabricated Ceilings

U 86 DVD universal ceiling box — 106 x 106 mm



IP30 | B | halogen-free

Universal ceiling socket for installation in concrete, for slab ceilings up to 4.5 cm thick, with M5 threaded bush to take a ceiling hook, VDE certified as per DIN EN 60670 (VDE 0606), lamp output LED max. 3 W, lamp output halogen max. 6.5 W



Description	Order no.
U 86 DVD-2 2-part, for nail and magnet installation	97308102
U 86 K DVD-2 2-part, with smooth face for nail and adhesive fixing	97378101
U 86 K DVD-3 3-part, with smooth face for nail and adhesive fixing	97378301

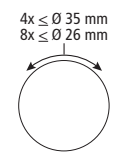
Recommended accessories:	Order no.
VD 75 sealing plate with fixing screws	97910001
DH 100-M5 ceiling hook 100 mm	97911901
HW VD-67 sealing plate for type HW 070, screw spacing 67 mm	92510001

U 120 GRO large conduit ceiling box — 122 x 122 mm



IP30 | B | halogen-free

Large conduit ceiling socket for installation in concrete, for slab ceilings up to 6.5 cm thickness, with M5 threaded bush to take a ceiling hook, lamp output halogen max. 6.5 W, lamp output LED max. 3 W



Description	Order no.
U 120 GRO-3 3-part, for nail and magnet installation	97331201
U 120 K GRO-3 3-part, with smooth face for nail and adhesive fixing	97371301
U 120 K GRO-2 2-part, with smooth face for nail and adhesive fixing	97371201

Recommended accessories:	Order no.
VD 75 sealing plate with fixing screws	97910001
DH 115-M5 ceiling hook 115 mm	97912101
HW VD-67 sealing plate for type HW 070, screw spacing 67 mm	92510001

Concrete Installation

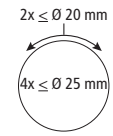
IBT Ceiling Boxes for In-situ Concrete and Prefabricated Ceilings

U 71 DAD ceiling luminaire junction box — 71 x 71 x 106 mm



IP30 | B | halogen-free

Ceiling luminaire junction box for installation in concrete, combinable, front outlet of 35 mm, VDE certified as per DIN EN 60670 (VDE 0606)



Description	Order no.
U 71 DAD 2-part, suitable for opposing formwork, 89 mm high, rearward dome with M5 threaded bushing to take a ceiling hook	97154801

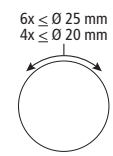
Recommended accessories:	Order no.
WAD VD sealing plate Sealing cover white, 35 mm Ø, outlet cover	97056201
DH 90-M5 ceiling hook 90 mm	97912201
DH 100-M5 ceiling hook 100 mm	97911901

U 71 DAD-3 — 71 x 71 x 106 mm



IP30 | halogen-free

Ceiling luminaire junction box for installation in concrete, combinable, front outlet of 35 mm, VDE certified as per DIN EN 60670 (VDE 0606)



Description	Order no.
U 71 DAD-3 3-part, suitable for opposing formwork, 106 mm high, with M5 threaded bushing to take a ceiling hook	97154901

Recommended accessories:	Order no.
WAD VD sealing plate Sealing cover white, 35 mm Ø, outlet cover	97056201
DH 90-M5 ceiling hook 90 mm	97912201
DH 100-M5 ceiling hook 100 mm	97911901

Concrete Installation

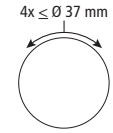
IBT Ceiling Boxes for In-situ Concrete and Prefabricated Ceilings

U 71 DGR large ceiling conduit box — 71 x 71 x 89 mm



IP30 | B | halogen-free

U 71 DGR ceiling large conduit box, for installation in concrete, 2-part, diameter 60 mm Ø, 4 screw bosses with a 60 mm screw spacing, combinable, with M5 threaded bushing to take a ceiling hook, suitable for opposing formwork



Description	Order no.
U 71 DGR with smooth face for nail and adhesive fixing	97277001

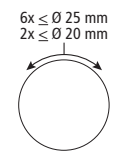
Recommended accessories:	Order no.
DH 90-M5 ceiling hook 90 mm	97912201
DH 100-M5 ceiling hook 100 mm	97911901

U 71 DVD ceiling connection box — 71 x 71 x 79 mm



IP30 | B | halogen-free

Ceiling connection box for installation in concrete, 4 screw bosses with 60 mm screw spacing, with M5 threaded bush to take a ceiling hook, combinable with a standard spacing of 71 mm, fully insulated cable transition, suitable for opposing formwork, VDE certified as per DIN EN 60670 (VDE 0606)



Description	Order no.
U 71 DVD-2 2-part, for nail and magnet installation	97106601
U 71 K DVD-2 2-part, with smooth face for nail and adhesive fixing	97176601
U 71 K DVD-3 3-part, with smooth face for nail and adhesive fixing	97186601

Recommended accessories:	Order no.
VD 75 sealing plate with fixing screws	97910001
DH 75-M5 ceiling hook 75 mm	97911701

Concrete Installation

IBT Wall and Ceiling Transitions

ROP conduit ferrule



Conduit ferrule for installation in concrete with bottom section, to take various conduit diameters

Description	Order no.
ROP 20 hole 18 Ø, for conduit type M20, external pipe diameter 20 mm, suitable for opposing formwork	97051801
ROP 25 hole 23 mm Ø, for conduit type M25, external diameter 25 mm, suitable for opposing formwork	97052301
ROP 32 hole 30 mm Ø, for conduit type M32, external diameter Ø 32 mm, suitable for opposing formwork	97053001
ROP 40 hole 37 mm Ø, for conduit type M40, external diameter Ø 40 mm	97053701

ROK conduit elbow



Conduit elbow for 30° insert to insert into conduit ferrule

Description	Order no.
ROK 20 30° small for conduit ferrule 970 518 01, M20	97042501
ROK 25 30° average for conduit ferrule 970 523 01, M25	97043001
ROK 32 30° large for conduit ferrule 970 530 01, M32	97043501

ROK conduit ferrule / conduit elbow set



Conduit ferrule / conduit elbow for installation in concrete, 3-part, consisting of conduit ferrule with bottom section and conduit elbow 30°

Description	Order no.
ROK 20 S for conduit type M20	97072001
ROK 25 S for conduit type M25	97072501
ROK 32 S for conduit type M32	97073201

UVA universal outlet 90°



Universal outlet for installation in concrete, for easy conduit transfer in the wall and ceiling area or for continuing conduits under the screed. Entries for conduits up to M25. Suitable for adhesive fixing and opposing shuttering

Description	Order no.
UVA 90 Universal outlet 90°, (support spar technology= wall thickness minus 2 cm)	97071601

Concrete Installation

IBT Wall and Ceiling Transitions

KOT cone funnels



Cone funnel for installation in concrete for wall-to-wall connection in large panel constructions and for connections from risers (e.g. telephone TV) also suitable for magnet fixing and opposing formwork

Description	Order no.
KOT 20 71 x 71 x 87 mm, hole Ø 18 mm, for conduit type M20	97061801
KOT 25 71 x 71 x 112 mm, hole Ø 23 mm, for conduit type M25	97062301
KOT 32 71 x 71 x 112 mm, hole Ø 30 mm, for conduit type M32	97063001
KOT 40 71 x 71 x 112 mm, hole Ø 37 mm, for conduit type M40	97063701

DAL universal outlet cleats



Universal outlet cleats for installation in concrete, usable as a ceiling outlet with a large tolerance compensation. DAL 1 and DAL 2 can be combined next to each other and one behind the other without tools

Description	Order no.
DAL 1 for conduits M20, M25 (171 x 49 x 35 mm)	97070501
DAL 2 for conduits M25 (171 x 49 x 35 mm)	97070601
DAL 4 for conduits M32, M40 (315 x 80 x 90 mm), reusable	97070401

VST sealing plugs

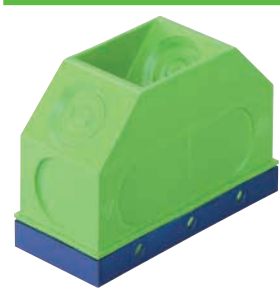


Blanking plugs with closed diaphragm are needed when DAL 1 / DAL 2 are combined one behind the other, for wall thickness 1.5 - 4.0 mm

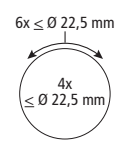
Description	Sealing area/mm	Order no.
VST M20/or	8 - 13.5	23162001
VST M25/or	9 - 16	23162501
VST M32/or	13 - 23	23163201
VST M40/or	17 - 30	23164001

KUK dome box

90 x 40 x 55 mm



As a dome box for installation in concrete as ceiling outlet in cast-in-place concrete or large panel construction



Description	Order no.
KUK As a wall-ceiling connection in large panel construction	97055001

Concrete Installation

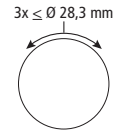
IBT Wall and Ceiling Transitions

VBK junction box — 95 x 90 x 50 mm



IP30 | B | halogen-free

Junction box for installation in concrete, as a wall/ceiling transfer in large panel construction



Description	Order no.
VBK as a wall junction box in cast-in-place concrete	97069001

Recommended accessories:	Order no.
VD 75 sealing plate with fixing screws	97910001

KUT dome funnel — 71 x 71 x 62 mm



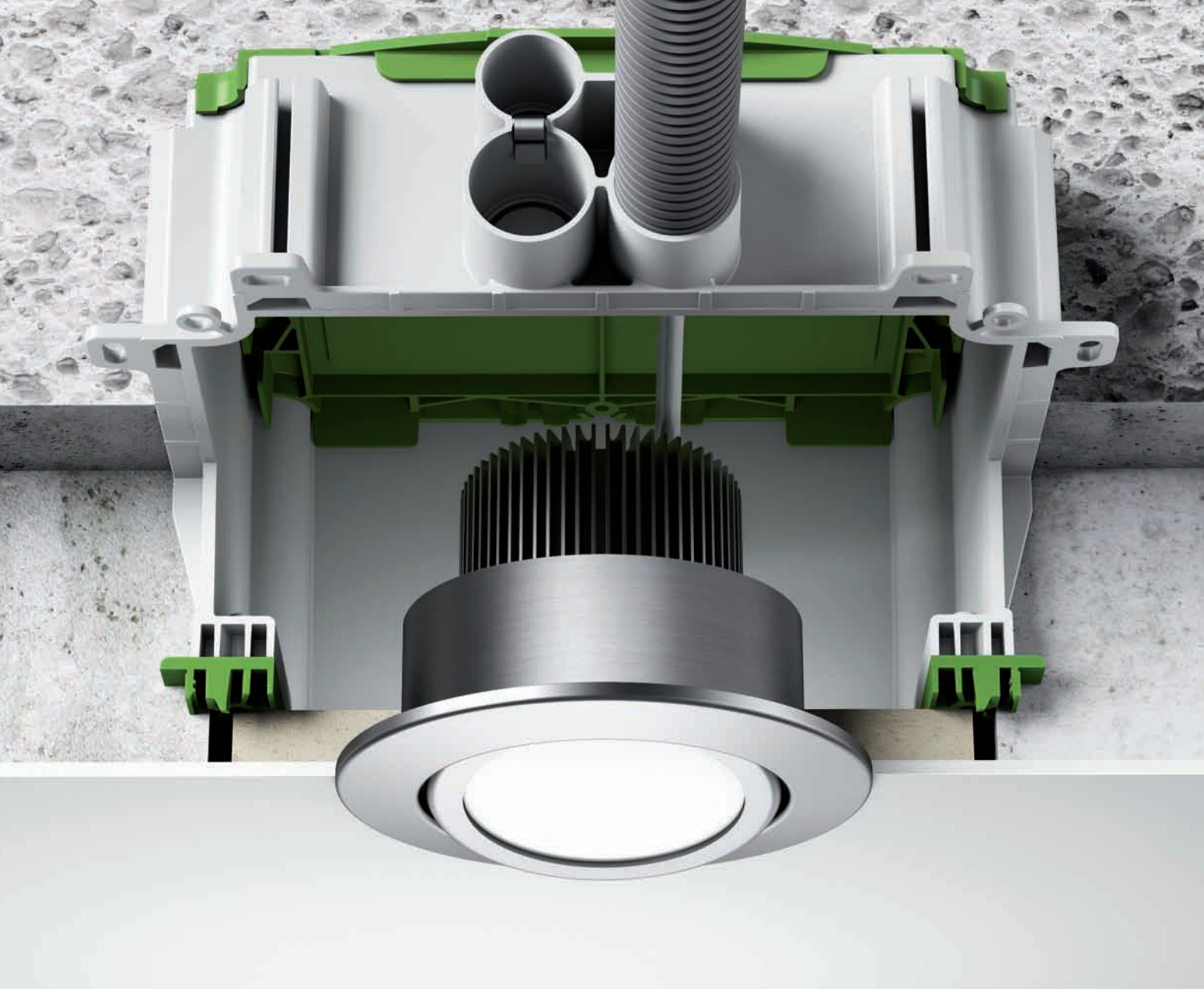
IP30 | B | halogen-free

Dome funnel for installation in concrete, 2-part, as a ceiling outlet for internal partition or as luminaire outlet, combinable with normal 71 mm spacing, with smooth face for nail and adhesive fixing, suitable for opposing formwork



Description	Order no.
U 71 KUT	97054001
U 71 KUT-M5 with M5 threaded bush	97074801

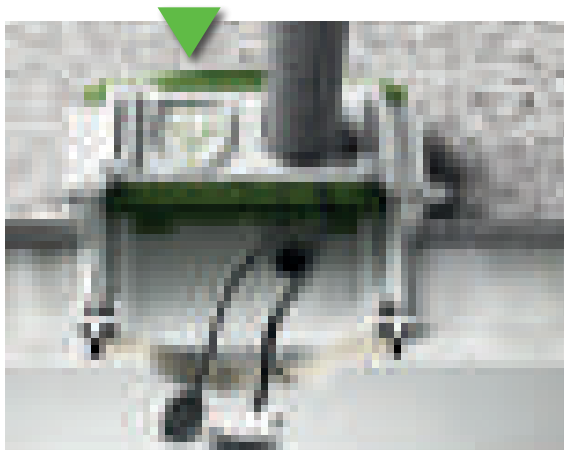
Recommended accessories:	Order no.
DH 65-M5 ceiling hook 65 mm	97912001



Advantages at a glance

- For use with in-situ concrete and prefabricated concrete installation
- Low costs, faster installation
- Conduit adaptation without special tools
- Centreline marking on the housing
- Easy alignment of the housing on the formwork table
- Nail fastening outside the housing
- Conduit entry points above the prefabricated ceiling
- LED power, 15-47 watts
- 8 integrated conduit entry points for straight and corrugated conduits (4 x M20, 4 x M25)
- Integrated conduit stoppers and strain relief
- Simplified feed-in and through-wiring
- Knock-out membrane entries

The **flexible membrane inlet**



...provides space for more individuality.

IP30 | B | 90°C | halogen-free | LED

IBT LED Universal Mounting Enclosure | Simply much more

Concrete Installation

IBT LED Light Installation Boxes

IBTLED 1 — 177 x 200 x 135 mm

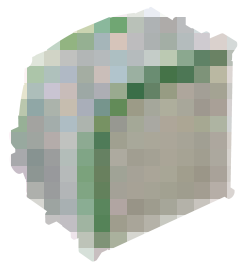


IP30 | B | LED | halogen-free

Universal mounting enclosure, for prefabricated construction, halogen-free, for installing LV/HV/LED luminaires and speakers, as well as messaging and call systems, suitable for adhesive fixing, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, maximum installation height for lamps, speakers, messaging and call systems: 100 mm, lamp output LED max. 15 W, lamp output halogen max. 25 W

Description	Order no.
IBTLED 1 outlet aperture: Fermacell® plasterboard, Variable up to max. 100 x 100 mm, 8 combi-conduit entry points 4 x M20, 4 x M25 integrated conduit stopper and strain relief for conduits M20, M25	98210001

IBTLED 2 — 227 x 250 x 135 mm

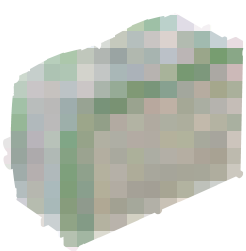


IP30 | B | LED | halogen-free

Universal mounting enclosure, for prefabricated construction, halogen-free, for installing LV/HV/LED luminaires and speakers, as well as messaging and call systems, suitable for adhesive fixing, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, maximum installation height for lamps, speakers, messaging and call systems: 100 mm, lamp output LED max. 20 W, lamp output halogen max. 50 W

Description	Order no.
IBTLED 2 outlet aperture: Fermacell® plasterboard, Variable up to max. 150 x 150 mm, 8 combi-conduit entry points 4 x M20, 4 x M25 integrated conduit stopper and strain relief for conduits M20, M25	98215001

IBTLED 3 — 277 x 400 x 165 mm



IP30 | B | LED | halogen-free

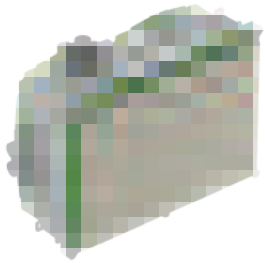
Universal mounting enclosure, for prefabricated construction, halogen-free, for installing LV/HV/LED luminaires and speakers, as well as messaging and call systems, suitable for adhesive fixing, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, maximum installation height for lamps, speakers, messaging and call systems: 130 mm, lamp output halogen max. 100 W, lamp output LED max. 47 W

Description	Order no.
IBTLED 3 Outlet opening: Fermacell® board, variable up to max. 200 x 300 mm, 8 combi-conduit entries 4 x M20, M25, 4 x M25, integrated conduit stopper and strain relief for M20, M25 pipes	98220001

Concrete Installation

IBT LED Light Installation Boxes

IBTLED 3-f — 277 x 400 x 135 mm

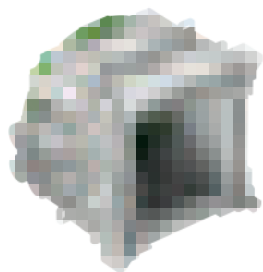


IP30 | B | LED | halogen-free

Universal installation box for prefabricated construction, halogen-free, for the installation of LV/HV/LED lights and speakers, detection and public address systems, suitable for adhesive fixing, for the installation of VDE-tested lights to DIN EN 60598 (VDE 0711), with F or MM marking, maximum installation height for lights, speakers, detection and public address systems: 100 mm, lamp output halogen max. 75 W, lamp output LED max. 35W, additional insertions 4 x up to M40

Description	Order no.
IBTLED 3-f NEW Outlet opening: Fermacell® board, variable up to max. 200 x 300 mm, 16 combi-conduit entries 8 x M20, M25, 8 x M25, integrated conduit stopper and strain relief for M20, M25 pipes	98220201

IBTLED 1-O — 177 x 200 x 125 mm

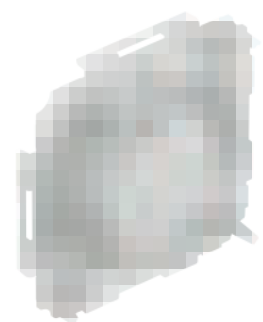


IP30 | B | LED | halogen-free

Universal installation box for prefabricated construction, halogen-free, for the installation of LV/HV/LED lights and speakers, detection and public address systems, for the installation of VDE-tested lights to DIN EN 60598 (VDE 0711), with F or MM marking, maximum installation height 100 mm, additional insertions 2 x up to M40

Description	Order no.
IBTLED 1-O Outlet opening for installation of FT68 and FT75R, 8 combi-conduit inlets 4 x M20, 4x M25 integrated conduit plugs, strain relief for M20/M25 pipes, LED lamp power max. 15 W	98210101

Front part for IBTLED 1-O housing — 145 x 145 x 27 mm



IP30 | B | LED | halogen-free

On front for use with IBTLED 1-O installation housing for in situ concrete, for installation of LV/HV/LED luminaires, max. installation height for luminaires, speakers, intercom systems 100mm

Description	Order no.
FT75R Inner diameter 75 mm	98207501
FT68R Inner diameter 68 mm	98206801
FTF1 with Fermacell® board, variable up to max. 100 x 100 mm	98211001









- Universal installation housing for mounting LV/HV/LED luminaires and speakers in pre-cast concrete
- Fermacell®-plasterboard with tolerance compensation of Ø 185 mm
- Outlet aperture: variable to max. 150 mm
- Integrated transformer tunnel up to max. 150 VA
- Volume of 4.5 litres
- Simplified installation of transformers due to short cable runs
- 4 stainless steel clamps for secure hold, maximum dimension of the Fermacell® plasterboard can be used
- Easy alignment due to marking of the centre of cover and enclosure
- Easy retrieval after plastering thanks to plaster mark
- Stackable: - Minimal stock
  - Protects Fermacell® plasterboard

▶ Light installation

- Drilling of ceiling aperture up to Ø 150 mm with the Spelsberg Profi hole cutter
- Transformer installation up to 150 VA
- For installation of VDE-approved luminaires according to DIN EN 60598 and with F or W W marking, luminaire power up to 50 W

Concrete Installation IBTronic XL H 185

Concrete Installation

IBTronic XL

IBTronic XL

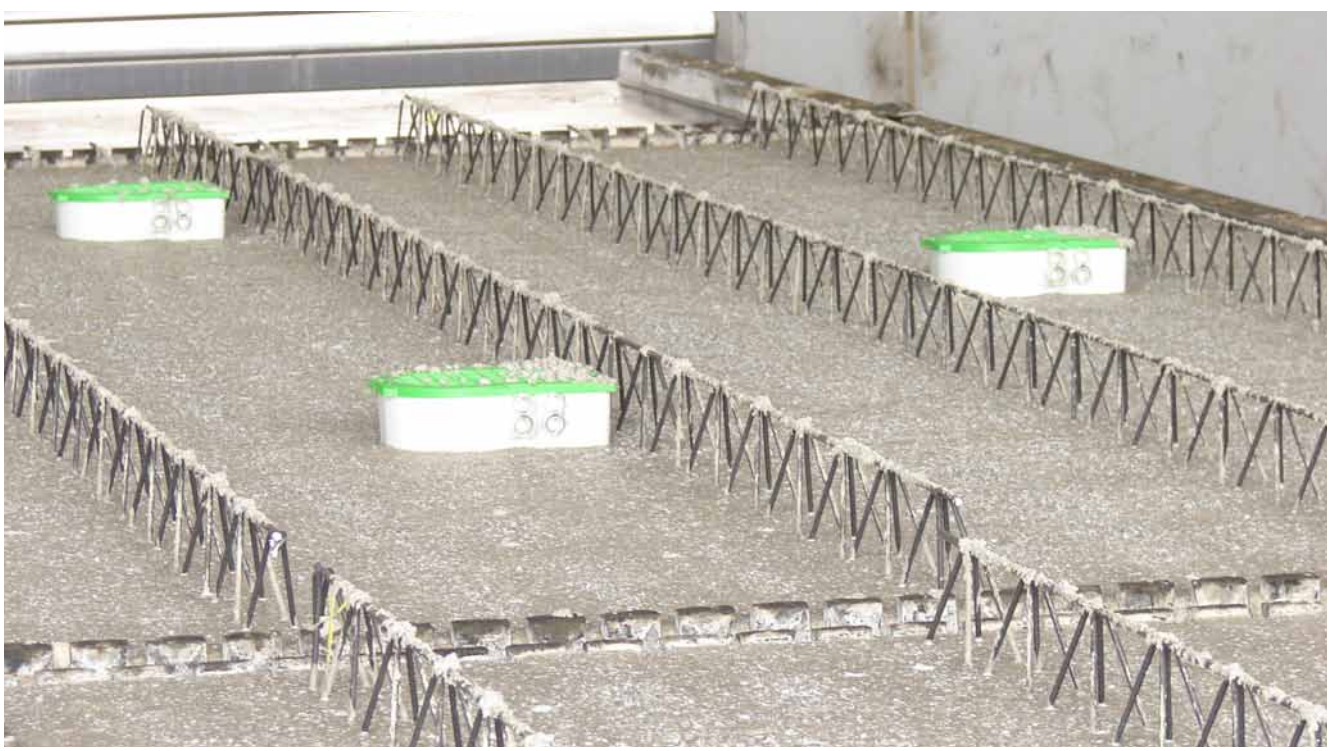
255 x 280 x 130 mm



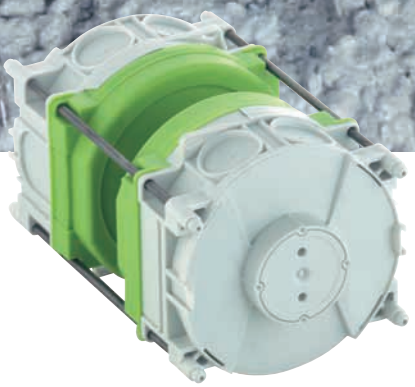
IPX4 | B | halogen-free

Universal installation box with additional terminal compartment, (e.g. for installation of an electronic safety transformer up to max. 150 VA) for prefabricated construction, halogen-free, for the installation of LV/HV/LED lights and speakers, suitable for adhesive and nail fastening, detection and public address systems, for the installation of VDE-tested lights to DIN EN 60598 (VDE 0711), with F or MM marking, maximum installation height of HV lights: 105 mm
HV lights: 110 mm
Lamp output max. 50W/LED 25W

Description	Order no.
IBTronic XL H 185 F outlet aperture: Fermacell® plasterboard, variable to max. Ø 150 mm, 8 combi-conduit entries 4 x M20, 4 x M25, integrated conduit stopper for conduits M20, M25	97660401







- Use as a back mounted box from wall thickness of 240 mm
- Integrated M25/M32 conduit stopper prevents the conduits from being pushed right through
- Simple assembly in in-situ concrete ceilings and walls as well as in pre-cast concrete
- IBTronic makes it possible to conveniently and elegantly integrate halogen and LED lights, speakers and high-quality electronic components into concrete ceilings.
- IBTronic-TT enables simple installation of electronic safety transformers.







IP30 B 90°C halogen-free

Concrete Installation IBTronic

Concrete Installation

IBTronic

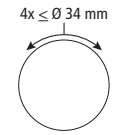
IBTronic

150 x 150 x 106 mm



IP30 | B | halogen-free

Universal mounting enclosure for site cast concrete or prefabricated concrete structure, for the installation of LV/HV/LED luminaires. suitable for adhesive fixing and opposing formwork, for installation in ceilings from 140 mm, wall installation with IBT support spars, recommended accessories for mounting in in-situ concrete applications: nailing tool NAH IBTronic H120 order no. 979 218 01, use 4 support spars STH each for support spar technology, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, max. installation height LV lights: 75 mm, HV lights: 80 mm, lamp output max. 50 W, lamp output LED max. 20 W



Description	Order no.
IBTronic H120-S1 outlet aperture: 1-way receptacle	97600101
IBTronic H120-S2 outlet aperture: 2-way receptacle	97600201
IBTronic H120-68 outlet aperture: Ø 68 mm	97600501
IBTronic H120-0 selectable outlet aperture: Ø 108/120 mm	97600301
IBTronic H120-P selectable outlet aperture: Fermacell® plasterboard, variable up to Ø 100 mm	97600401
IBTronic H120-120-0 outlet aperture: ø 116 mm	97600801

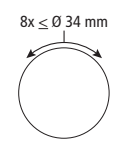
IBTronic

150 x 150 x 151 mm



IP30 | B | halogen-free

Universal mounting enclosure for site cast concrete or prefabricated concrete structure, for the installation of LV/HV/LED luminaires. suitable for adhesive fixing and opposing formwork, for installation in ceilings from 180 mm, wall installation with IBT support spars, recommended accessories for mounting in in-situ concrete applications: nailing tool NAH IBTronic H120 order no. 979 218 01, use 4 support spars STH each for support spar technology, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, max. installation height LV lights: 120 mm, HV lights: 125 mm, lamp output max. 50 W, lamp output LED max. 20 W



Description	Order no.
IBTronic H120-S1-S2 selectable outlet aperture:1-way or 2-way receptacle	97610101
IBTronic H120-S1-0 selectable outlet aperture:1-way receptacle or Ø 108 / 120 mm	97610301
IBTronic H120-68-O selectable outlet aperture:Ø 68 mm or Ø 108 / 120 mm	97610501
IBTronic H120-P-O selectable outlet aperture:Fermacell® plasterboard variable up to max. Ø 100 mm or Ø 108 / 120 mm	97610401

Concrete Installation

IBTronic

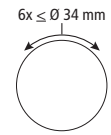
IBTronic TT

306 x 150 x 106 mm



IP30 | B | halogen-free

Universal mounting enclosure with separate connection space (e.g. for the installation of a safety transformer up to max. 150 VA) for site cast or prefabricated concrete structures, for the installation of LV/HV/LED-luminaires and speakers and high-quality electronic components, suitable for adhesive fixing and opposing shuttering, for installation in ceilings from 140 mm, wall installation with IBT support spars, recommended accessories for mounting in in-situ concrete applications: nailing tool NAH IBTronic H120 order no. 979 218 01, use 4 support spars STH each for support spar technology, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, max. installation height LV lights: 75 mm, HV lights: 80 mm, lamp output max. 50 W, lamp output LED max. 20 W



Description	Order no.
IBTronic H120TT-S1 outlet aperture: 1-way receptacle	97620101
IBTronic H120TT-S2 outlet aperture: 2-way receptacle	97620201
IBTronic H120TT-68 outlet aperture: Ø 68 mm	97620501
IBTronic H120TT-0 outlet aperture: Ø 108 / 120 mm	97620301
IBTronic H120TT-P selectable outlet aperture: Fermacell® plasterboard, variable up to Ø 100 mm	97620401

Concrete Installation

IBTronic

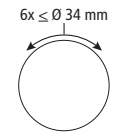
IBTronic TT

306 x 150 x 151 mm



IP30 | B | halogen-free

Universal mounting enclosure with separate connection space (e.g. for the installation of a safety transformer up to max. 150 VA) for site cast or prefabricated concrete structures, for the installation of LV/HV/LED-luminaires and speakers and high-quality electronic components, suitable for adhesive fixing and opposing shuttering, for installation in ceilings from 180 mm, wall installation with IBT support spars, recommended accessories for mounting in in-situ concrete applications: nailing tool NAH IBTronic H120 order no. 979 218 01, use 4 support spars STH each for support spar technology, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, max. installation height LV lights: 120 mm, HV lights: 125 mm, lamp output max. 50 W, lamp output LED max. 20 W



Description	Order no.
IBTronic H120TT-S1-0 outlet aperture: 1-way receptacle	97630101
IBTronic H120TT-S2-0 outlet aperture: 2-way receptacle	97630201
IBTronic H120TT-68-O outlet aperture: Ø 68 mm	97630501
IBTronic H120TT-O-O outlet aperture: Ø 108 / 120 mm	97630301
IBTronic H120TT-P-O selectable outlet aperture:Fermacell® plasterboard variable up to max. Ø 100 mm or Ø 108 / 120 mm	97630401

FPD



Fermacell® plate, for retrospective installation

Description	Order no.
FPD 185 in IBTronic XL H185	97980201
FPD 120 in H120 P	97980101

BL blank strip



Blank cleat for mounting the mounting box K0 EK and the mounting box K15 EK for opposing formwork, 2 pieces are required for each box

Description	Order no.
K0 K15 BL 2 blank cleats per box required	97953201











- Universal installation housings for subsequent mounting in prefabricated ceilings
- For installation of LV/HV/LED luminaires
- The 2-part light adapter can easily compensate ceiling thickness of 45-70 mm without any problem. The ceiling aperture is 76 mm, the outer ring diameter of the luminaire must be at least 85 mm. The retaining springs are locked in the light adapter.
- Due to an adjustable inner light unit the lamps are always correctly positioned.



Light installation

- Ø 82 mm core hole drilling
- Fix enclosure and install conduits
- Transformer installation up to 150 VA
- For installation of VDE-tested luminaires according to DIN EN 60598 and with F or M M marking
- Luminaire power up to 50 W Alu

Flexible entry method

- 8 integrated conduit entries for smooth and corrugated conduits (4 x M20, 4 x M25)
- Integrated conduit stopper and strain relief
- 8 knock-out membrane entries
- Conduit entries above the prefabricated ceiling

Concrete Installation IBTronic XL Drillbox

Concrete Installation

IBTronic XL Drillbox

IBTronic XL Drillbox 255 x 280 x 92 mm



Universal mounting enclosure with additional connection space (e.g. for installing an electronic safety transformer) for pre-cast concrete structures, halogen-free, for installing LV/HV/LED luminaires. Suitable for subsequent installation in prefabricated ceilings 45-70 mm with Ø 82 mm core drilling, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, max. installation height LV lights: 105 mm, HV lights: 110 mm, lamp output max. 50 W Alu

Description	Order no.
IBTronic XL Drillbox outlet aperture: Ø 76 mm, ORD (Outer Ring Diameter), min. Ø 85 mm, 8 combi-conduit entries 4 x M20, 4 x M25, integrated conduit stopper for conduits M20, M25	97680101

Light installation kit



Light mounting kit as spare parts for IBTronic XL Drillbox and IBTronic XL E

Description	Order no.
LMK 76	97980301



- **Flexible entry method**
- 8 integrated conduit entries for smooth and corrugated conduits (4 x M20, 4 x M25)
- Integrated conduit stopper and strain relief
- 8 Knock-out membrane entries
- conduit entries above the prefabricated ceiling
- Conduit inlets above the precast floor
- Universal installation housings for subsequent mounting in prefabricated ceilings
- For installation of LV/HV/LED luminaires and speakers
- Ø 150 mm core hole drilling
- Fermacell® plasterboard with tolerance compensation of max. Ø 100 mm
- For installation of VDE-tested luminaires according to DIN EN 60598 and with F or MM marking
- Lamp output up to 50 W Cool Beam

B | 90°C | halogen-free | COOL BEAM Max. 50W

Concrete Installation IBTronic XL Drillbox 150

Concrete Installation

IBTronic XL Drillbox 150

IBTronic XL Drillbox 150 — 255 x 280 x 92 mm



Universal mounting enclosure with additional connection space (e.g. for installing an electronic safety transformer) for pre-cast concrete structures, halogen-free, for installing LV/HV/LED luminaires and speakers. Suitable for subsequent installation in prefabricated ceilings 45-70 mm with Ø 150 mm core drilling, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, max. installation height LV lights: 105 mm, HV lights: 110 mm, lamp output max. 50W

Description	Order no.
IBTronic XL Drillbox 150 selectable outlet aperture: Fermacell® plasterboard, variable up to Ø 100 mm, 8 combi-conduit entries 4 x M20, 4 x M25, integrated conduit stopper for conduits M20, M25	97680401

Recommended accessories:	Order no.
HW LFR-35 HW hole cutter Diameter 35 mm Ø	92513501
HW LFR-68 HW hole cutter Diameter 68 mm Ø	92516801
HW LFR-74 HW hole cutter Diameter 74 mm Ø	92517401

HW hole cutters



Hole cutter with spring for ejection of PCB, drilling depth up to 30 mm

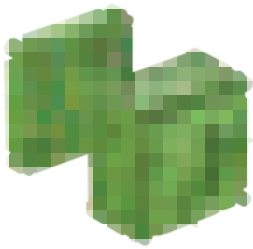
Description	Order no.
HW LFR-35 Diameter 35 mm Ø	92513501
HW LFR-68 Diameter 68 mm Ø	92516801
HW LFR-74 Diameter 74 mm Ø	92517401
HW LFR-120 HW hole cutter HW LFR-120 will fit any commercial drill chuck, diameter 120 mm Ø, cutting depth 40 mm	92512101

Concrete Installation

IBT Export Solutions

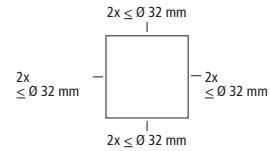
BS 1 built-in device box

86 x 86 x 60 mm



IP30 | B | halogen-free

Equipment installation box for installation in concrete, "1-gang box" for installing "British Standard" equipment, screw spacing 60.3 mm (2 3/8 inch.), delivered with grounding screw



Description	Order no.
BS 1 suitable for opposing formwork, for 50mm HM-UNI magnetic clamp	98700101
BS 1-K with special front section for adhesive fixing, suitable for opposing formwork	98770101
BS 1-O open front section for special magnetic clamp, suitable for opposing formwork	98790101

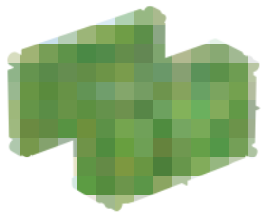
Recommended accessories:	Order no.
BS 1-BSK blank base blank base, 86 x 86 x 25 mm	97443101
BS MBR Assembly bridge Assembly bridge BS MBR, 2 pcs. required per box	97412001
BS ES-40 Installation screw Installation screw, 3.5 x 40 mm	97413501
BS ES-50 Installation screw Installation screw, 3.5 x 50 mm	97415001
BS 1 VD sealing plate sealing plate, for equipment installation box BS 1, 86 x 86 mm	97410001
BSM 1 BS 1 magnet Special magnet BS 1, 80 x 80 x 35 mm, extraction force 680 N, for use with article 98790101 BS 1-O, with KO 10 thread	98710001

Concrete Installation

IBT Export Solutions

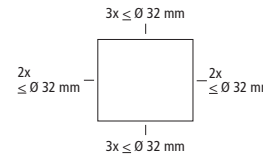
BS 2 built-in device box

86 x 146 x 60 mm



IP30 | B | halogen-free

Equipment installation box for installation in concrete, "2-gang box" for installing "British Standard" equipment, screw spacing 120.6 mm (4 3/4 inch.), delivered with grounding screw



Description	Order no.
BS 2 suitable for opposing formwork, for 50mm HM-UNI magnetic clamp	98700201
BS 2-K with special front section for adhesive fixing, suitable for opposing formwork	98770201
BS 2-O open front section for special magnetic clamp, suitable for opposing formwork	98790201

Recommended accessories:	Order no.
BS 2-BSK blank base blank base, 146 x 86 x 25 mm	97443201
BS MBR Assembly bridge Assembly bridge BS MBR, 2 pcs. required per box	97412001
BS ES-30 Installation screw Installation screw, 3.5 x 30 mm	97413001
BS ES-40 Installation screw Installation screw, 3.5 x 40 mm	97413501
BS ES-50 Installation screw Installation screw, 3.5 x 50 mm	97415001
BSM 2 BS 2 magnet Special magnet BS 2, 80 x 140 x 35 mm, extraction force 980 N, for use with article 98790201 BS 2-O, with KO 10 thread	98720001

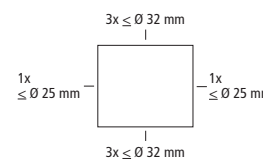
K0 EK installation box

111 x 71 x 61 mm



IP30 | B | halogen-free

Mounting box for installation in concrete, suitable as a junction box, screw spacing 83.5 mm (3 9/32 inch) and 100 mm, complies with AFI standard, for installing "American Standard 432", equipment per NEMA Publ. NO.OS 1, combinable



Description	Order no.
K0 EK suitable for opposing formwork, for nail and magnet installation	97700101

Recommended accessories:	Order no.
K0 VD sealing plate	97710001
K0 K15 BL Blank strip 2 blank cleats per box required	97953201

Concrete Installation

IBT Export Solutions

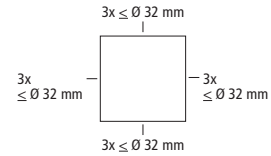
K15 EK installation box

116 x 111 x 61 mm



IP30 | B | halogen-free

Mounting box for installation in concrete, suitable as a junction box with large terminal space, screw spacing 2 x 83.5 mm (3 9/32 inch) and 1 x 100 mm, complies with AFI standard, mounting box for installation in concrete, for installing "American Standard", equipment acc. to NEMA Publ. NO.OS 1, corresponds to the »"4" square box« for 2 units, screw spacing 2 x 83.5 mm (3 9/32 inch.), combinable



Description	Order no.
K15 EK suitable for opposing formwork, for nail and magnet installation	97700201

Recommended accessories:	Order no.
K15 VD sealing plate	97710501
K0 K15 BL Blank strip 2 blank cleats per box required	97953201

IBTronic XL E

255 x 280 x 130 mm



IPX4 | B | halogen-free

Universal mounting enclosure with additional connection space (e.g. for installing an electronic safety transformer) for pre-cast concrete structures, halogen-free, for installing LV/HV/LED luminaires and speakers. Suitable for adhesive and nail fixing, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, max. installation height LV lights: 105 mm, HV lights: 110 mm, lamp output max. 50W/LED 25W

Description	Order no.
IBTronic XL H 185 FE outlet aperture: Fermacell® plasterboard, variable to max. Ø 150 mm, 8 combi-conduit entries 4 x 16 mm, 4 x 19 mm, integrated conduit stopper and strain relief for 16 mm and 19 mm pipes	97660402

IBTronic XL Drillbox E

255 x 280 x 92 mm



B | halogen-free

Universal mounting enclosure with additional connection space (e.g. for installing an electronic safety transformer) for pre-cast concrete structures, halogen-free, for installing LV/HV/LED luminaires. Suitable for subsequent installation in prefabricated ceilings 45-70 mm with Ø 82 mm core drilling, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, max. installation height LV lights: 105 mm, HV lights: 110 mm, lamp output max. 50 W Alu

Description	Order no.
IBTronic XL Drillbox E outlet aperture: Ø 76 mm, ORD (Outer Ring Diameter), min. Ø 85 mm, 8 combi-conduit entries 4 x 16 mm, 4 x 19 mm, integrated conduit stopper and strain relief for 16 mm and 19 mm pipes	97680102

Concrete Installation

IBT Export Solutions

IBTronic XL Drillbox 150 E

255 x 280 x 92 mm



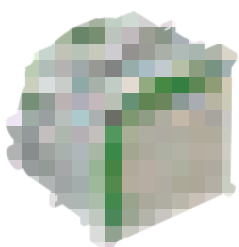
Universal mounting enclosure with additional connection space (e.g. for installing an electronic safety transformer) for pre-cast concrete structures, halogen-free, for installing LV/HV/LED luminaires and speakers. Suitable for subsequent installation in prefabricated ceilings 45-70 mm with Ø 150 mm core drilling, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, max. installation height LV lights: 105 mm, HV lights: 110 mm, lamp output max. 50W

Description	Order no.
IBTronic XL Drillbox 150 E selectable outlet aperture: Fermacell® plasterboard, variable up to Ø 100 mm, 8 combi-conduit entries 4 x 16 mm, 4 x 19 mm, integrated conduit stopper and strain relief for 16 mm and 19 mm pipes	97680402

Recommended accessories:	Order no.
HW LFR-35 HW hole cutter Diameter 35 mm Ø	92513501
HW LFR-68 HW hole cutter Diameter 68 mm Ø	92516801
HW LFR-74 HW hole cutter Diameter 74 mm Ø	92517401

IBTLED 1 E

177 x 200 x 135 mm



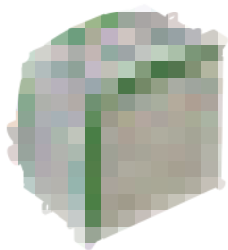
Universal mounting enclosure, for prefabricated construction, halogen-free, for installing LV/HV/LED luminaires and speakers, as well as messaging and call systems, suitable for adhesive fixing, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, maximum installation height for lamps, speakers, messaging and call systems: 100 mm, lamp output LED max. 15 W, lamp output halogen max. 25 W

Description	Order no.
IBTLED 1 E Outlet opening: Fermacell® board, variable up to max. 100 x 100 mm, 8 combi-conduit entries 4 x 16mm, 4 x 19mm, integrated conduit stopper and strain relief for 16mm and 19mm pipes	98210002

Concrete Installation

IBT Export Solutions

IBTLED 2 E — 227 x 250 x 135 mm



IP30 | B | LED | halogen-free

Universal mounting enclosure, for prefabricated construction, halogen-free, for installing LV/HV/LED luminaires and speakers., as well as messaging and call systems, suitable for adhesive fixing, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, maximum installation height for lamps, speakers, messaging and call systems: 100 mm, lamp output halogen max. 50 W, lamp output LED max. 20 W

Description	Order no.
IBTLED 2 E Outlet opening: Fermacell® board, variable up to max. 150 x 150 mm, 8 combi-conduit entries 4 x 16mm, 4 x 19mm, integrated conduit stopper and strain relief for 16mm and 19mm pipes	98215002

IBTLED 3 E — 227 x 400 x 165 mm



IP30 | B | LED | halogen-free

Universal mounting enclosure, for prefabricated construction, halogen-free, for installing LV/HV/LED luminaires and speakers., as well as messaging and call systems, suitable for adhesive fixing, for the installation of VDE-approved lights per DIN EN 60598 (VDE 0711), as well as with F identification or MM identification, maximum installation height for lamps, speakers, messaging and call systems: 130 mm, lamp output halogen max. 100 W, lamp output LED max. 47 W

Description	Order no.
IBTLED 3 E Outlet opening: Fermacell® board, variable up to max. 200 x 300 mm, 8 combi-conduit entries 4 x M16, 4 x M19, integrated conduit stopper and strain relief for 16mm and 19mm pipes	98220002

IBTLED 3-f E — 227 x 400 x 135 mm



IP30 | B | LED | halogen-free

Universal installation box for prefabricated construction, halogen-free, for the installation of LV/HV/LED lights and speakers, detection and public address systems, suitable for adhesive fixing, for the installation of VDE-tested lights to DIN EN 60598 (VDE 0711), with F or MM marking, maximum installation height for lights, speakers, detection and public address systems: 100 mm, lamp output halogen max. 75 W, lamp output LED max. 35W, additional insertions 4 x up to M40

Description	Order no.
IBTLED 3-f E NEW Outlet opening: Fermacell® board, variable up to max. 200 x 300 mm, 16 combi-conduit entries 8 x 16mm, 8 x 19mm, integrated conduit stopper and strain relief for 16mm and 19mm pipes	98220202

Concrete Installation

IBT Accessories

WK clamping block



Connecting terminal, U_i=400V / 690V

Description	Nr. of poles	Order no.
WK 007 KLS-2,5² for WK 007	5	46052501
WK 060 KLS-6² 5x6 mm², for K15, K2-, K3-EK boxes	5	46050601
WK 100 KLS-10² 5x10 mm², for K15, K3-, K4-EK boxes	5	46051001
WK 160 KLS-16² 5x16 mm², for K3-, K4-EK boxes	5	46051601
WK 250 KLS-25² 5x25 mm², for K4-EK boxes	5	46053501

IBT ST plugs



IBT plug

Description	Order no.
IBT ST	97920501

GWB thread bottom M5



Threaded base M5

Description	Order no.
GWB with M5 threaded bushing to take a ceiling hook, converts every U71 junction box to a ceiling socket	97911001

U 71 KP dome



Dome with threaded bush M5, suitable as an attachment for U 71 boxes as well as magnet and adhesive blank bases

Description	Order no.
U 71 KP-M5 (suitable for series U 71)	97174801

Concrete Installation

IBT Accessories

Accessories for combinations



Compound nipple as a seal and cable routing duct for a spacing of 71 mm

Description	Order no.
VBN (for U 71 receptacle 97104502)	97921001

VD sealing cover



Sealing plate, white, flame retardant, for special boxes

Description	for cover	Order no.
K0 VD	K0 EK	97710001
K1 VD	K1 EK	97510001
K2 VD	K2 EK	97510201
K3 VD	K3 EK	98010001
K4 VD	K4 EK	98010401
K15 VD	K15 EK	97710501

VD sealing cover



Sealing plate for junction boxes, flame resistant, white

Description	Ø	for cover	Order no.
VD 75 with fixing screws	75	U71, U86, U120	97910001
U 71 VDF with fixing screws	80	U71	97910201
U 86 VDF with fixing screws	90	U86	97910301
U 71 VDS	80	U71	97910401

HW - sealing cover



Sealing plate for junction boxes, polystyrene, flame resistant, white

Description	Ø	for cover	Order no.
HW VD-67 for type HW 070, screw spacing 67 mm	90	U86, U120	92510001
HW VD-60 for type HW 035 / HW 050 / HW 065, screw spacing 60 mm	90	U71	92510101

Concrete Installation

IBT Accessories

BS VD sealing cover



Sealing plate BS, white, flame-retardant, with fixing screws and assembly bridges

Description	Order no.
BS 1 VD sealing plate, for equipment installation box BS 1, 86 x 86 mm	97410001
BS 2 VD sealing plate, for equipment installation box BS 2, 146 x 86 mm	97410201

DH ceiling hook



Ceiling hook, insulated, with wood screw thread

Description	Shaft length	for cover	Order no.
DH 55	55	ROK 1	97911501
DH 65	65	U 71 KUT	97911801
DH 90	90	U 71 KUD	97911601

DH ceiling hook



Metal ceiling hook, insulated, with M5 thread for ceiling boxes

Description	Shaft length	for cover	Order no.
DH 65-M5 65 mm	65	U71 KUT-M5	97912001
DH 75-M5 75 mm	75	U 71 KUD-M5	97911701
DH 90-M5 90 mm	90	U 71 KUD-M5	97912201
DH 100-M5 100 mm	100	U 86 DVD-2	97911901
DH 115-M5 115 mm	115	U 120 GRO-3	97912101
DH 135-M5 135 mm	135	U 71 KUT-M5	97912301

Concrete Installation

IBT Accessories

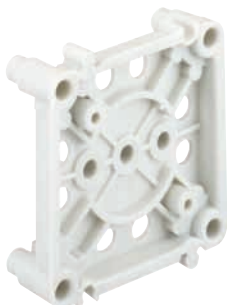
STH support spar



Support spars for various wall thicknesses in opposing formwork, always used in conjunction with blank base or back mounted box, spar length = wall thickness minus 1 cm, 2 support spars per socket, 4 support spars for extreme loads

Description	conrete wall thickness	Length	Order no.
STH 70	8	70	97957001
STH 90	10	90	97959001
STH 100	11	100	97960001
STH 110	12	110	97961001
STH 130	14	130	97963001
STH 140	15	140	97964001
STH 150	16	150	97965001
STH 170	18	170	97967001
STH 190	20	190	97969001
STH 230	24	230	97973001
STH 240	25	240	97974001
STH 290	30	290	97979001

U 71 blank base BSK



Blank base, base for supporting IBT boxes and boxes in opposing formwork in conjunction with support spars, can be combined via snap-in connection, if fitting the blank base using nails, magnet, adhesive, the fixing points must be plastered subsequently, for fitting: 1. The U 71 boxes in opposing formwork, at a 71 mm spacing. Can also be combined with interconnecting frame for extreme loading. 2. The mounting boxes K3 EK and K4 EK with opposing shuttering with 2 or 4 sockets and 3 support spars each in the corners

Description	Order no.
U 71 BSK-NA height 25 mm for nail fixing	97953001
U 71 BSK-2 height 25 mm for exposed concrete, minimum visibility of the feet	97953002
U 71 BSK-K height 21 mm for adhesive fixing	97953801
U 71 BSK height 21 mm for magnet fixing, magnet hole has to be plastered later	97953901

BL blank strip



Blank cleat for mounting the mounting box K0 EK and the mounting box K15 EK for opposing formwork, 2 pieces are required for each box

Description	Order no.
K0 K15 BL 2 blank cleats per box required	97953201

Concrete Installation

IBT Accessories

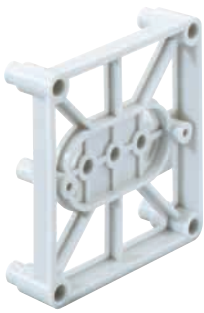
K1 K2 BL blank strip



Blank cleat for fixing: 1. The special boxes K1 EK and K2 EK boxes for opposing formwork, 2. The cone funnel for transfer from risers, 2 pieces are required for each insert

Description	Order no.
K1 K2 BL	97953101

BS blank base



Blank base BS to support the BS boxes, for opposing formwork in conjunction with support spars

Description	Order no.
BS 1-BSK blank base, 86 x 86 x 25 mm	97443101
BS 2-BSK blank base, 146 x 86 x 25 mm	97443201

BSK blank base



Blank base to support the conduit elbows including conduit ferrules, for opposing formwork in conjunction with support spars

Description	Order no.
BSK 1 for conduit ferrules 970 518 01	97050001
BSK 2 for conduit ferrules 970 523 01 / 970 530 01	97050501

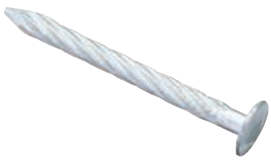
STH-STU support buffers



Support buffer as an attachment for support spars when using magnetic clamps or adhesive in vertical formwork (instead of the blank base)

Description	Order no.
STH-STU	97953501

Fastening elements for wood / plastic formwork



Fixings for wood / plastic formwork, for site cast concrete or poured concrete construction on wooden formwork, use 2 nails for extreme loading

Description	Order no.
NA-AL aluminium nail, 40 mm, long-ridged	97924201
NA-AL/gl aluminium nail, 40 mm, smooth	97924301

Concrete Installation

IBT Accessories

Fastening elements for steel formwork



Fixings for steel formwork

Description	Order no.
NAS-AL spreader nail, aluminium 40 mm, with plastic plug for fixing the boxes on the steel formwork (drilled hole 5.5 mm), perfect fit for tunnel formwork	97924001
ANSW weld on screw M6 x 10 mm, price economic, secure fixing of the box, onto steel formwork without drilling	97926001
HM-UNI magnetic clamps, 50 mm Ø, extra strong, pull-off strength 300 +/- 20 N=30 kp	97929901
MA magnetic lifter for dismounting the magnetic clamps HM and HM-UNI, 2-part	97930001
BSM 1 Special magnet BS 1, 80 x 80 x 35 mm, extraction force 680 N, for use with article 98790101 BS 1-O, with KO 10 thread	98710001
BSM 2 Special magnet BS 2, 80 x 140 x 35 mm, extraction force 980 N, for use with article 98790201 BS 2-O, with KO 10 thread	98720001

Fastening elements for pipes and cables



Fixings for conduits and cables

Description	Order no.
KBI 1 clip 4.6 x 180 mm	97913601
ABH 1 spacer, 40 x 40 x 33 mm	97913501
ROS conduit support, grey, height 21 cm	97923001

RVB conduit coupling



Conduit coupling (without conduit) with strain relief, grey, for flexible metric electrical installation conduits

Description	Order no.
RVB 20 for long-ridged pipes M20	97022001
RVB 25 for long-ridged pipes M25	97022501
RVB 32 for long-ridged pipes M32	97023201
RVB 40 for long-ridged pipes M40	97024001

Concrete Installation

IBT Accessories

IBT LZA punching pliers



Hand hole punch, punching tool for making precision fit entries in concrete boxes, perforation always 1 - 3 mm smaller than the conduit / conductor diameter

Description	Order no.
IBT LZA-OE without punch set	97810001
IBT LZA-18 with 18 mm punch set for pipe M20	97811801
IBT LZA-23 with 23 mm punch set for pipe M25	97812301

WED expansion mandrel



Expansion mandrel, assembly tool when inserting conduit

Description	Order no.
WED expansion range 9 - 25 mm Ø	97915501

Punch sets



Punch sets as replacements or where expansion is required for IBT LZA hand hole punch

Description	Ø	for conduits Ø	Order no.
IBT STE-LZA/14	14	16	97891401
IBT STE-LZA/18	18	20	97891801
IBT STE-LZA/23	23	25	97892301

LST hole punching tool



Hole punch for large scale operation in component factories, with fixing devices

Description	Order no.
LST with 18 mm and 23 mm punch sets, as well as expansion mandrel	97916201

Punch sets



Punch sets for LST hole punch

Description	Ø	for conduits Ø	Order no.
IBT STE-LST/14	14	16	97881401
IBT STE-LST/18	18	20	97881801
IBT STE-LST/23	23	25	97882301
IBT STE-LST/30	30	32	97883001
IBT STE-LST/39	39	40	97883901

Concrete Installation

IBT Accessories

Accessories for combinations



Interconnection frames for the combination of boxes under extreme loading

Description	Order no.
VB 71 for a spacing 71 mm	97921201
VB 80/85 for a spacing 80 and 85 mm	97921301
VB 90 for a spacing 90 mm	97921401
VB 105 for a spacing 105 mm	97921501
VCBS Connector clips for attachment of BS boxes	98791101

Hole cutter



Hole cutter

Description	Order no.
LFR through opening: M16-32, drill hole: 16.5-32.5 mm	19599501

Henninger Tower
Frankfurt







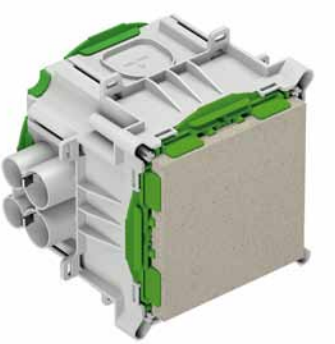


RWE-Tower
Dortmund



Shopping Centre “Limbecker Platz”
Essen (Fig.: ECE Projektmanagement GmbH + Co. KG)









Protection class (IP code)
as per DIN EN 60529 (VDE 0470-1)



Products for the **use in concrete construction** as per DIN VDE 0606-1



Suitable for the use in concrete.
Resistant to short-term temperatures from up to +90°C during the curing process.



Suitable for LED lamps



Suitable for the installation of lamps in which cold-light mirror lamps (cool-beam reflectors) can be installed. They reduce the thermal load in the light beam.



Halogen-free enclosure,
without halogens such as fluorine, chlorine and bromine.



The **VDE mark** stands for approved safety of the product referring electrical, mechanical, thermal and other hazards.

Pictograms | Concrete installation systems

Standard Quality

Industry Quality

Overview of the **ambient conditions** and **mechanical properties** of the **els products**	Empty enclosure			Enclosure with fittings						
	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Max. relative humidity at 40 °C	Max. relative humidity at 25 °C (short-term)	Protection rating according to DIN EN 60529 / VDE 0470-1[1)]	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
IBT / IBTronic concrete installation system	-25°C	40°C	35°C	-25°C	35°C	25°C	50%	not specified	IP30	not specified

Additional note: The specified temperatures may be limited by the installed devices.

[1)] When used with suitable connectors or cable screw couplings

Overview on the **properties** of the **materials** used in the **IBT products**

Material	Use in the products	Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzene	Mineral oil	Diesel	Ammonia	Vegetable fats	Animal fats	Halogen-free	Free of heavy metals, PVC and silicone	Flammability according to VDE 0471 / EN 60695 / UL 94
Polystyrene, impact proof	UP 015 distributor set End cover K	●	◗	●	●	●	⊗	⊗	◗	⊗	●	◗	◗	no	yes	960°C / V-2
Polypropylene	IBT sockets + boxes IBTronic, IBTronic-TT, IBTronic XL, IBTronic XL Drillbox, IBTronic XL Drillbox 150, Precon, IBTLED	●	◗	●	◗	●	◗	◗	◗	●	●	●	●	yes	yes	650°C / HB
Polycarbonate	Conduit adapter	●	⊗	⊗	⊗	●	◗	⊗	●	◗	●	●	◗	yes	yes	960°C / V-2

● = resistant ◗ = conditionally resistant ⊗ = not resistant

1. Large-panel construction
means the **industrial production of wall and ceiling elements in the concrete plant** and takes place by casting of concrete in laying (horizontal) or upright (vertical) form set-ups (battery formwork, oscillating table and tilting table, etc.). The precast concrete elements are transported to the construction site and there, they are put together. The construction of the partial prefabricated ceilings (filigree floor) saves the slab formwork on site. The installation sockets U86 and U12, for instance, are inserted in the filigree floors. They protrude out of the concrete slab on site and they are equipped with installation conduits. After that, concrete is grouted in until the full height is reached.

2. In-situ concrete and heaped concrete construction method
are **individual installations on site.** Here, we distinguish between laying (e.g. slab formwork) with only one form side and upright formwork with two form sides (work form with backing formwork).

Working formwork
Ideal, because **the installation of sockets and boxes on the first, already standing formwork** (working formwork) can be done easily and fast. After the system has been connected to the conduits and the steel reinforcement has been inserted, the second form (backing formwork) is put to wall distance. After concrete has been grouted and has cured, the working formwork is removed and with this, the front side of the sockets and boxes is separated. Now the insertion devices (switches and sockets) can be mounted.

Backing formwork
If **sockets and boxes are installed opposite the already existing formwork,** this is called backed formwork. For this purpose, first the blank bases are mounted on the working formwork; then, the sockets and boxes are put to wall distance using the support beams. **The length of the support beams is always the „wall thickness minus 1 cm", no matter which sockets or boxes are used! Only the wall thickness determines the length of the support beams!** The necessary stability of the system is achieved by the pressure that is applied by the formwork "moving against it".

Caution:
The necessary curing time of the concrete formwork must be met!

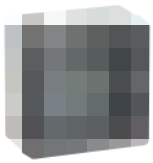
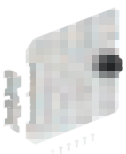


High quality materials and an innovative design make the new GEOS series a universal solution and longlasting enclosure for indoor and outdoor applications. The UV and weather resistance of the high-quality polycarbonate and the new and innovative „Drain Protect" seal system guarantee optimal protection against most environmental influences, as well as rain, cold and heat.

Even in tough conditions caused by aggressive atmospheres, oils, greases or mechanical stresses, you can rely on the GEOS enclosures and cabinets. Certifications for the most varied applications give the user confidence at all times.

Industrial and Outdoor Enclosures GEOS

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GEOS Cabinets

- Access to the interior space with stand ard locking system (3 mm - two-bit key)
- Optional alternative locking inserts available as accessories
- Doors are guided by frames to be solid
- Doors with wide opening angle > 180°
- Doors are rigidly mounted on the box
- No restrictions for the assembly of internal fittings
- Suitable for indoor and outdoor installation
- Optimised for rough outdoor applications

GEOS Variety

- 22 variants
- Upright and oblong format
- Transparent and grey doors
- 3 base sizes
- Up to 2 enclosure heights
- Locking system - cam lock or pivoted lever

GEOS Safety

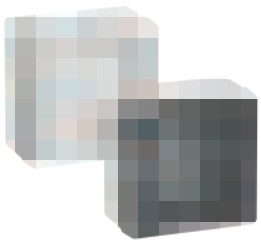
- Cabinets tested according to IEC 61439
- Comprehensive certifications as per IEC 62208
  UL 50*
  UL 50E*
  CSA 22.2*

(*Excluding SH types)

IP66 IP67 | TYPE 4X | IK09 | 1000V AC | 1500V DC | halogen-free | iQ | NEW!

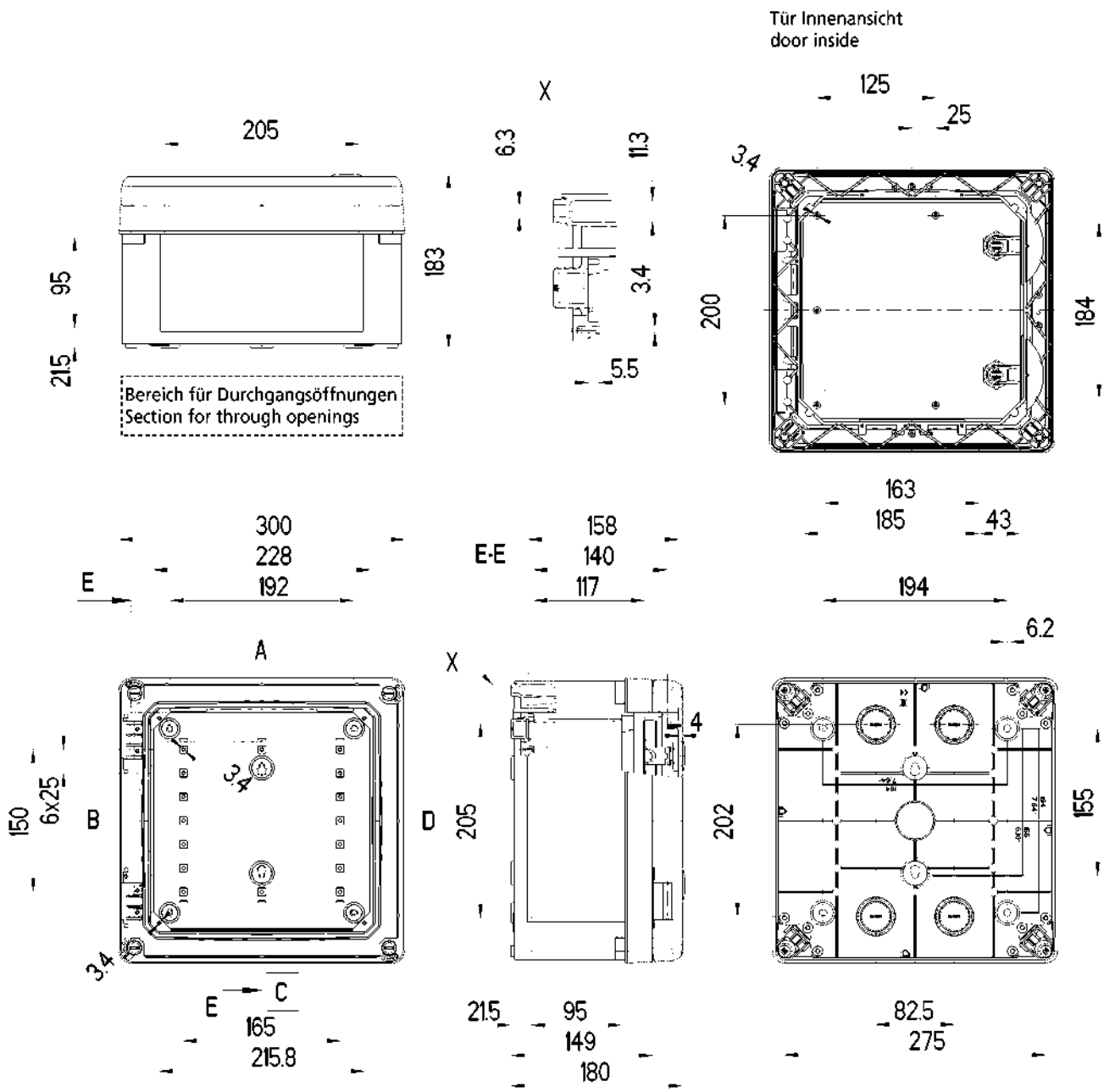
GEOS-S 3030-18

300 x 300 mm



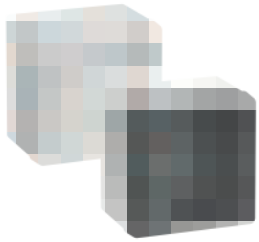
Cabinet - Industrial Quality, suitable for installation in harsh environments and in exposed outside areas, box and frame: glass-fibre reinforced polycarbonate, grey, similar to RAL 7035, door: Polycarbonate. door latch: sash fastener with 3mm double-bit insert (interchangeable) in accordance to DIN 43668

Description	Design	Height/mm	Order no.
GEOS-S 3030-18-o NEW	Door, grey	180	71043301
GEOS-S 3030-18-to NEW	Door, transparent	180	71143301



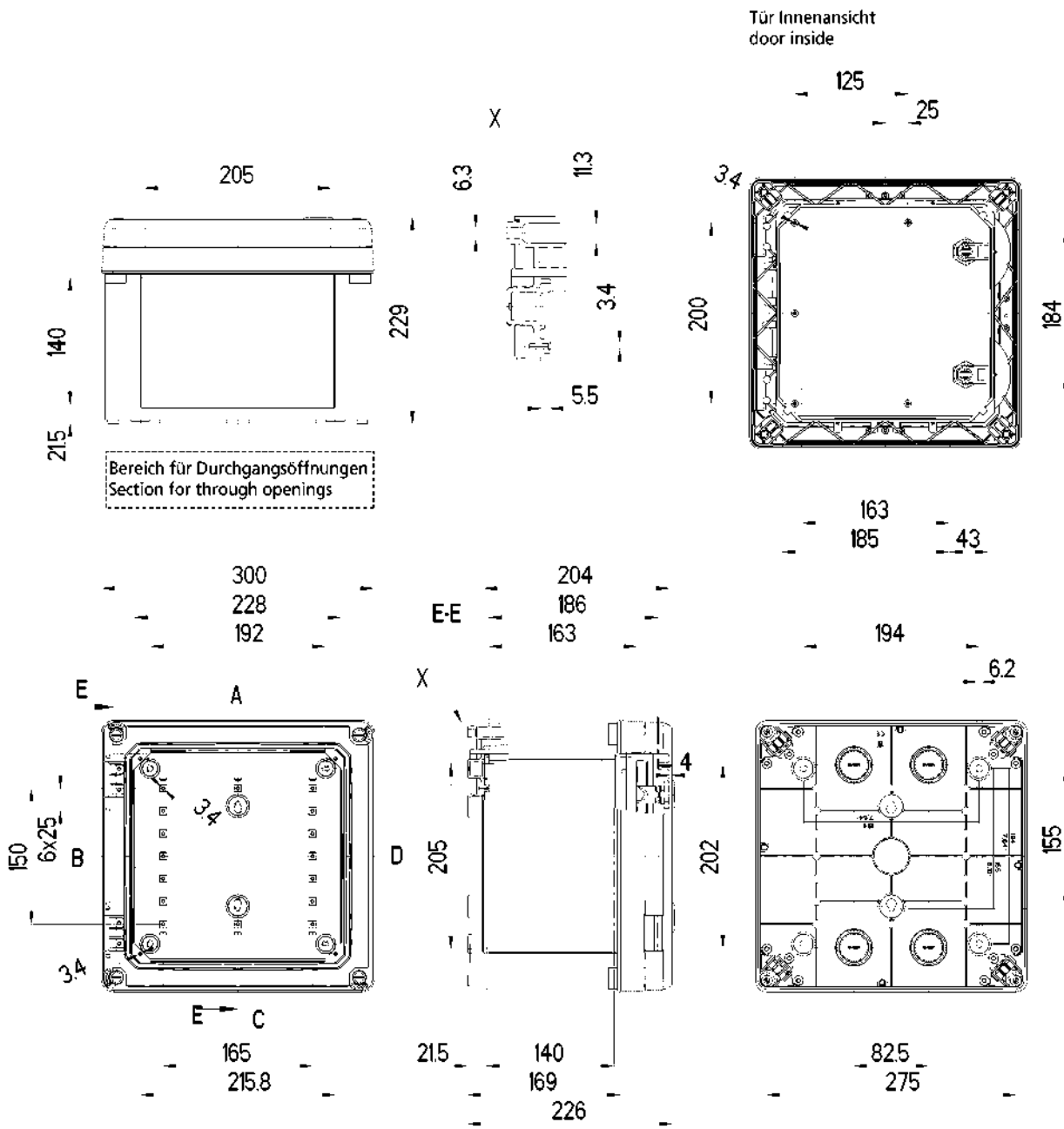
GEOS-S 3030-22

300 x 300 mm



Cabinet - Industrial Quality, suitable for installation in harsh environments and in exposed outside areas, box and frame: glass-fibre reinforced polycarbonate, grey, similar to RAL 7035, door: Polycarbonate.
Twist lock with 3mm double-bit insert (interchangeable) in accordance to DIN 43668

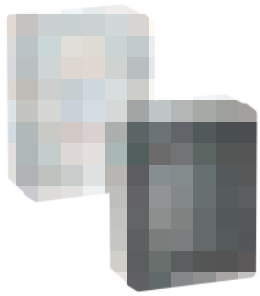
Description	Design	Height/mm	Order no.
GEOS-S 3030-22-o NEW	Door, grey	226	71073301
GEOS-S 3030-22-to NEW	Door, transparent	226	71173301



Industrial and Outdoor Enclosures GEOS

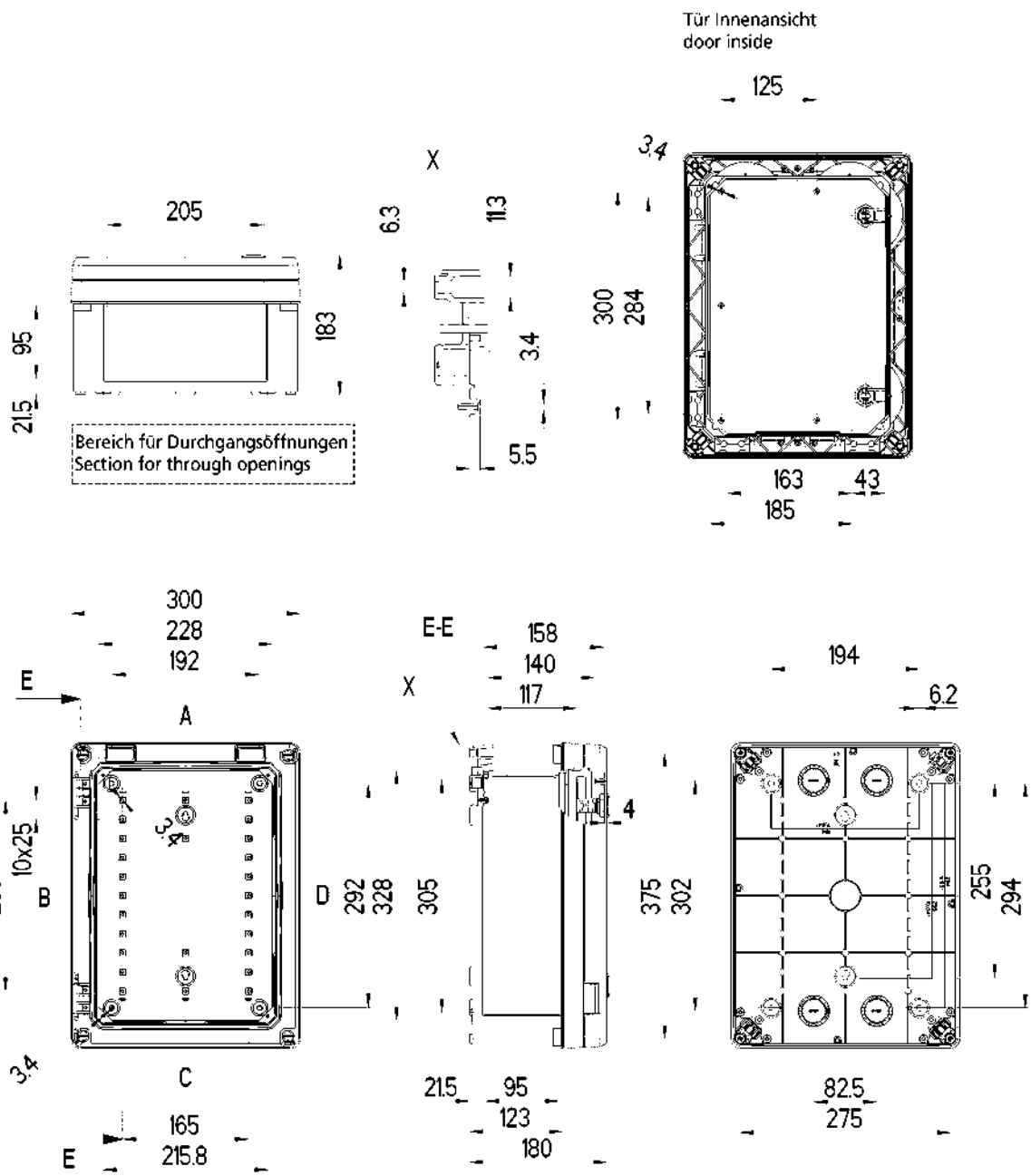
Cabinets

GEOS-S 3040-18 — 300 x 400 mm



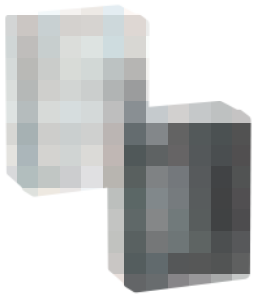
Cabinet - Industrial Quality, suitable for installation in harsh environments and in exposed outside areas, box and frame: glass-fibre reinforced polycarbonate, grey, similar to RAL 7035, door: Polycarbonate.
Twist lock with 3mm double-bit insert (interchangeable) in accordance to DIN 43668

Description	Design	Height/mm	Order no.
GEOS-S 3040-18-o NEW	Door, grey	180	71043401
GEOS-S 3040-18-to NEW	Door, transparent	180	71143401



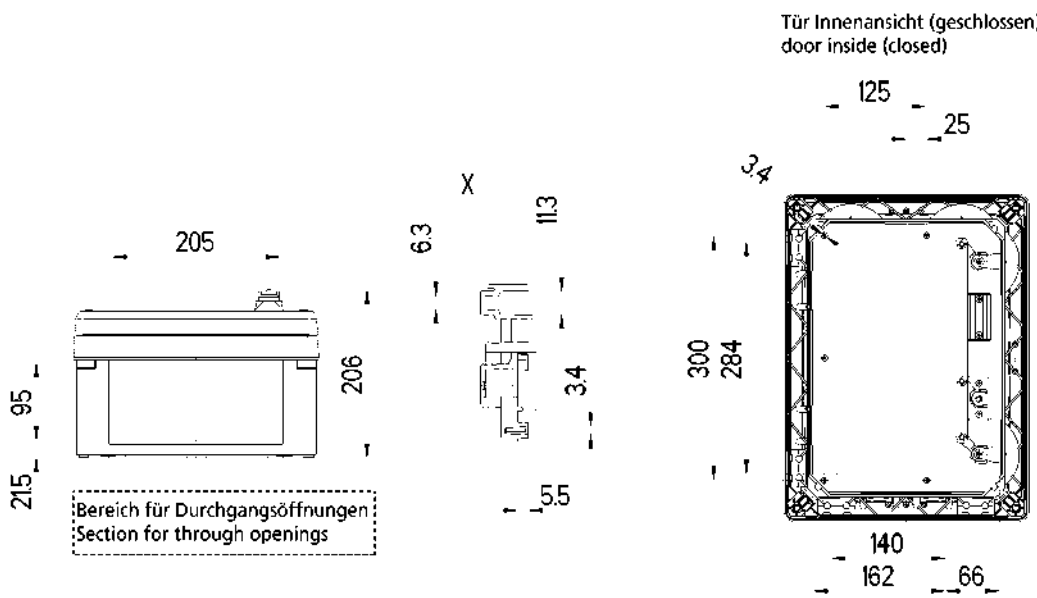
GEOS-S 3040-18/SH

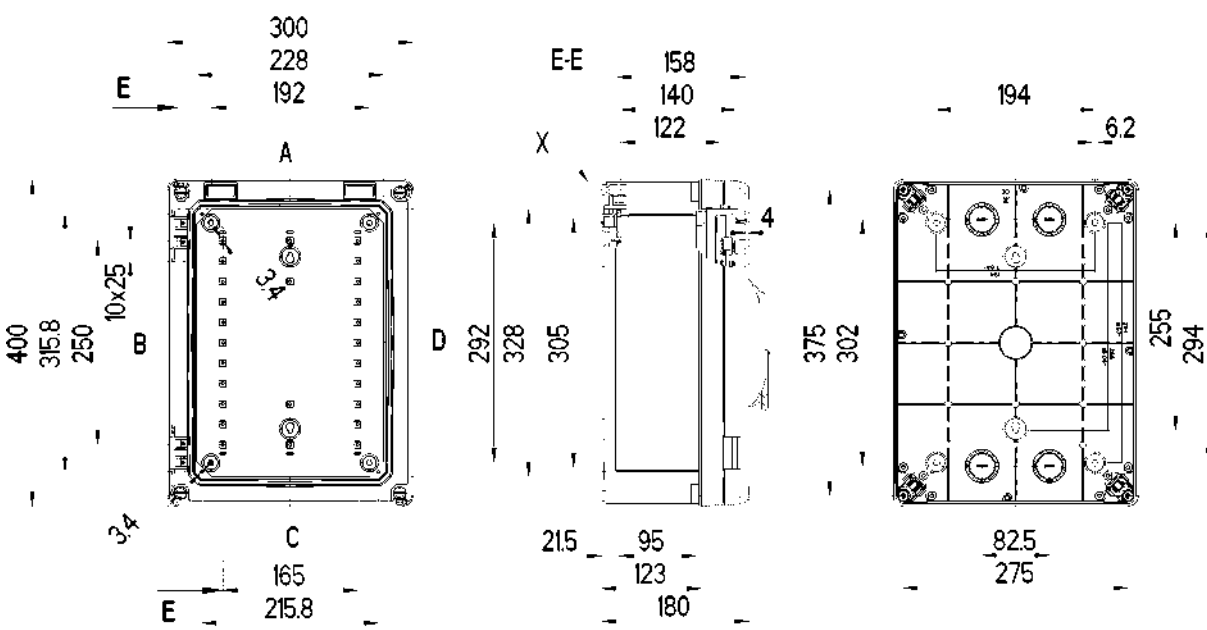
300 x 400 mm



Cabinet - Industrial Quality, suitable for installation in harsh environments and in exposed outside areas, box and frame: glass-fibre reinforced polycarbonate, grey, similar to RAL 7035, door: Polycarbonate.
Swivel lever for inserting profile-cylinders in accordance to DIN 18252

Description	Design	Height/mm	Order no.
GEOS-S 3040-18-o/SH NEW	Door, grey	180	72043401
GEOS-S 3040-18-to/SH NEW	Door, transparent	180	72143401

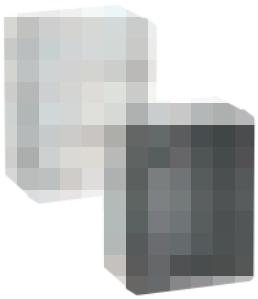




Industrial and Outdoor Enclosures GEOS

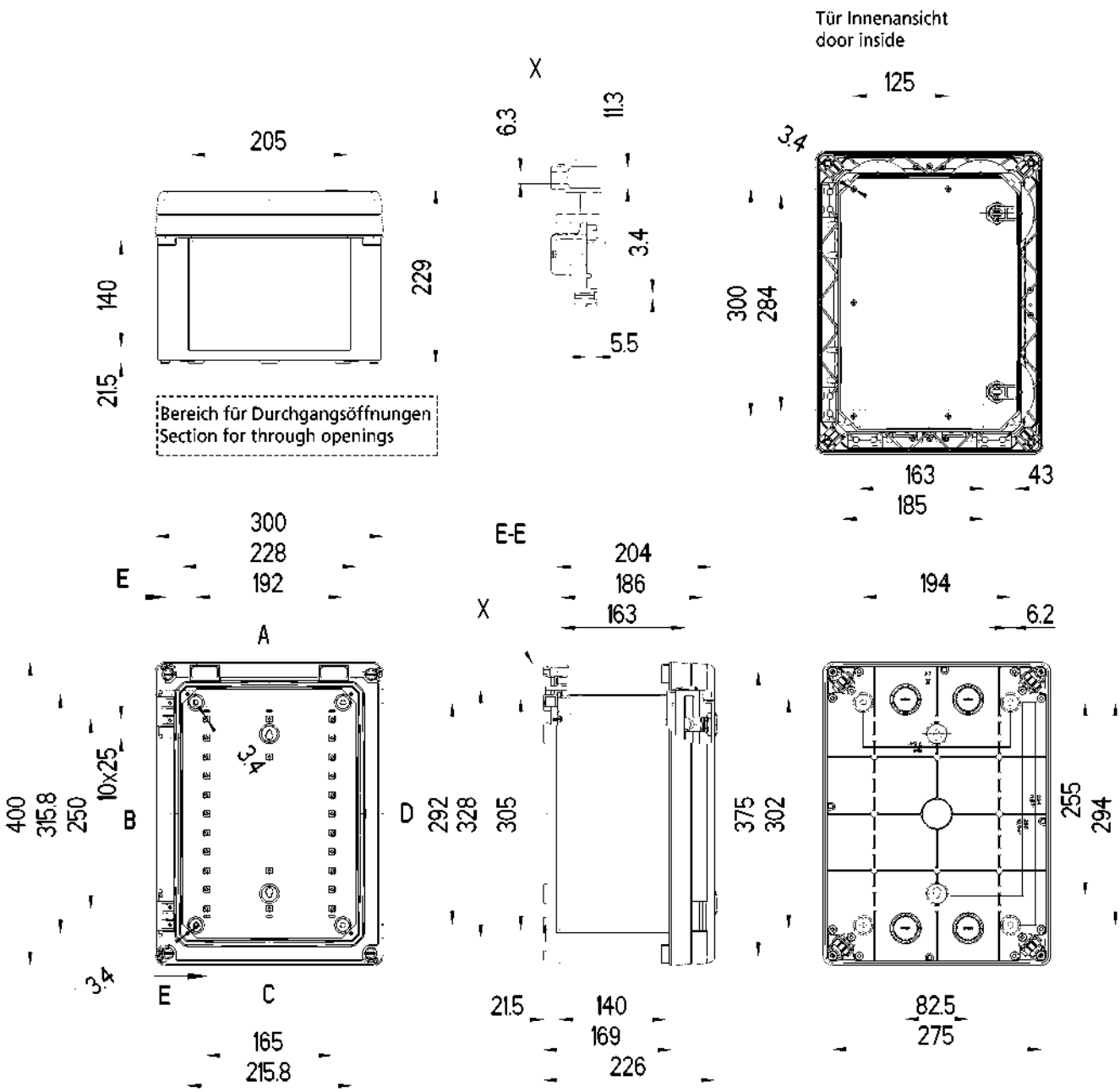
Cabinets

GEOS-S 3040-22 — 300 x 400 mm



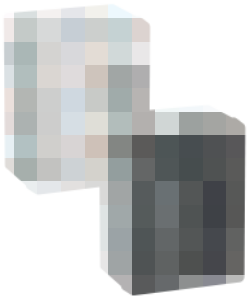
Cabinet - Industrial Quality, suitable for installation in harsh environments and in exposed outside areas, box and frame: glass-fibre reinforced polycarbonate, grey, similar to RAL 7035, door: Polycarbonate.
Twist lock with 3mm double-bit insert (interchangeable) in accordance to DIN 43668

Description	Design	Height/mm	Order no.
GEOS-S 3040-22-o NEW	Door, grey	226	71073401
GEOS-S 3040-22-to NEW	Door, transparent	226	71173401



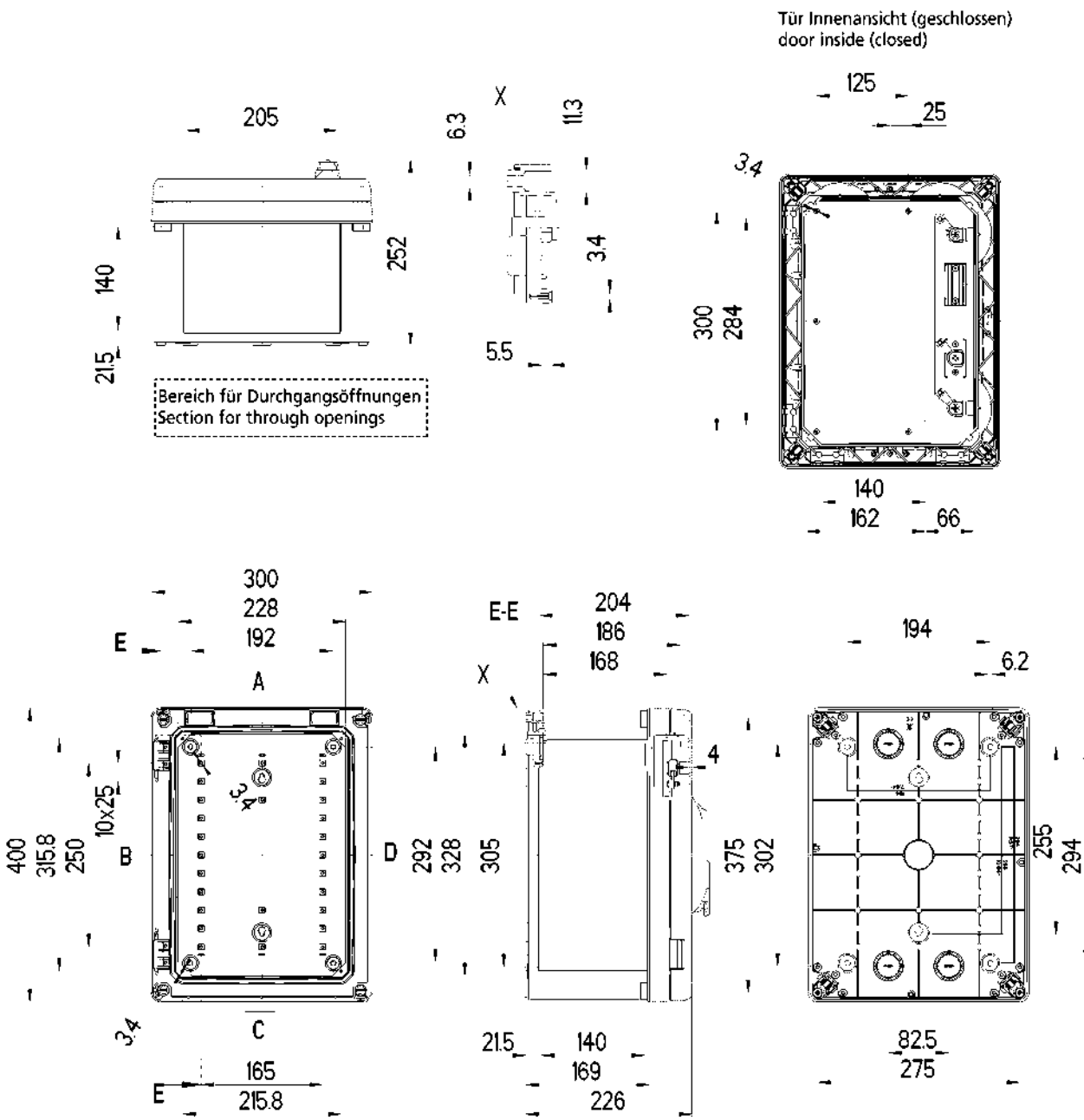
GEOS-S 3040-22/SH

300 x 400 mm



Cabinet - Industrial Quality, suitable for installation in harsh environments and in exposed outside areas, box and frame: glass-fibre reinforced polycarbonate, grey, similar to RAL 7035, door: Polycarbonate.
Swivel lever for inserting profile-cylinders in accordance to DIN 18252

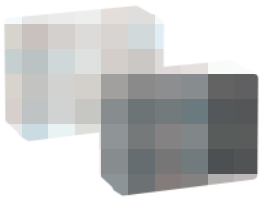
Description	Design	Height/mm	Order no.
GEOS-S 3040-22-o/SH NEW	Door, grey	226	72073401
GEOS-S 3040-22-to/SH NEW	Door, transparent	226	72173401



Industrial and Outdoor Enclosures GEOS

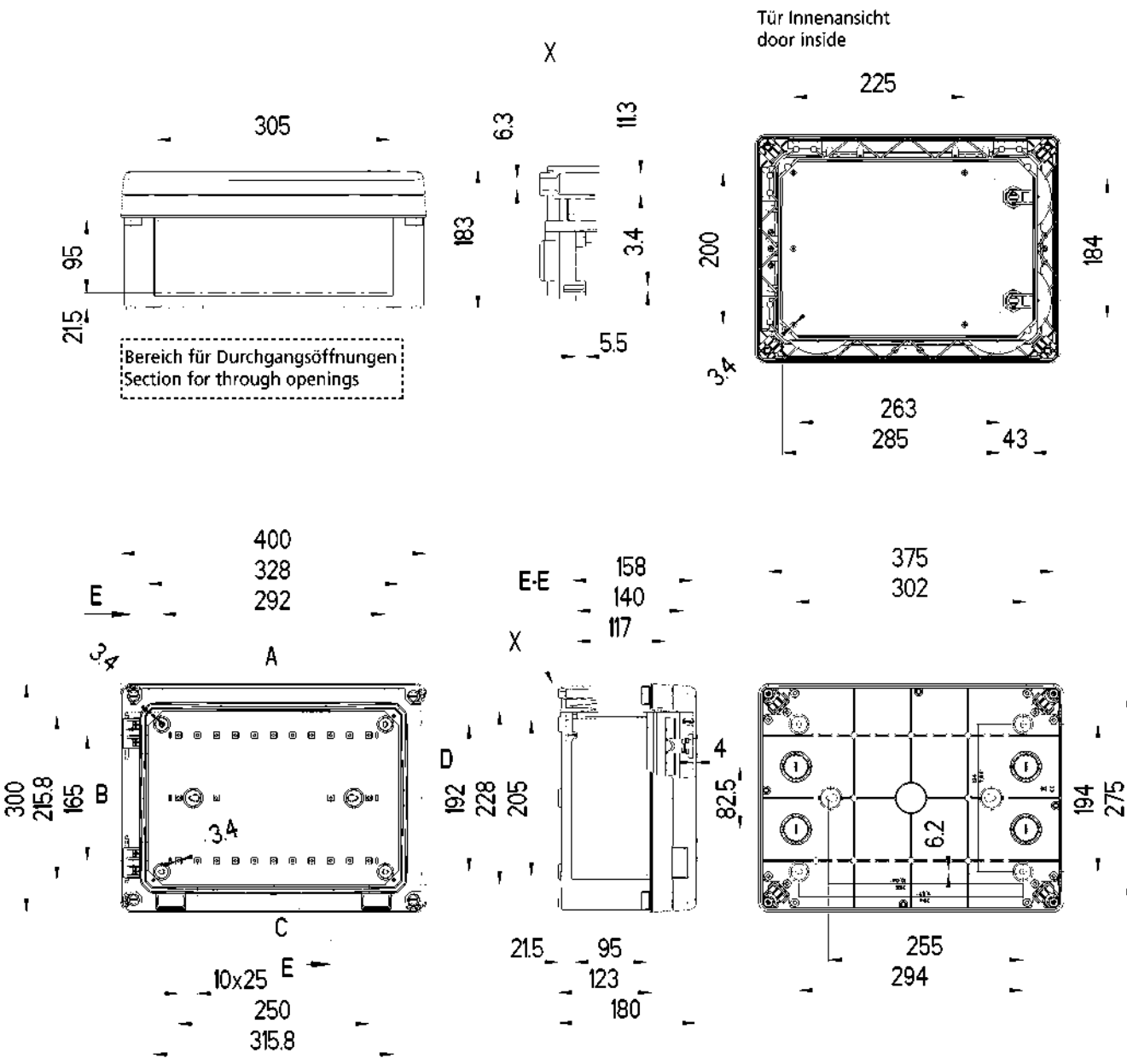
Cabinets

GEOS-S 4030-18 — 400 x 300 mm



Cabinet - Industrial Quality, suitable for installation in harsh environments and in exposed outside areas, box and frame: glass-fibre reinforced polycarbonate, grey, similar to RAL 7035, door: Polycarbonate.
Twist lock with 3mm double-bit insert (interchangeable) in accordance to DIN 43668

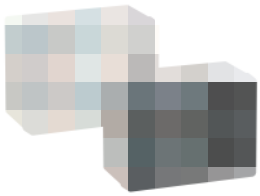
Description	Design	Height/mm	Order no.
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GEOS-S 4030-18-to NEW	Door, transparent	180	71144301



Industrial and Outdoor Enclosures GEOS

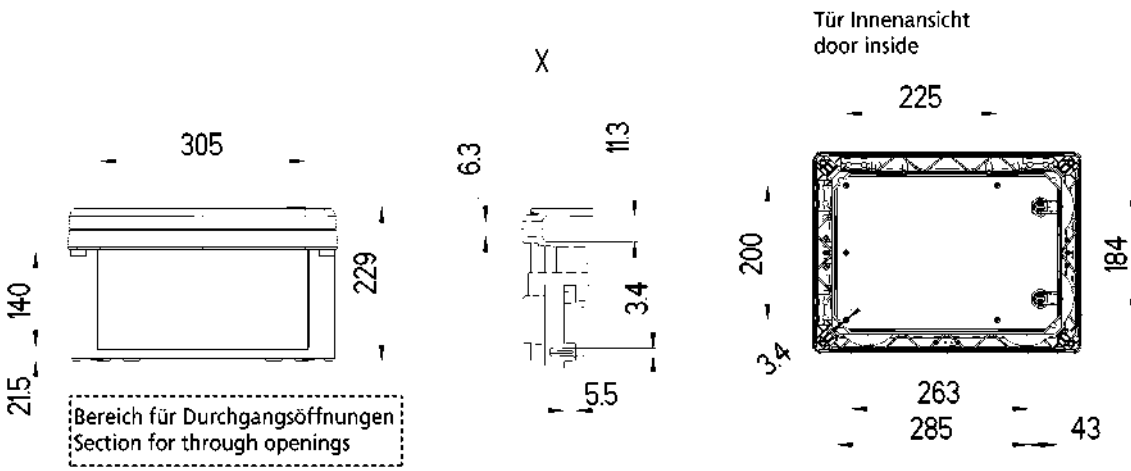
Cabinets

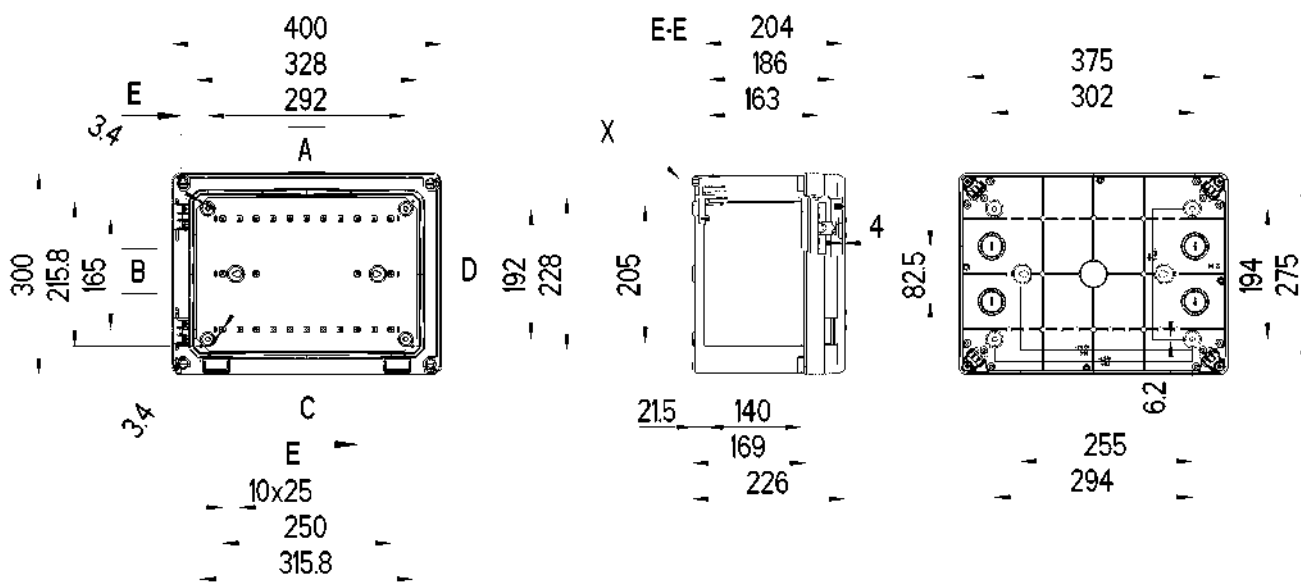
GEOS-S 4030-22 — 400 x 300 mm



Cabinet - Industrial Quality, suitable for installation in harsh environments and in exposed outside areas, box and frame: glass-fibre reinforced polycarbonate, grey, similar to RAL 7035, door: Polycarbonate.
Twist lock with 3mm double-bit insert (interchangeable) in accordance to DIN 43668

Description	Design	Height/mm	Order no.
GEOS-S 4030-22-o NEW	Door, grey	226	71074301
GEOS-S 4030-22-to NEW	Door, transparent	226	71174301

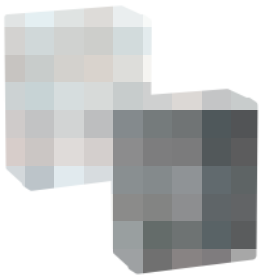




Industrial and Outdoor Enclosures GEOS

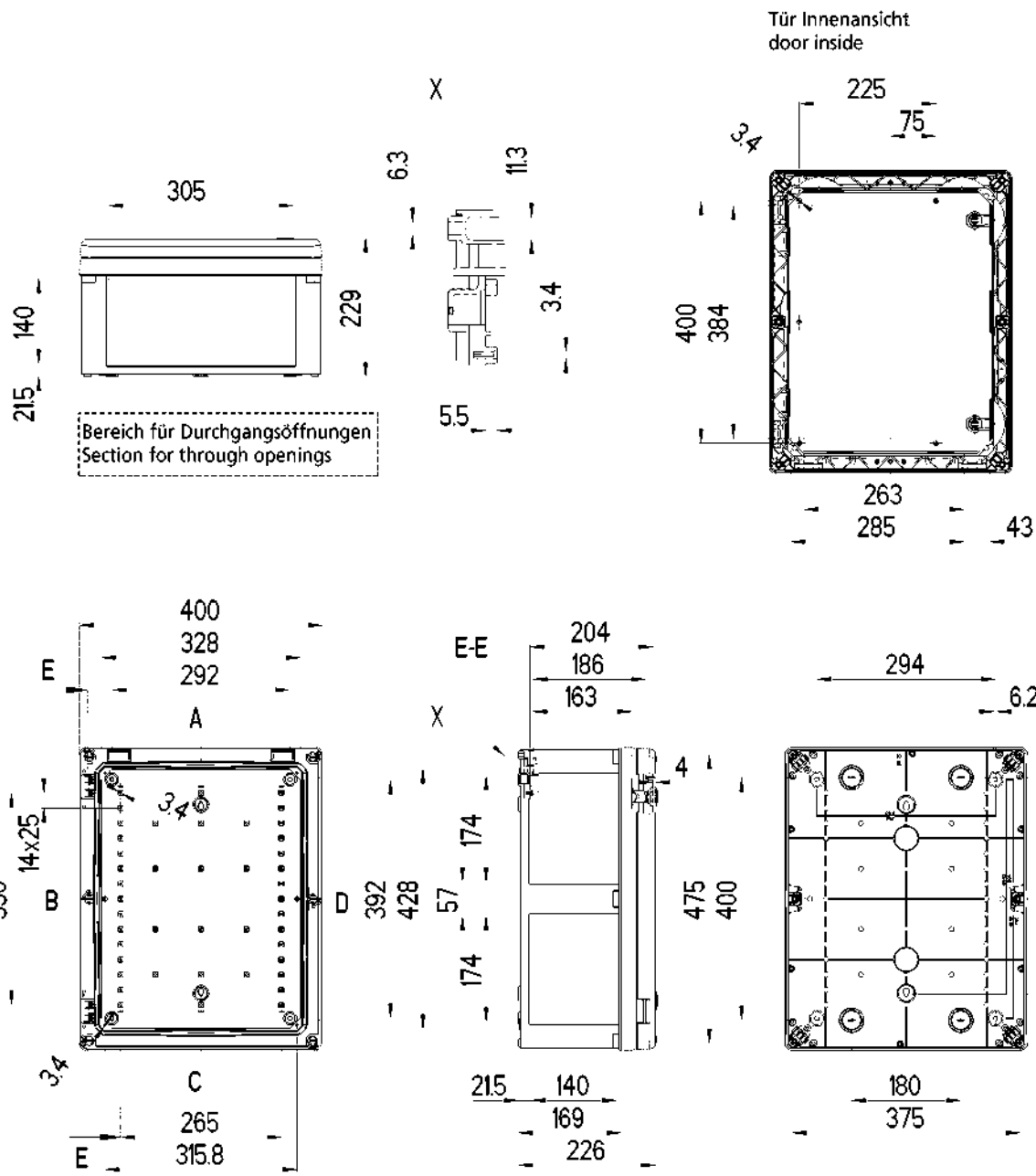
Cabinets

GEOS-S 4050-22 — 400 x 500 mm



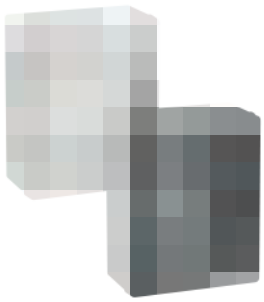
Cabinet - Industrial Quality, suitable for installation in harsh environments and in exposed outside areas, box and frame: glass-fibre reinforced polycarbonate, grey, similar to RAL 7035, door: Polycarbonate.
Twist lock with 3mm double-bit insert (interchangeable) in accordance to DIN 43668

Description	Design	Height/mm	Order no.
GEOS-S 4050-22-o NEW	Door, grey	226	71074501
GEOS-S 4050-22-to NEW	Door, transparent	226	71174501



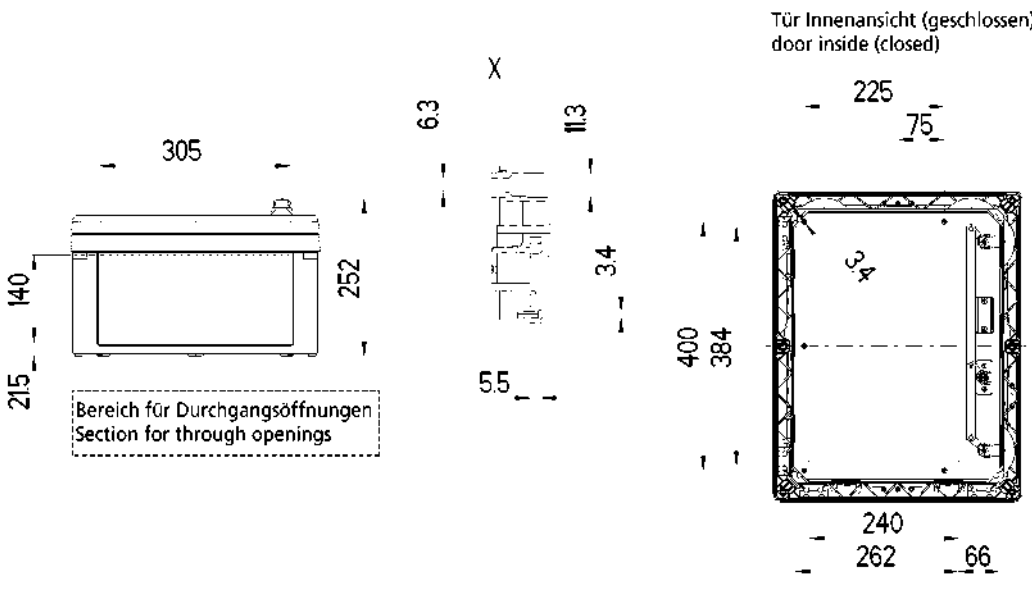
GEOS-S 4050-22/SH

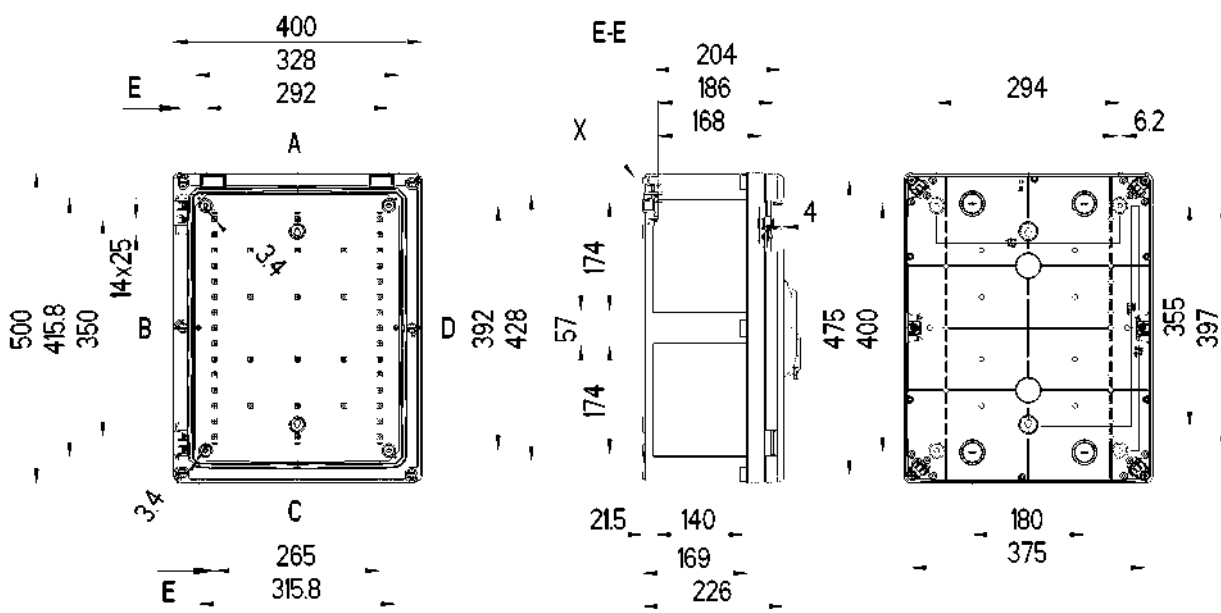
400 x 500 mm



Cabinet - Industrial Quality, suitable for installation in harsh environments and in exposed outside areas, box and frame: glass-fibre reinforced polycarbonate, grey, similar to RAL 7035, door: Polycarbonate.
Swivel lever for inserting profile-cylinders in accordance to DIN 18252

Description	Design	Height/mm	Order no.
GEOS-S 4050-22-o/SH NEW	Door, grey	226	72074501
GEOS-S 4050-22-to/SH NEW	Door, transparent	226	72174501

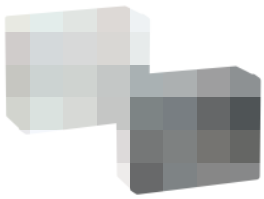




Industrial and Outdoor Enclosures GEOS

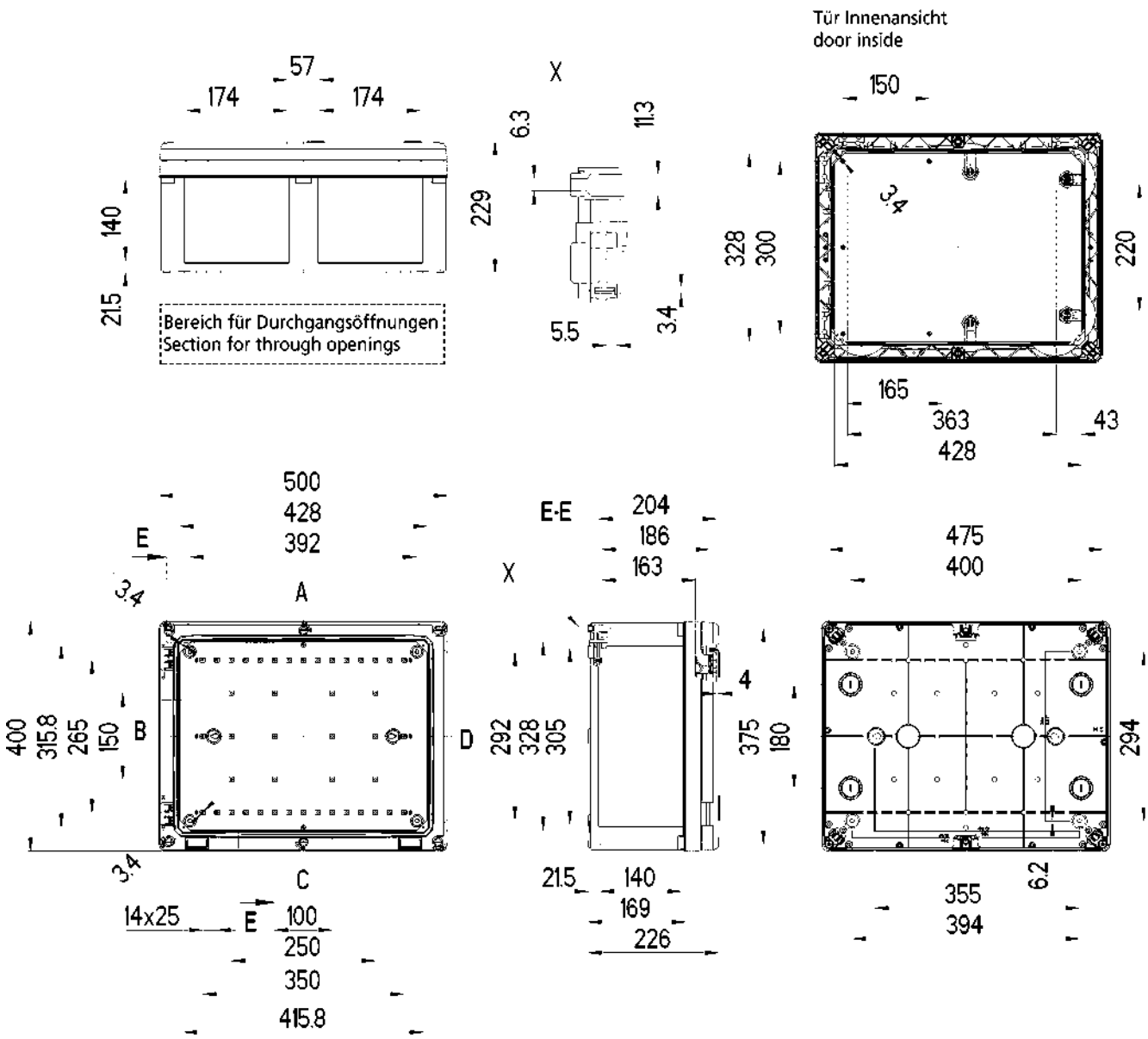
Cabinets

GEOS-S 5040-22 — 500 x 400 mm



Cabinet - Industrial Quality, suitable for installation in harsh environments and in exposed outside areas, box and frame: glass-fibre reinforced polycarbonate, grey, similar to RAL 7035, door: Polycarbonate.
Twist lock with 3mm double-bit insert (interchangeable) in accordance to DIN 43668

Description	Design	Height/mm	Order no.
GEOS-S 5040-22-o NEW	Door, grey	226	71075401
GEOS-S 5040-22-to NEW	Door, transparent	226	71175401





GEOS Empty Enclosures

- Tested according to IEC 61439
- Extensive certifications according to
  IEC 62208
  UL 50
  UL 50E
  CSA 22.2
- UV and corrosion resistant
- High impact resistance

GEOS Variety

- 10 variants
- 3 base sizes
- 2 enclosure heights
- Grey or transparent cover
- Different cover closure systems

IP66 IP67 | TYPE 4X | IK09 | 1000V AC | 1500V DC | halogen-free | iQ

Empty Enclosures GEOS

Industrial and Outdoor Enclosures GEOS

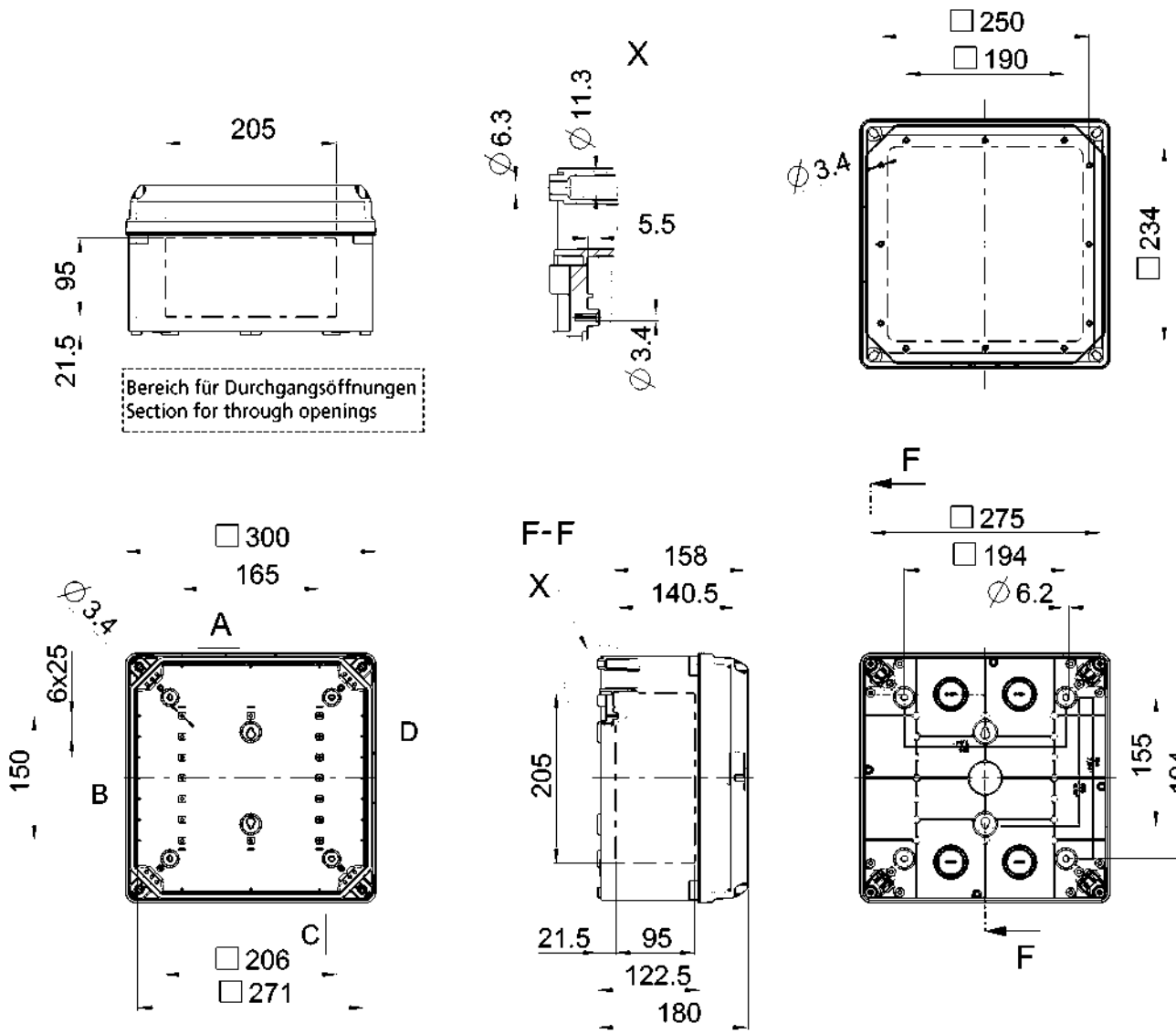
Empty Enclosures

GEOS-L 3030-18 — 300 x 300 mm



Empty enclosure - Industrial Quality -, suitable for installation in harsh environments and exposed outside areas, base: glass fibre reinforced polycarbonate, grey, similar to RAL 7035, cover: Polycarbonate

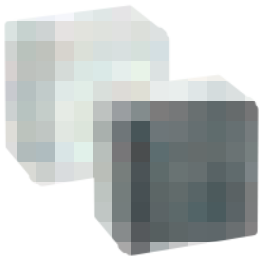
Description	Design	Height/mm	Order no.
GEOS-L 3030-18-o	Cover, grey	180	70043301
GEOS-L 3030-18-to	Cover, transparent	180	70143301



Industrial and Outdoor Enclosures GEOS

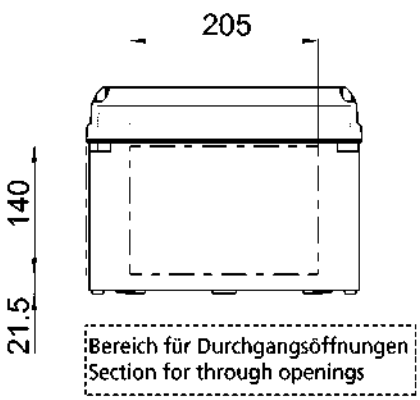
Empty Enclosures

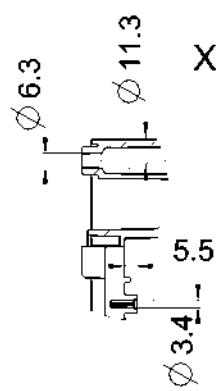
GEOS-L 3030-22 — 300 x 300 mm

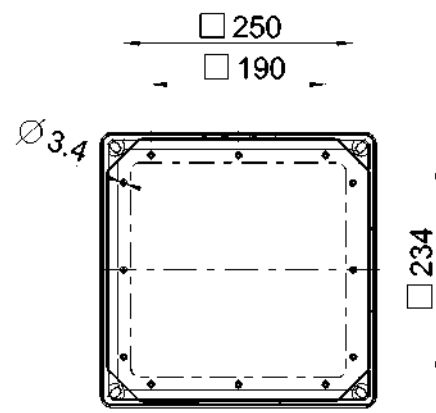


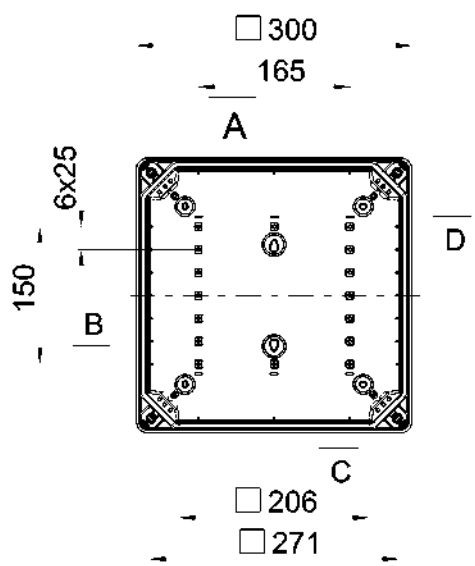
Empty enclosure - Industrial Quality -, suitable for installation in harsh environments and exposed outside areas, base: glass fibre reinforced polycarbonate, grey, similar to RAL 7035, cover: Polycarbonate

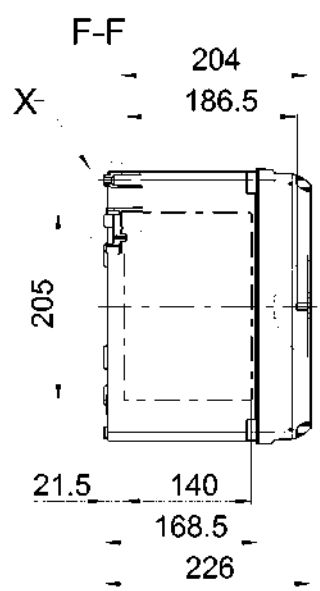
Description	Design	Height/mm	Order no.
GEOS-L 3030-22-o	Cover, grey	226	70073301
GEOS-L 3030-22-to	Cover, transparent	226	70173301

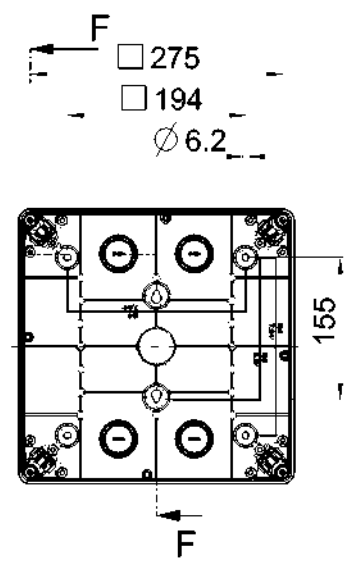








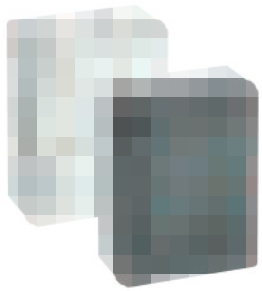




Industrial and Outdoor Enclosures GEOS

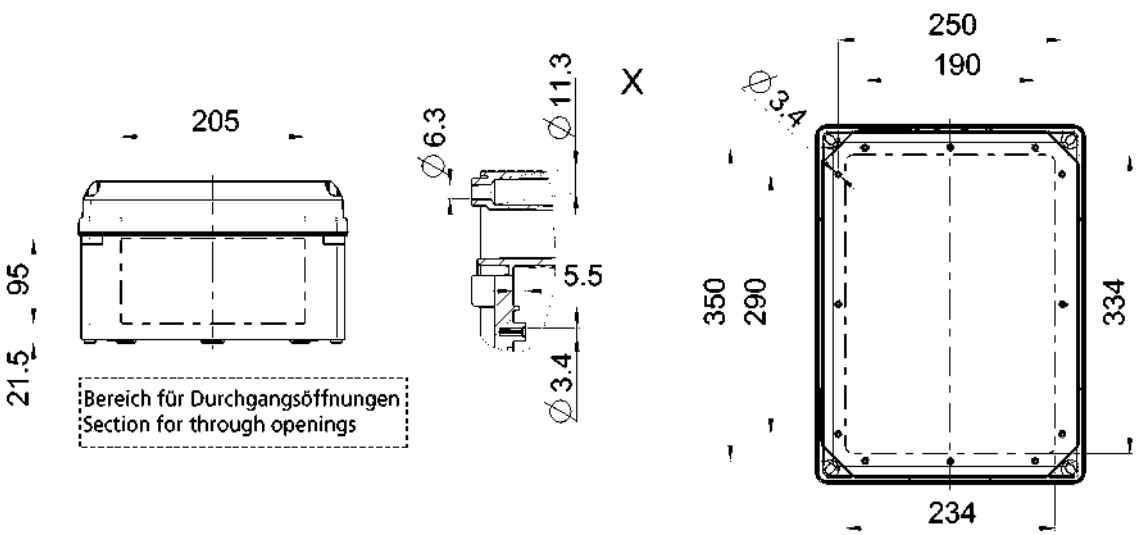
Empty Enclosures

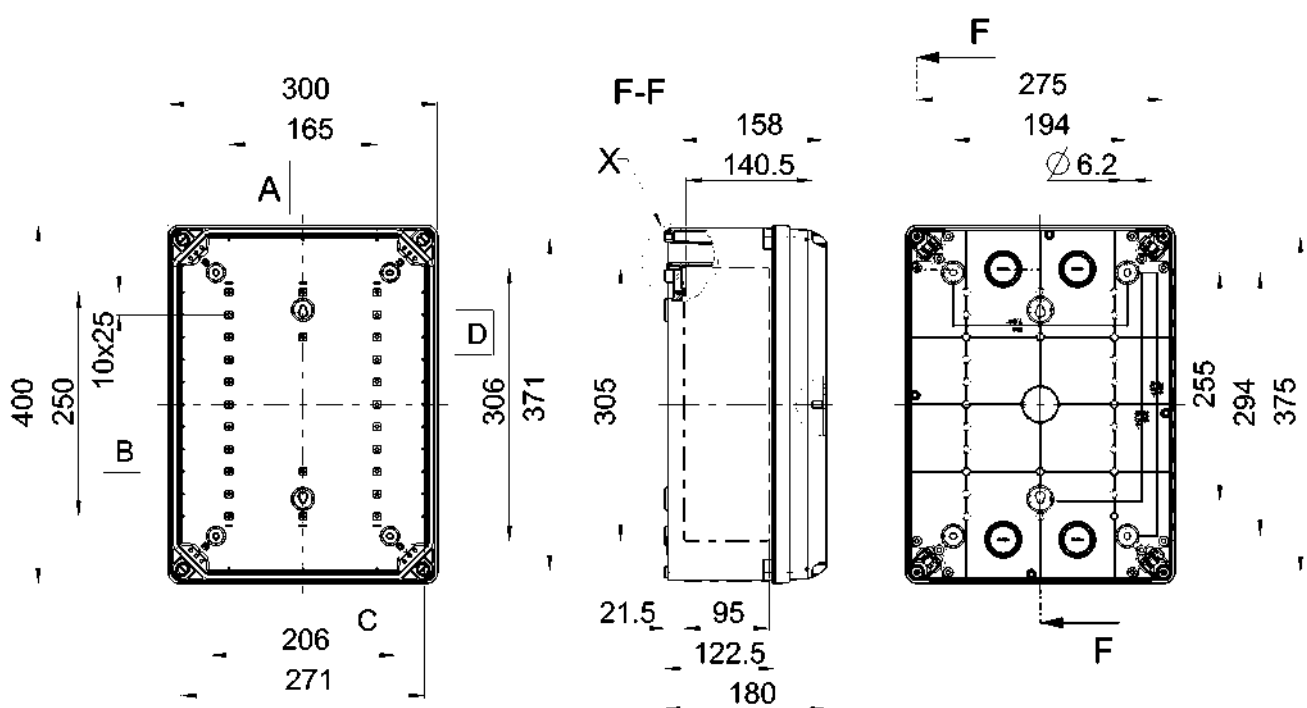
GEOS-L 3040-18 — 300 x 400 mm



Empty enclosure - Industrial Quality -, suitable for installation in harsh environments and exposed outside areas, base: glass fibre reinforced polycarbonate, grey, similar to RAL 7035, cover: Polycarbonate

Description	Design	Height/mm	Order no.
GEOS-L 3040-18-o	Cover, grey	180	70043401
GEOS-L 3040-18-to	Cover, transparent	180	70143401

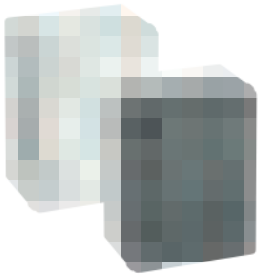




Industrial and Outdoor Enclosures GEOS

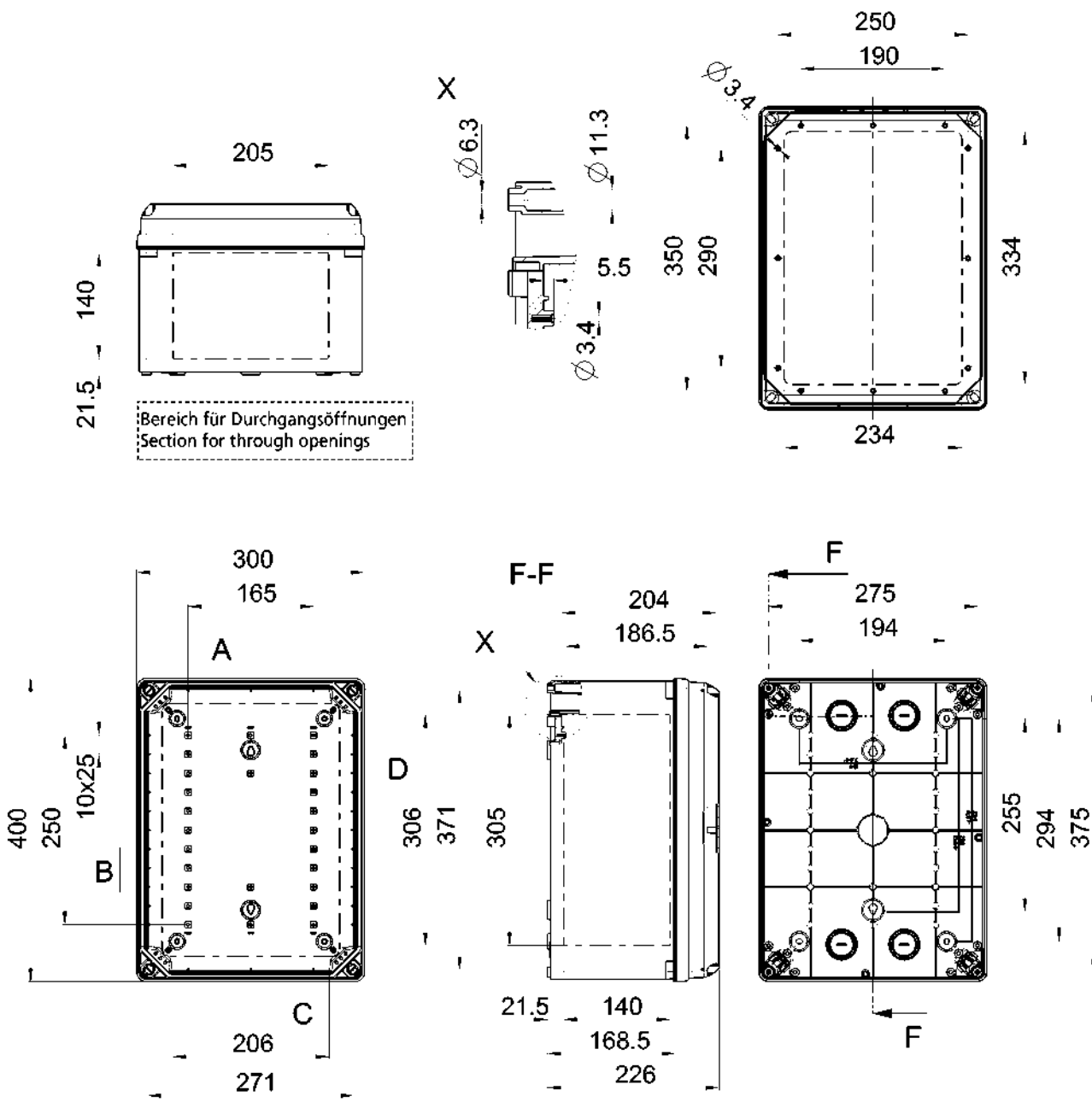
Empty Enclosures

GEOS-L 3040-22 — 300 x 400 mm



Empty enclosure - Industrial Quality -, suitable for installation in harsh environments and exposed outside areas, base: glass fibre reinforced polycarbonate, grey, similar to RAL 7035, cover: Polycarbonate

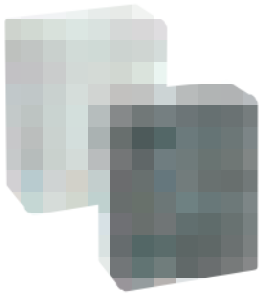
Description	Design	Height/mm	Order no.
GEOS-L 3040-22-o	Cover, grey	226	70073401
GEOS-L 3040-22-to	Cover, transparent	226	70173401



Industrial and Outdoor Enclosures GEOS

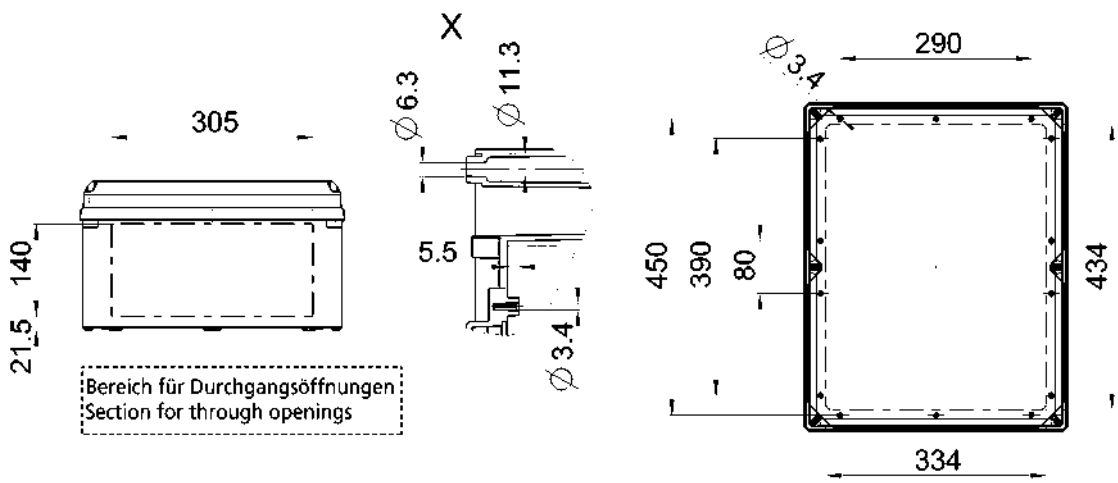
Empty Enclosures

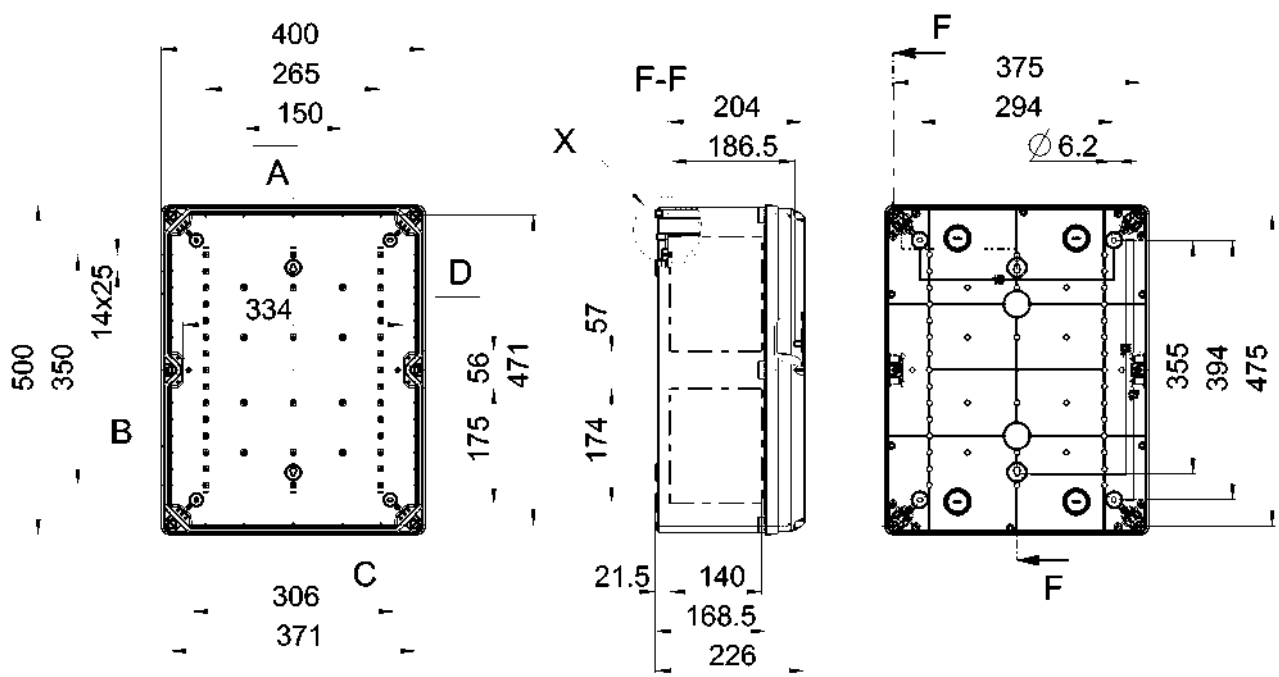
GEOS-L 4050-22 — 400 x 500 mm



Empty enclosure - Industrial Quality -, suitable for installation in harsh environments and exposed outside areas, base: glass fibre reinforced polycarbonate, grey, similar to RAL 7035, cover: Polycarbonate

Description	Design	Height/mm	Order no.
GEOS-L 4050-22-o	Cover, grey	226	70074501
GEOS-L 4050-22-to	Cover, transparent	226	70174501





Industrial and Outdoor Enclosures GEOS

Universal Accessories GEOS

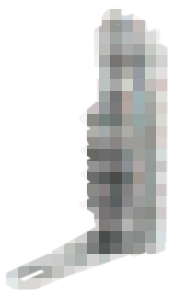
Mounting holder 35/7.5



Mounting holder set, for tool-free mounting of standard rails 35 x 7.5 mm and mounting plates at various heights, set = 4 pcs.

Description	Order no.
GEOS MH-18 GEOS-L 3030-18, GEOS-L 3040-18	72002201
GEOS MH-22 GEOS-L 3030-22, GEOS-L 3040-22, GEOS-L 4050-22	72002301

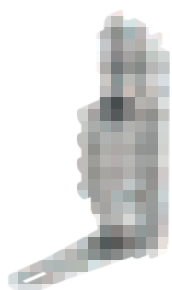
Mounting holder 35/15



Mounting holder set, for tool-free mounting of standard rails 35 x 15 mm and assembly plates at various heights, set = 4 pieces

Description	Order no.
GEOS MH-18 NS35/15 NEW for GEOS-L/S 3030-18, GEOS-L/-S 3040-18, GEOS-S 4030-18	72002401
GEOS MH-22 NS35/15 NEW for GEOS-L/S 3030-22, GEOS-L/S 3040-22, GEOS-L/S 4050-22, GEOS-S 4030-22, GEOS-S 5040-22	72002501

Universal mounting holder



Universal mounting holder set, for mounting of standard rail GEOS NS 35-200 to 400 at various heights, assembly plate and additional fittings, set = 4 pieces

Description	Order no.
GEOS MHU-18 NEW for GEOS-L/S 3030-18, GEOS-L/S 3040-18, GEOS-S 4030-18	72002601
GEOS MHU-22 NEW for GEOS-L/S 3030-22, GEOS-L/S 3040-22, GEOS-L/S 4050-22, GEOS-S 4030-22, GEOS-S 5040-22	72002701

Standard rail



Standard rail acc. to DIN EN 60715, 35 x 7.5 mm, incl. fixing screws,
for bottom mounting, optional mounting with mounting holder at various heights possible

Description	Order no.
GEOS NS35-250 for GEOS-L/S 3030, GEOS-L/S 3040, GEOS-S 4030, length 250 mm, height 7.5 mm	72003101
GEOS NS35-350 for GEOS-L/S 3040, GEOS-L/S 4050, GEOS-S 5040, length 350 mm, height 7.5 mm	72003201
GEOS NS35-450 for GEOS-L/S 4050, GEOS-S 5040, length 450 mm, height 7.5 mm	72003301
GEOS NS35/15-250 NEW for GEOS-L/S 3030, GEOS-L/S 3040, GEOS-S 4030, length 250 mm, height 15 mm	72003601
GEOS NS35/15-350 NEW for GEOS-L/S 3040, GEOS-L/S 4050, GEOS-S 5040, length 350 mm, height 15 mm	72003701
GEOS NS35/15-450 NEW for GEOS-L/S 4050, GEOS-S 5040, length 450 mm, height 15 mm	72003801

Industrial and Outdoor Enclosures GEOS

Universal Accessories GEOS

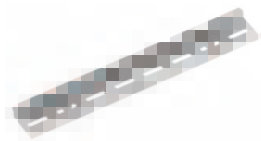
Standard rail



Standard rail in accordance to DIN EN 60715, width 35 mm at heights 7.5 and 15 mm, incl. fastening screws, for floor-mounting, GEOS 4050 (middle position), mounting using mounting holder in different heights not possible

Description	Order no.
GEOS NS35-327	72003401
NEW	72003901

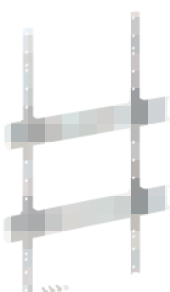
Universal mounting holder standard rail



Standard rail in accordance to DIN EN 60715, 35 mm wide, incl. fastening screws, for mounting on GEOS mounting holder MHU

Description	Order no.
GEOS NS35-200 NEW for GEOS-L/S 3030, GEOS-L/S 3040, length 200 mm, height 7.5 mm	72008101
GEOS NS35-300 NEW for GEOS-L/S 3040, GEOS-L/S 4050, length 300 mm, height 7.5 mm	72008201
GEOS NS35-400 NEW for GEOS 4050, length 200 mm, height 7.5 mm	72008301

Carrying frame NS35



Carrying frame with standard rails 35 mm, incl. fixing screws for floor mounting.
Optional mounting by means of mounting brackets possible in various heights, non shock protection

Description	Order no.
GEOS TGS 3040-2 2 row, 12 distribution units, for mounting in GEOS-L 3040 empty enclosure	72006201
GEOS TGS 4050-3 3-row, 18 modules, standard rails 35 x 7.5 mm, for mounting in GEOS-L and S 4050	72006401
GEOS TGS 4050-2 2-row, 21 modules, standard rails 35 x 7.5 mm, for mounting in GEOS-L 4050 and GEOS-S 5040	72006501
GEOS TGS NS35/15 3040-2 NEW 2-row, 12 modules, standard rails 35 x 15 mm, for mounting in GEOS-L and S 3040	72007201
GEOS TGS NS35/15 4050-3 NEW 3-row, 18 modules, standard rails 35 x 15 mm, for mounting in GEOS-L and S 4050	72007401
GEOS TGS NS35/15 4050-2 NEW 2-row, 21 modules, standard rails 35 x 15 mm, for mounting in GEOS-L 4050 and GEOS-S 5040	72007301

Assembly plate insulating material



Mounting plate made of insulating material, incl. fixing screws, for bottom mounting, optional mounting with mounting holder at various heights possible

Description	Dimensions/mm	Order no.
GEOS MPI-3030 for GEOS-L/S 3030-18 to 22	250 x 250 x 5	72000301
GEOS MPI-3040 for GEOS-L/S 3040-18 to 22, GEOS-S 4030-18 to 22	250 x 350 x 5	72000401
GEOS MPI-4050 for GEOS-L/S 4050-22, GEOS-S 5040-22	350 x 450 x 5	72000501

Assembly plate galvanized steel



Mounting plate made of galvanized steel, incl. fixing screws, for bottom mounting, optional mounting with mounting holder at various heights possible

Description	Dimensions/mm	Order no.
GEOS MPS-3030 for GEOS-L/S 3030-18 to 22	250 x 250 x 2	72001301
GEOS MPS-3040 for GEOS-L/S 3040-18 to 22, GEOS-S 4030-18 to 22	250 x 350 x 2	72001401
GEOS MPS-4050 for GEOS-L/S 4050-22, GEOS-S 5040-22	350 x 450 x 2	72001501



Industrial and Outdoor Enclosures GEOS

Cabinet Accessories GEOS

Cabinet installation board frame

Installation board made of insulating material for the frame of GEOS cabinets, incl. fixing screws, for individual use, e.g. for the installation of command and signalling devices, material thickness: 4 mm

Description	Dimensions/mm	Order no.
GEOS-S EPR 3030 NEW for GEOS-S 3030-18 to 22	231 x 231 x 4	72201301
GEOS-S EPR 3040/4030 NEW for GEOS-S 3040-18 to 22 and GEOS-S 4030-18 to 22	231 x 331 x 4	72201401
GEOS-S EPR 4050/5040 NEW for GEOS-S 4050-22 and GEOS-S 5040-22	331 x 431 x 4	72201501

Transparent cabinet installation board frame



Installation board made of clear transparent polycarbonate for the frame of GEOS cabinets, incl. fixing screws, for individual use, e.g. to protect fixtures located in the cabinet while at the same time ensuring visibility, material thickness: 4 mm

Description	Dimensions/mm	Order no.
GEOS-S EPR-t 3030 NEW for GEOS-S 3030-18 to 22	231 x 231 x 4	72210301
GEOS-S EPR-t 3040/4030 NEW for GEOS-S 3040-18 to 22 and GEOS-S 4030-18 to 22	231 x 331 x 4	72210401
GEOS-S EPR-t 4050/5040 NEW for GEOS-S 4050-22 and GEOS-S 5040-22	331 x 431 x 4	72210501

Cabinet accidental contact protection module



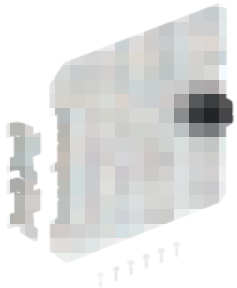
Contact protection modules for tool-free installation in the frame of GEOS cabinets, grey plastic similar to RAL 7035

Description	Order no.
GEOS-S BSM 3030-9 NEW for GEOS-S 3030-18 to 22, 9 TE, single-row	72208301
GEOS-S BSM 3030 NEW for GEOS-S 3030-18 to 22, smooth, without breakthroughs	72208401
GEOS-S BSM 3040-9 NEW for GEOS-S 3040-18 to 22, 9 TE, single-row	72208701
GEOS-S BSM 3040 NEW for GEOS-S 3040-18 to 22, smooth, without breakthroughs	72208801
GEOS-S BSM 4050-15 NEW for GEOS-S 4050-22, 15 TE, single-row, mounting on top/bottom end	72209101
GEOS-S BSM 4050-15/MIT NEW for GEOS-S 4050-22, 15 TE, single-row, mounting in middle	72209201
GEOS-S BSM 4050 NEW for GEOS-S 4050-22, smooth, without breakthroughs	72209301
GEOS-S BSM 3040-9/2 NEW for GEOS-S 3040-18 to 22, 18 TE, double-row. Set consisting of 2 x articles 72208701	72209701
GEOS-S BSM 4050-15/3 NEW for GEOS-S 4050-22, 45 TE, triple-row. Set consisting of 2 x articles 72209101 and 1 x article 72209201	72209801

Industrial and Outdoor Enclosures GEOS

Cabinet Accessories GEOS

Cabinet inner door



Inner door made of insulating material for installation in GEOS cabinets,
incl. fixing material and rotary twist lock, 3mm double bit, for individual use,
e.g. for installation of displays, command and signalling devices, material thickness: 4 mm

Description	Order no.
GEOS-S IT 3030 NEW for GEOS-S 3030	72200301
GEOS-S IT 3040 NEW for GEOS-S 3040	72200401
GEOS-S IT 4030 NEW for GEOS-S 4030	72200501
GEOS-S IT 4050 NEW for GEOS-S 4050	72200601
GEOS-S IT 5040 NEW for GEOS-S 5040	72200701

Cabinet partition wall



Partition wall made of insulating material for cabinets incl. carriers, to divide the enclosure

Description	Order no.
GEOS-S TW 30-18 NEW for GEOS-S 3030-18, GEOS-S 3040-18, GEOS-S 4030-18	72203201
GEOS-S TW 30-22 NEW for GEOS-S 3030-22, GEOS-S 3040-22, GEOS-S 4030-22	72203301
GEOS-S TW 40-18 NEW for GEOS-S 3040-18, GEOS-S 4030-18	72203401
GEOS-S TW 40-22 NEW for GEOS-S 3040-22, GEOS-S 4030-22, GEOS-S 4050-22, GEOS-S 5040-22	72203501
GEOS-S TW 50-22 NEW for GEOS-S 4050-22, GEOS-S 5040-22	72203601

Cabinet installation board door



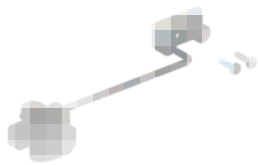
Installation board made of insulating material for the door of GEOS cabinets, incl. fixing screws,
for individual use, e.g. for installation of indicating elements and displays, material thickness: 4 mm

Description	Dimensions/mm	Order no.
GEOS-S EPT 3030 NEW for GEOS-S 3030-18 to 22	150 x 225 x 4	72202301
GEOS-S EPT 3040 NEW for GEOS-S 4030-18 to 22	150 x 325 x 4	72202401
GEOS-S EPT 4030 NEW for GEOS-S 4030-18 to 22	250 x 225 x 4	72202501
GEOS-S EPT 4050 NEW for GEOS-S 4050-22	250 x 425 x 4	72202601
GEOS-S EPT 5040 NEW for GEOS-S 5040-22	175 x 325 x 4	72202701

Industrial and Outdoor Enclosures GEOS

Cabinet Accessories GEOS

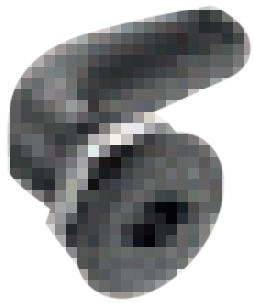
Cabinet door stop



Door stop for fixing the open cabinet door in two possible positions

Description	Order no.
GEOS-S TFS NEW for GEOS-S cabinets	72207001

Cabinet twist lock set



Twist lock set for installation in GEOS-S cabinets, set = 2 pieces

Description	Order no.
GEOS-S DRS-DB/5 NEW Double-bit 5 mm mandrel	72205101
GEOS-S DRS-VK/8 NEW Square 8 mm	72205201
GEOS-S DRS-DK/8 NEW Triangle 8 mm	72205301
GEOS-S DRS-KB NEW Toggle handle	72205401
GEOS-S DRS-SZ NEW Countersunk slot	72205501

Lock fittings



Profile-cylinders for GEOS-S cabinets with swivel lever

Description	Order no.
GEOS-S SGA-2 NEW in accordance to DIN 18252, 8 x 45° adjustable, with three keys, different locking	72206901
GEOS-S SGA-DB/3 NEW Double-bit 3 mm mandrel	72206001

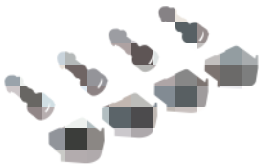
Cabinet cover screws set



Cabinet cover screws set

Description	Order no.
GEOS-S 3030 S NEW for cabinet GEOS-S 3030 as replacement need	72204001
GEOS-S 3040/4030 S NEW for cabinet GEOS-S 3040 and GEOS-S 4030 as replacement need	72204101
GEOS-S 4050/5040 S NEW for cabinet GEOS-S 4050 and GEOS-S 5040 as replacement need	72204201

Cabinet quick closing set



Cabinet quick closing set

Description	Order no.
GEOS-S 3030 SV NEW for cabinet GEOS-S 3030 as replacement need	72204301
GEOS-S 3040/4030 SV NEW for cabinet GEOS-S 3040 and GEOS-S 4030 as replacement need	72204401
GEOS-S 4050/5040 SV NEW for cabinet GEOS-S 4050 and GEOS-S 5040 as replacement need	72204501



Industrial and Outdoor Enclosures GEOS

Empty Enclosure Accessories GEOS

Empty enclosure box installation board



Installation board made of insulating material for empty enclosure, incl. fixing screws, for individual use, e.g. for installation of command and signalling devices, material thickness: 4 mm

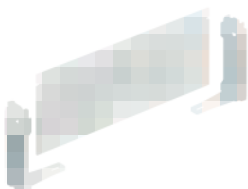
Description	Dimensions/mm	Order no.
GEOS-L EP-3030 for GEOS-L 3030-18 to 22	276 x 276 x 4	72101301
GEOS-L EP-3040 for GEOS-L 3040-18 to 22	276 x 376 x 4	72101401
GEOS-L EP-4050 for GEOS-L 4050-22	376 x 476 x 4	72101501

Empty enclosure cover installation board

Installation board made of insulating material for mounting on the inside of the cover of empty enclosures, incl. fixing screws, for individual use, e.g. for the installation of command and signalling devices, material thickness: 4 mm

Description	Dimensions/mm	Order no.
GEOS-L EPD-3030 for GEOS-L 3030-18 to 22	276 x 276 x 4	72101601
GEOS-L EPD-3040 for GEOS-L 3040-18 to 22	276 x 376 x 4	72101701
GEOS-L EPD-4050 for GEOS-L 4050-22	376 x 476 x 4	72101801

Empty enclosure partition wall



Partition wall made of insulating material for empty enclosure incl. carriers, to divide the enclosure

Description	site of encl./mm	Order no.
GEOS-L TW 30-18 for GEOS-L 3030-18, GEOS-L 3040-18	300	72103201
GEOS-L TW 30-22 for GEOS-L 3030-22, GEOS-L 3040-22	300	72103301
GEOS-L TW 40-18 for GEOS-L 3040-18	400	72103401
GEOS-L TW 40-22 for GEOS-L 3040-22, GEOS-L 4050-22	400	72103501
GEOS-L TW 50-22 for GEOS-L 4050-22	500	72103601

Industrial and Outdoor Enclosures GEOS

Empty Enclosure Accessories GEOS

Empty enclosure contact protection cover



Protective cover for rail-mounted devices, incl. fixing screws,
for mounting in GEOS-L empty enclosure

Description	Order no.
GEOS-L BSA 3030-1 1-row, 12 distribution units, for mounting in GEOS-L 3030 empty enclosure	72105101
GEOS-L BSA 3040-1 1-row, 18 distribution units, for mounting in GEOS-L 3040 empty enclosure	72105301
GEOS-L BSA 3040-2 2 row, 24 modules, for mounting in GEOS-L 3040 empty enclosure	72105201
GEOS-L BSA 4050-2 2 row, 42 modules, for mounting in GEOS-L 4050 empty enclosure	72105501
GEOS-L BSA 4050-3 3 row, 54 modules, for mounting in GEOS-L 4050 empty enclosure	72105401

High level mounting holder



Mounting holder set, for tool-free mounting of standard rails 35 x 7.5 mm and assembly plates at various heights, additional top position for mounting rail-mounted devices in conjunction with hinged windows in the cover of empty enclosures, set = 4 pieces

Description	Order no.
GEOS-L MHH-18 NEW for GEOS-L 3030-18, GEOS-L 3040-18	72102201
GEOS-L MHH-22 NEW for GEOS-L 3030-22, GEOS-L 3040-22, GEOS-L 4050-22	72102301

Empty enclosure cover retainer

Cover retainer made of stainless steel with fastening screws, mountable retroactively

Description	Order no.
GEOS-L DVS NEW For cover locks with GEOS empty enclosures, prevents cover from falling down unintentionally, set = 2 pieces	72103701

Empty enclosure cover screws set



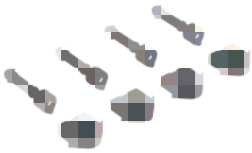
Empty enclosure cover screws set

Description	Order no.
GEOS-L DS for empty enclosure GEOS-L 3030/3040 as replacement need	72104001
GEOS-L 4050 DS for empty enclosure GEOS-L 4050 as replacement need	72104101

Industrial and Outdoor Enclosures GEOS

Empty Enclosure Accessories GEOS

Empty enclosure quick closing set



Empty enclosure quick closing set

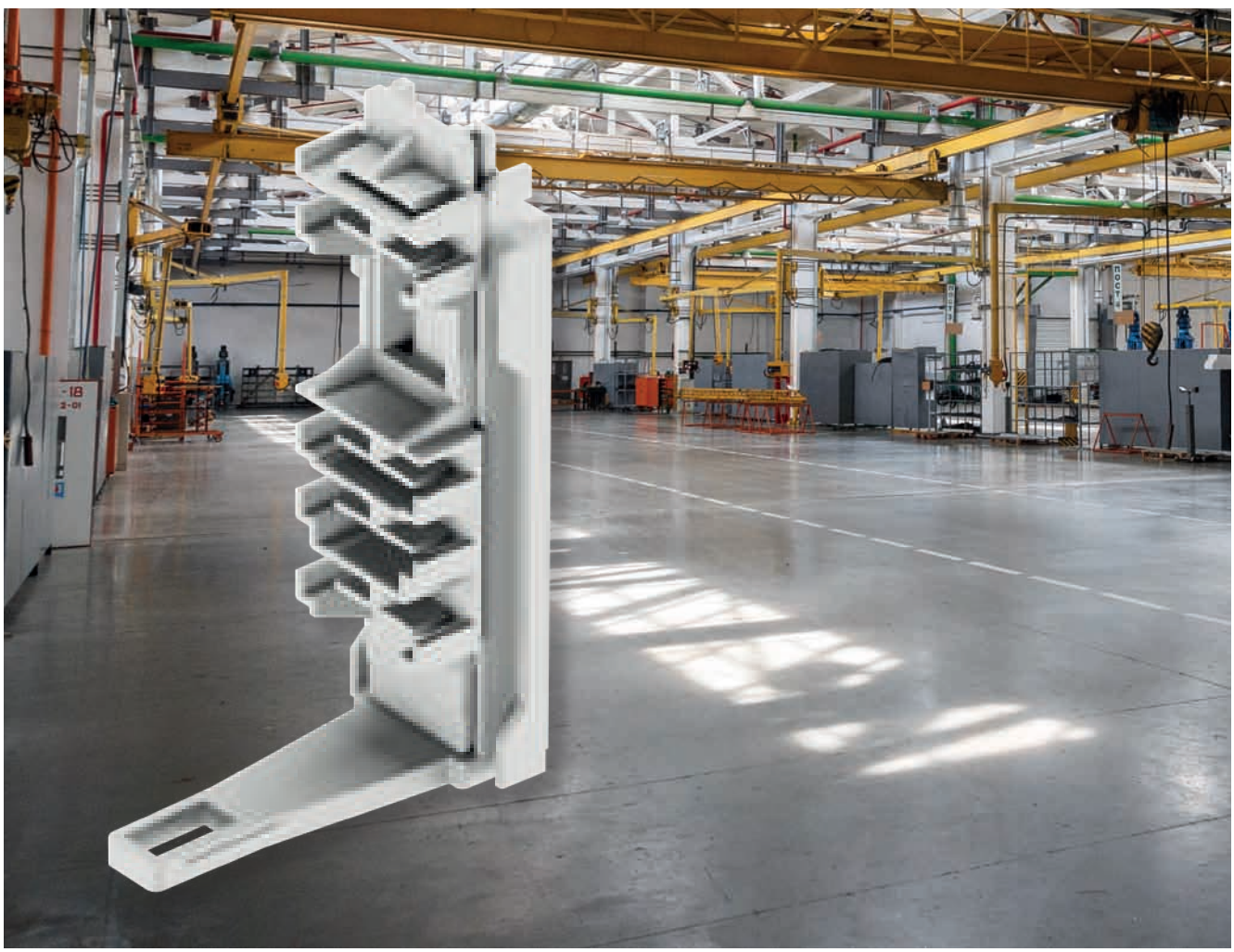
Description	Order no.
GEOS-L SV for empty enclosure GEOS-L 3030/3040 as replacement need	72104201
GEOS-L 4050 SV for empty enclosure GEOS-L 4050 as replacement need	72104301

Empty enclosure cover special head screws set



Cover screws set with safety function for GEOS-L empty enclosure, 8mm triangular headform

Description	Order no.
GEOS-L DS/DK NEW for empty enclosure GEOS-L 3030/3040 as replacement need	72104401
GEOS-L 4050 DS/DK NEW for empty enclosure GEOS-L 4050 as replacement need	72104501



Industrial and Outdoor Enclosures GEOS

Fastening Material Accessories GEOS

External fixing lugs



Plastic external fixing lugs, possible mounting angle of 0°, 45° or 90°, black, set = 4 pcs.

Description	Order no.
GEOS ABL-10 Wall distance 10 mm	72002001
GEOS ABL-40 Wall distance 40 mm	72002101

Stainless steel external fixing lugs



External fixing lug set made of V4A stainless steel, mounting possible at an angle of 0° or 90°, set = 4 pieces

Description	Order no.
GEOS ABL-10/ES NEW Wall distance 10 mm	72007501
GEOS ABL-40/ES NEW Wall distance 40 mm	72007601

Mast clamp set



Mast clamp set made of hot-dip galvanized steel, set = 2 pieces

Description	Order no.
GEOS MSS-30 mounting on the 300mm enclosure side	72005001
GEOS MSS-40 mounting on the 400mm enclosure side	72005101
GEOS MSS-50 mounting on the 500mm enclosure side	72005201

Screw clamp set



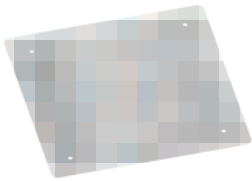
Screw clamp set made of stainless steel V2A, in conjunction with mast clamp set GEOS MSS, set = 2 pieces

Description	Order no.
SRS 60-90 for mast diameters from 60 to 90mm	72004001
SRS 90-150 for mast diameters from 90 to 150mm	72004101
SRS 150-210 for mast diameters from 150 to 210mm	72004201

Industrial and Outdoor Enclosures GEOS

Fastening Material Accessories GEOS

Design plate



Design plate made of V2A stainless steel, 1 piece

Description	Order no.
GEOS DP-3030 for covering the rear side of GEOS 3030 enclosure when using the GEOS MSS mast clamp set	72013001
GEOS DP-3040 for covering the rear side of GEOS 3040 enclosure when using the GEOS MSS mast clamp set	72013101
GEOS DP-4050 for covering the rear side of GEOS 4050 enclosure when using the GEOS MSS mast clamp set	72013201



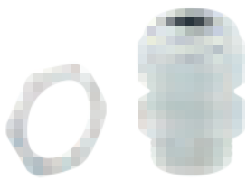
Ventilation element set



BEL Air ventilation element set, for preventing condensation build-up in enclosure, for vertical installation in enclosure walls and GFL combi flanges with corresponding knock-outs, at least two ventilation elements are required per enclosure

Description	Order no.
BEL Air M40 M40, set = 2 pcs., Air exchange rate: 30 l / day / set	26344001

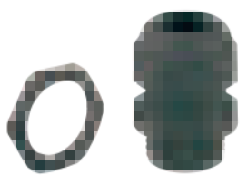
Cable gland, grey



Cable gland with strain relief, long thread, M_ x 1.5 mm, with lock nut, polyamide, grey

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12 LG-MGM	2 - 6.5	12	22941201
KVR M16 LG-MGM	4 - 10.0	12	22941601
KVR M20 LG-MGM	6 - 12.0	15	22942001
KVR M25 LG-MGM	9 - 16	15	22942501
KVR M32 LG-MGM	11 - 21.0	15	22943201
KVR M40 LG-MGM	16 - 28.0	18	22944001
KVR M50 LG-MGM	21 - 34.5	18	22945001

Cable gland, black



Cable gland with strain relief, long thread, M_ x 1.5 mm, with lock nut, polyamide, black

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12 LG-MGM/sw	2 - 6.5	12	22901201
KVR M16 LG-MGM/sw	4 - 10.0	12	22901601
KVR M20 LG-MGM/sw	6 - 12	15	22902001
KVR M25 LG-MGM/sw	9 - 16	15	22902501
KVR M32 LG-MGM/sw	11 - 21	15	22903201
KVR M40 LG-MGM/sw	16 - 28	18	22904001
KVR M50 LG-MGM/sw	21 - 34.5	18	22905001

Cable gland, grey



Cable gland with strain relief, Long thread, M_ x 1.5 mm, without lock nut, polyamide, grey

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12 LG	2 - 6.5	12	24841201
KVR M16 LG	4 - 10	12	24841601
KVR M20 LG	6 - 12	15	24842001
KVR M25 LG	9 - 16	15	24842501
KVR M32 LG	11 - 21	15	24843201
KVR M40 LG	16 - 28	18	24844001
KVR M50 LG	21 - 34.5	18	24845001
KVR M63	30 - 44.5	17	24746301

Industrial and Outdoor Enclosures GEOS

General Accessories GEOS

Locknut, polyamide, grey



Lock nut for metric twist nipple and cable glands, polyamide

Description	Order no.
GMU PA M12 Thread M12x1.5	20841201
GMU PA M16 Thread M16x1.5	20841601
GMU PA M20 Thread M20x1.5	20842001
GMU PA M25 Thread M25x1.5	20842501
GMU PA M32 Thread M32x1.5	20843201
GMU PA M40 Thread M40x1.5	20844001
GMU PA M50 Thread M50x1.5	20845001
GMU PA M63 Thread M63x1.5	20846301

AK3 KS M50



M50 combination cable gland for lateral connection of enclosures AK/AK-F 14/28/42/56/70 including Plus types as well as industrial and outdoor enclosures of the GEOS series

Description	Order no.
AK3 KS M50	73383001

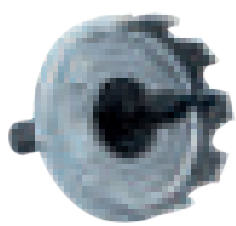
Hole cutter



Hole cutter

Description	Order no.
LFR through opening: M16-32, drill hole: 16.5-32.5 mm	19599501

Hole cutter



Hole cutter for hand and column drilling machines, high-quality industrial design with carbide cutting plates for high cutting performance, with centre drill (exchangeable) and ejector spring

Description	Order no.
LFR M40	19540001
LFR M50	19550001
LFR M63	19563001

Ambient conditions and mechanical properties of the GEOS enclosure system.

Enclosure empty			Enclosure with fittings						
Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Max. relative humidity at 40 °C	Max. relative humidity at 25 °C (short-term)	Protection rating according to DIN EN 60529 / VDE 0470-1[1)]	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
-35°C	80°C	60°C	-25°C	40°C	35°C	50%	95%	IP66/IP67	IK09

Additional note: The specified temperatures may be limited by the installed devices.

1) When used with suitable connectors or cable screw couplings.

Properties of the materials used in the GEOS enclosure systems.

Material	Use in the products:	Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzene	Mineral oil	Diesel	Ammonia, gaseous (DLG Focus Test)	Vegetable fats	Animal fats	Halogen-free	Free of heavy metals, PVC and silicone	Flammability according to DIN EN 60695 (VDE 0471) / UL94
Polycarbonate, glass-fibre reinforced	GEOS Enclosure	O	X	X	X	O	Ø	X	O	Ø	O	O	Ø	yes	yes	960°C / V-2 (5VA*)
Polycarbonate, transparent	GEOS Cover / Door transparent	O	X	X	X	Ø	Ø	X	O	Ø	O	O	O	yes	yes	850°C / V-2 (5VA*)
Polycarbonate, grey	GEOS Cover / Door grey	O	X	X	X	O	Ø	X	O	Ø	O	O	Ø	yes	yes	960°C / V-2 (5VA*)
Polyamide 6, glass fibre-reinforced	Screw fittings to IP 68, Cover screws	X	X	O	O	O	O	Ø	O	O	O	O	O	yes	yes	750°C / HB/V-2

O = resistant Ø = partially resistant X = not resistant

* 5 Inch (127 mm) Flame test according to UL 746 C (comparable with the requirements of UL 94, 5VA)

The materials used by Spelsberg were subjected to a weathering test according to DIN 53 387 (replaced by DIN EN ISO 4892-2), a 1000 hour test at the „State Examination Office" in Dortmund. The materials used in IQ products showed good result here. The material also passed the UV resistance test according to UL 746 C, without any limitations.

When selecting the installation location, the climatic conditions and the occurrence of chemical influences should generally be examined in addition to the protection rating. Details of material properties and chemical resistance of the materials can be seen from the table, though these are simply guide values.

Power loss details
for individually mounted GEOS enclosure

				ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
Type	Mounting	Inner dimensions	Enclosure height	[W]			
GEOS-L/-S 3030-18		290 x 290 x 152,5 mm	50%	8,5	20,2	33,4	47,7
			75%	6,9	16,4	27,2	38,9
GEOS-L/-S 3030-22		290 x 290 x 198,5 mm	50%	10,5	24,9	41,2	59,0
			75%	8,6	20,3	33,6	48,1
GEOS-L/-S 3040-18	Vertical	290 x 390 x 152,5 mm	50%	11,3	26,8	44,4	63,5
			75%	8,9	21,0	34,8	49,7
GEOS-L/-S 3040-22	Horizontal	290 x 390 x 198,5 mm	50%	12,9	30,6	50,7	72,6
			75%	10,1	24,0	39,7	56,8
GEOS-L 3040-18 GEOS-S 4030-18	Vertical	290 x 390 x 152,5 mm	50%	11,1	26,4	43,6	62,4
			75%	9,4	22,3	37,0	52,9
GEOS-L 3040-22 GEOS-S 4030-22	Vertical	290 x 390 x 198,5 mm	50%	12,7	30,0	49,8	71,2
			75%	10,8	25,5	42,2	60,3
GEOS-L/-S 4050-22	Horizontal	390 x 490 x 198,5 mm	50%	18,3	43,3	71,7	102,6
			75%	14,5	34,2	56,7	81,1
GEOS-L 4050-22 GEOS-S 5040-22	Vertical	390 x 490 x 198,5 mm	50%	18,0	42,7	70,8	101,2
			75%	15,2	35,9	59,5	85,1

Permissible power loss Pper in watts per DIN VDE 0660-507 for individually-mounted empty installations with stipulated ΔT.
Power loss at 50% of the enclosure height and [75%] of the enclosure height.

Basics

In general when selecting components, the manufacturer's specifications as to the product properties act only as a guide for the user. These properties should always be viewed in the context of the relevant installation requirements such as the installation regulations according to DIN VDE 0100-ff. Depending on the local circumstances, additional protective measures may have to be taken by the user.
The individual factors are described in greater detail below.

There are many influencing factors in outdoor installations



Protection against UV radiation

UV radiation can cause severe structural damage, even destruction, in a wide variety of plastics. Products made from the material polystyrene (PS) should therefore not be used outdoors.
Spelsberg developed the IQ series products for this installation scenario. Materials used in these products have high resistance against UV radiation. In weathering tests according to DIN 53-387 (replaced by DIN EN ISO 4892-2) these materials demonstrated good results. These materials passed the weathering tests according to UL 746 C also without any limitations.

Protection against high temperatures

Installed electrical appliances generate power loss during operation. The enclosures manufactured by Spelsberg are tested during the approval test for maximum power loss in the enclosure. Detailed tables on this topic are provided in the catalogue, taking into account the ambient temperature and type of installation.

Switchgear assemblies are designed for ambient temperatures of between -25 °C and +35 °C (24-hour average). A temporary increase in temperature to 40 °C is not a problem.

Even if, for example, iQ products from Spelsberg are suitable for temperatures of between -40 °C and +80 °C, the manufacturer's instructions and the requirements of the relevant product safety standards, such as line current, fault circuit breakers or fuses, should be checked when designing the enclosure.
Solar radiation or other heat sources can cause additional increases in the internal temperature which are not permitted and must therefore be avoided.

Reliable operation of electrical equipment will no longer be under certain circumstances.

According to DIN VDE 0100-520,522.1.2 cable and conductor systems, including accessories, may only be installed or moved under ambient temperatures which are within the limit values specified by the manufacturer or in the relevant product standard.



Protection against chemical influences

For installations in areas with increased levels of hazardous substances in the environment, the suitability may be correspondingly reduced. Information is available in the table „Material Characteristics". IQ products are resistant to mineral oil, vegetable fats and animal fats.

Outdoor Installation
Installation in the open - damp and wet areas and rooms

Protection against condensate water

The more tightly sealed the equipment, for example junction boxes or distribution boards, the bigger the likelihood of condensation forming. This is especially the case at locations, where highly fluctuating temperatures are expected. These effects are intensified by the power loss generated in the enclosures. Owing to the differences in temperature, a difference also arises in the pressure conditions, which causes the enclosure to draw in air when the temperature changes. The next time the temperature increases, the humidity in this air condenses on the cold surface of the enclosure, for example on the cover. This process is only reversible to a limited extent, so the water accumulates in the enclosure. Since this effect occurs regularly, even daily to an extent, a considerable volume of water may accumulate internally. If this enclosure has an increased protection rating, it will no longer discharge this water with the result that its seal actually has a negative impact. Thus, damage occurs.

According to DIN VDE 0100-520, precautions must be taken with respect to drainage of water if water accumulates or condensation can occur within cable and conductor systems. Spelsberg junction boxes in the various product groups have break-out condensation openings on the rear of the enclosure or mounting surfaces. These should be opened in such a way that in the installed state they are on the bottom side of the enclosure and have a wall clearance of 2 mm, so that any condensation may drain off. This only applies under the condition that no increased demands are imposed with respect to protection against accidental contact or foreign bodies (> IP2X or dust protection).

If requirements for contact protection or foreign body protection are also imposed on the enclosure, for example IP3X, we recommend use of Spelsberg ventilation seals. These seals come in the size M20, are fitted in the corresponding cable inlet openings on the bottom side and the side surfaces and offer splash water protection up to IPX4 when properly installed. We recommend an installation that allows the so-called „chimney effect".



AK Air and BEL Air ventilation elements

The Air ventilation element prevents condensate water, while maintaining the high IP65 protection rating.
Any condensate occurring is transported out of the enclosure immediately via air exchange. The continuous and high rate of air exchange allows the interior air to mix constantly with the environmental air and transports the moisture outwards. Air exchange also takes place in environments with almost constant air humidity and temperature, as the air in the interior of the enclosure heats up, e.g. due to the components.

Recommendation: At least one complete air exchange is provided per day via the BEL Air. With one set, this is achieved with an enclosure volume of up to 35 dm³. All enclosure parts, such as the seals, are permanently relieved of pressure through the constant pressure equalisation. The high air exchange rate guarantees a permanent exchange of the moist air with the surroundings. No appreciable pressure differences are required for this. However, with the pressure equalisation elements it is exactly these appreciable pressure differences that are required, at least temporarily, in order to achieve an air exchange. The Air ventilation elements therefore have a very large, open filter surface that guarantees a high air exchange without influencing the air flow. The constant pressure equalisation prevents pressure differences, thus ensuring that no mechanical forces can be exerted on the enclosure and seals.

DIN EN 61439-1

Section 8.2.2 of DIN EN 61439-1 concerns the protection against contact with live parts and the prevention of penetration of solid foreign objects and water. In addition, it is stated that closed switchgear assemblies must be protected from condensate inside the enclosure, without changing the type of protection.

Protection against plants and/or mould growth

The plastics used in electrical installation are organic materials. The risk of harm from plants, algae or mould must therefore be considered. According to DIN VDE 0100-520, 522.9.1, if experience or empirical evidence shows that plants and/or mould growth can cause damage, the cable and conductor system must be selected accordingly or special protective measures must be provided. Comment: A cable laying method that allows appropriate removal of such vegetation should be selected.

Notes for outdoor installation

The information on the type of protection and UV-resistance are often considered the only important aspects for outdoor installations. The protection rating tests carried out according to DIN EN 60529 are used as comparative tests and for classification of properties. The tests are limited to a few minutes and cannot emulate exposure to rain / snow or cleaning with water jets. In addition, the local conditions may differ so greatly that a general exposure test cannot be defined. However, in outdoor installations, other factors such as absolute temperature, frequency of temperature change, air humidity and chemical influences in particular play an important role. In addition to impairments through UV-effects, in outdoor installations damage is expected to arise predominantly as a result of chemical influences. So, the outside areas in the vicinity of filling stations, chemical facilities, landfill sites, compressors, sewerage treatment plants etc. should be subjected to particularly critical investigations beforehand. To increase the service life of the enclosure, it is advantageous to install the enclosure in an area that is protected from weather influences.

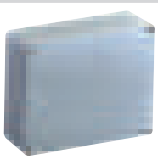




The empty enclosures from Spelsberg offer a wide variety of housing sizes and materials. However, should you not find exactly what you are looking for among the many variations of standard products, we would be pleased to design a product with you that is tailored precisely to your needs. Take advantage of the space available for this customisation.

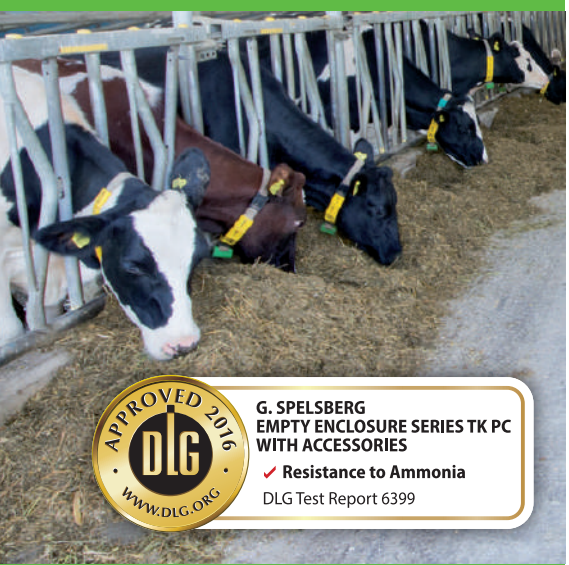
Industrial Enclosures

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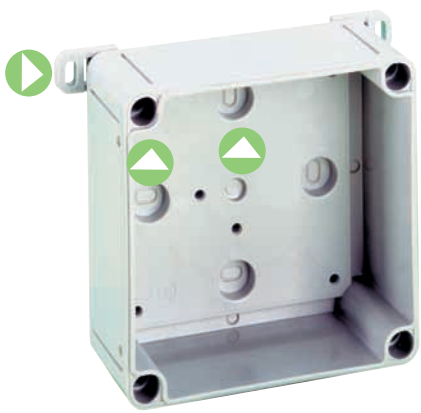
Empty Enclosures
TK PC

- Ammonia resistance
- Resistance against stable air for minimum 20 years





- 15 basic enclosures with up to three different cover heights
- Grey or transparent covers
- Plastic: choice of polystyrene (TK PS) or glass-fibre-reinforced polycarbonate (TK PC)
- Side walls smooth or with metric knockouts
- Modular tools: Economical customisation



Individual choice of mounting

IP66 IK07 690V AC 1000V DC halogen-free

IP66 IK08 690V AC 1000V DC cULus halogen-free iQ





Example of TK designation scheme

Material
PS= Polystyrene
PC= Polycarbonate

approx. **height** in cm

Cover material
t= transparent
Standard= grey

PS 1309-8-tm

approx. **length x width** in cm

m = metric knockouts
o = without knockouts
v = with moulded cable gland

Industrial Enclosures TK PS | TK PC

TK 55

TK PC 55

52 x 50 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 55-4-m	grey	metric	35	12745501
TK PC 55-4-o	grey	none	35	12045501
TK PC 55-4-to	transparent	none	35	13045501
TK PC 55-4-tm	transparent	metric	35	13745501

TK PC 55 with cable gland

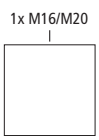
52 x 50 mm



Empty enclosure IP66 polycarbonate, with integrated cable gland (KVR), sealing area 5 - 10 mm

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 55-4-v	grey	1x KVR	35	12945501
TK PC 55-4-tv	transparent	1x KVR	35	13945501

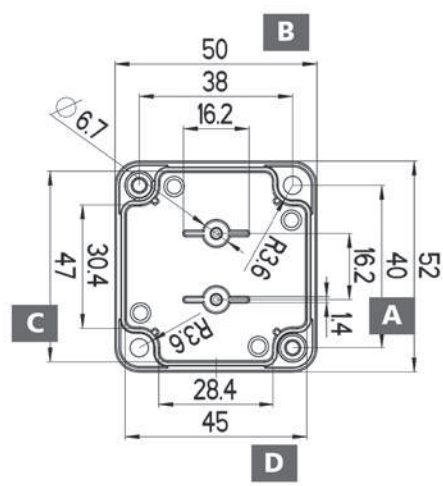
With knockouts

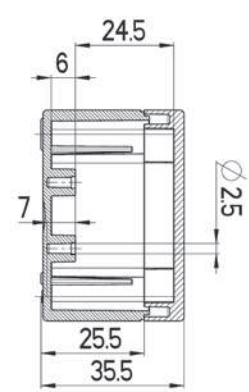


Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	1	1	-	-	-	-	-
B/D	1	1	-	-	-	-	-





Industrial Enclosures TK PS | TK PC

TK 75

TK PC 75 — 65 x 50 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 75-4-m	grey	metric	35	12747501
TK PC 75-4-o	grey	none	35	12047501
TK PC 75-4-to	transparent	none	35	13047501
TK PC 75-4-tm	transparent	metric	35	13747501

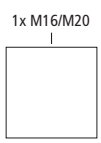
TK PC 75 with cable glands — 65 x 50 mm



Empty enclosure IP66 polycarbonate, with integrated cable glands (KVR), sealing area 5 - 10 mm

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 75-4-v	grey	1x KVR	35	12947501
TK PC 75-4-tv	transparent	1x KVR	35	13947501
TK PC 75-4-2v	grey	2x KVR	35	12847501
TK PC 75-4-2tv	transparent	2x KVR	35	13847501

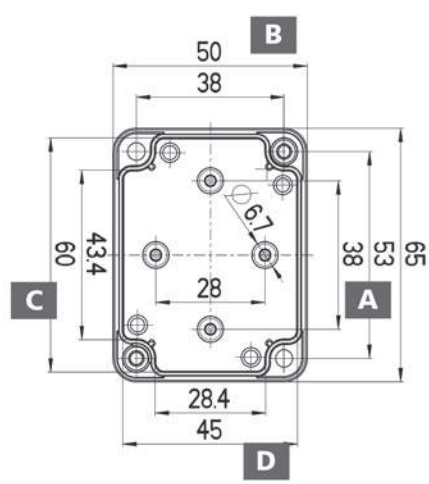
With knockouts

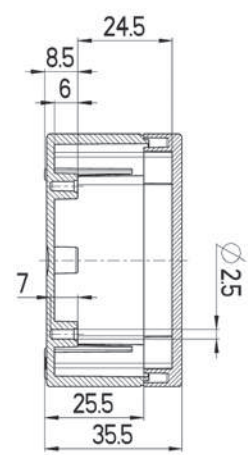


Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	2	1	-	-	-	-	-
B/D	1	1	-	-	-	-	-

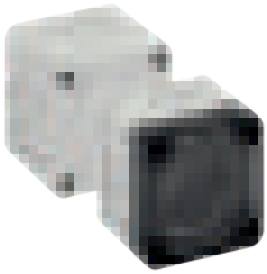




Industrial Enclosures TK PS | TK PC

TK 77

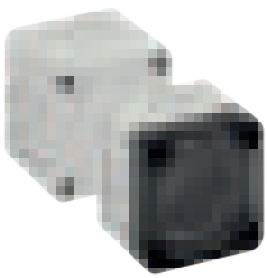
TK PS 77 — 65 x 65 mm



Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 77-6-m	grey	metric	57	10540101
TK PS 77-8-m	grey	metric	81	10590101
TK PS 77-6-o	grey	none	57	11040101
TK PS 77-8-o	grey	none	81	11090101
TK PS 77-6-tm	transparent	metric	57	10600101
TK PS 77-8-tm	transparent	metric	81	10650101
TK PS 77-6-to	transparent	none	57	11100101
TK PS 77-8-to	transparent	none	81	11150101

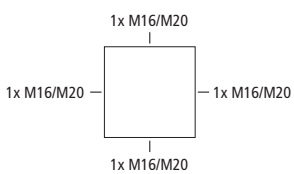
TK PC 77 — 65 x 65 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 77-6-m	grey	metric	57	12740101
TK PC 77-8-m	grey	metric	81	12790101
TK PC 77-6-tm	transparent	metric	57	13700101
TK PC 77-8-tm	transparent	metric	81	13750101

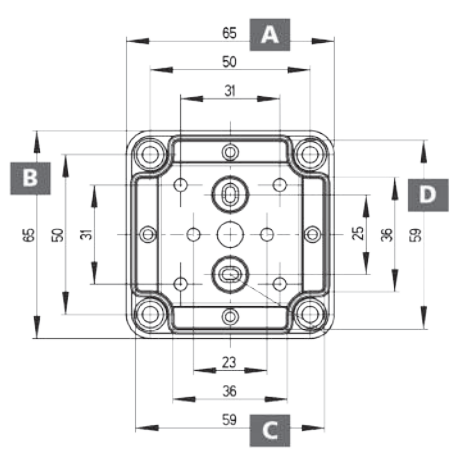
With knockouts

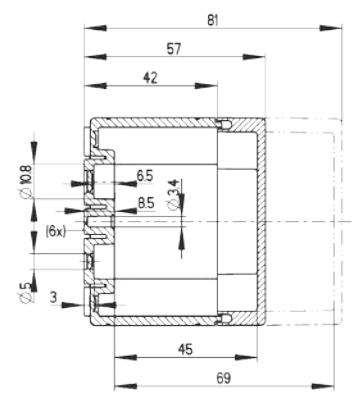


Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	2	1	1	-	-	-	-
B/D	2	1	1	-	-	-	-



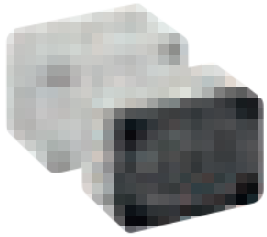


Industrial Enclosures TK PS | TK PC

TK 97

TK PS 97

94 x 65 mm

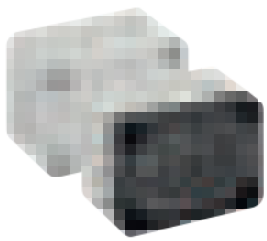


Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 97-6-m	grey	metric	57	10540201
TK PS 97-8-m	grey	metric	81	10590201
TK PS 97-6-o	grey	none	57	11040201
TK PS 97-8-o	grey	none	81	11090201
TK PS 97-6-tm	transparent	metric	57	10600201
TK PS 97-8-tm	transparent	metric	81	10650201
TK PS 97-6-to	transparent	none	57	11100201
TK PS 97-8-to	transparent	none	81	11150201

TK PC 97

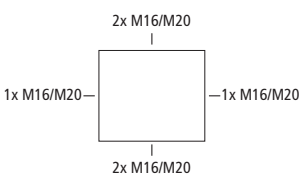
94 x 65 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 97-6-m	grey	metric	57	12740201
TK PC 97-8-m	grey	metric	81	12790201
TK PC 97-6-tm	transparent	metric	57	13700201
TK PC 97-8-tm	transparent	metric	81	13750201

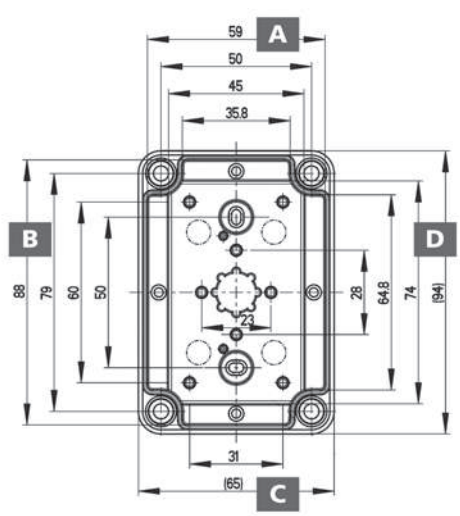
With knockouts

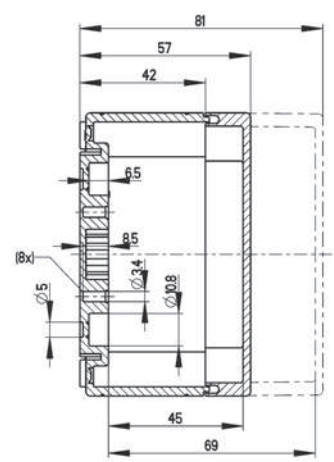


Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	2	1	1	1	-	-	-
B/D	3	2	2	1	-	-	-



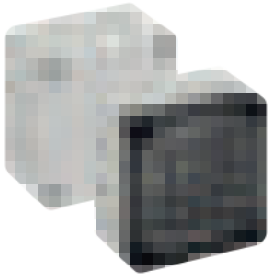


Industrial Enclosures TK PS | TK PC

TK 99

TK PS 99

94 x 94 mm

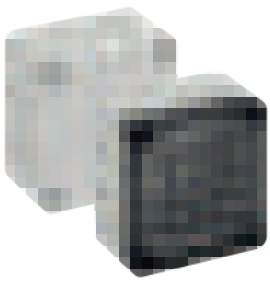


Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 99-6-m	grey	metric	57	10540301
TK PS 99-8-m	grey	metric	81	10590301
TK PS 99-6-o	grey	none	57	11040301
TK PS 99-8-o	grey	none	81	11090301
TK PS 99-6-tm	transparent	metric	57	10600301
TK PS 99-8-tm	transparent	metric	81	10650301
TK PS 99-6-to	transparent	none	57	11100301
TK PS 99-8-to	transparent	none	81	11150301

TK PC 99

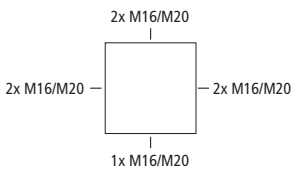
94 x 94 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 99-6-m	grey	metric	57	12740301
TK PC 99-8-m	grey	metric	81	12790301
TK PC 99-6-tm	transparent	metric	57	13700301
TK PC 99-8-tm	transparent	metric	81	13750301

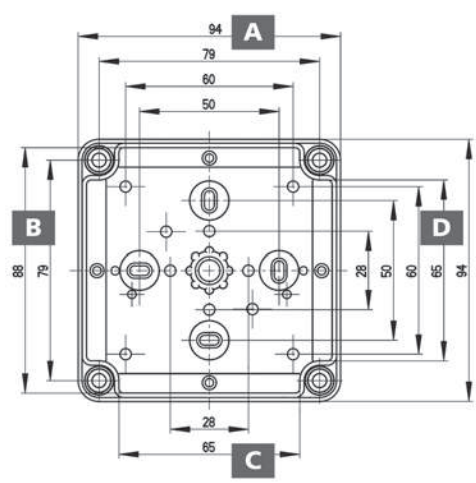
With knockouts

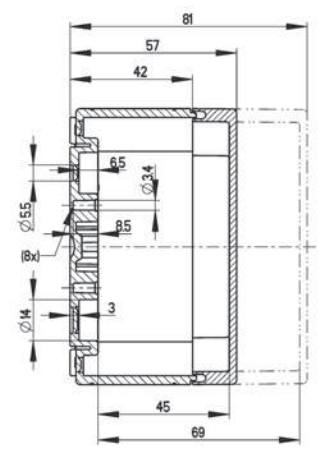


Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	3	2	2	-	-	-	-
B/D	3	2	2	-	-	-	-

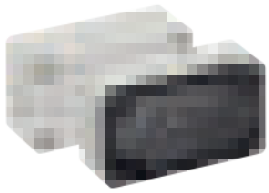




Industrial Enclosures TK PS | TK PC

TK 1005

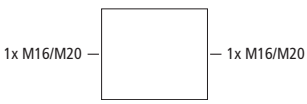
TK PC 1005 — 100 x 52 mm



Empty enclosure IP66 polycarbonate

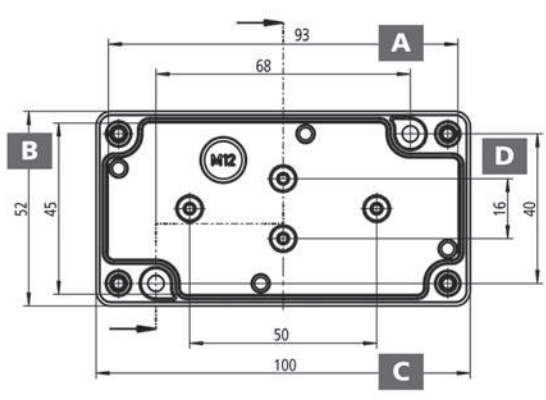
Description	Cover	Knockouts	Height/mm	Order no.
TK PC 1005-4-m	grey	metric	37	12748001
TK PC 1005-4-o	grey	none	37	12048001
TK PC 1005-4-to	transparent	none	37	13048001
TK PC 1005-4-tm	transparent	metric	37	13748001

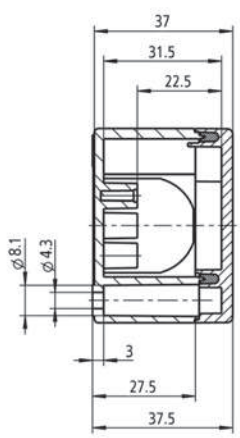
With knockouts



Without knockouts
Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	2	2	-	-	-	-	-
B/D	1	1	-	-	-	-	-



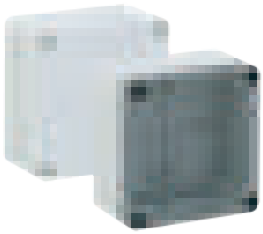


Industrial Enclosures TK PS | TK PC

TK 1111

TK PS 1111

110 x 110 mm

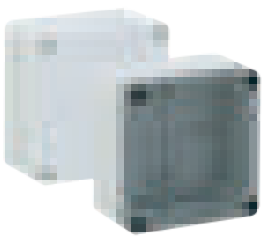


Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 1111-7-m	grey	metric	66	10540401
TK PS 1111-9-m	grey	metric	90	10590401
TK PS 1111-7-o	grey	none	66	11040401
TK PS 1111-9-o	grey	none	90	11090401
TK PS 1111-7-tm	transparent	metric	66	10600401
TK PS 1111-9-tm	transparent	metric	90	10650401
TK PS 1111-7-to	transparent	none	66	11100401
TK PS 1111-9-to	transparent	none	90	11150401

TK PC 1111

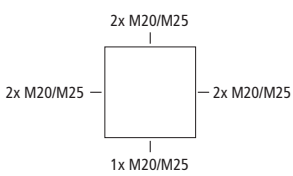
110 x 110 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 1111-7-m	grey	metric	66	12740401
TK PC 1111-9-m	grey	metric	90	12790401
TK PC 1111-7-tm	transparent	metric	66	13700401
TK PC 1111-9-tm	transparent	metric	90	13750401

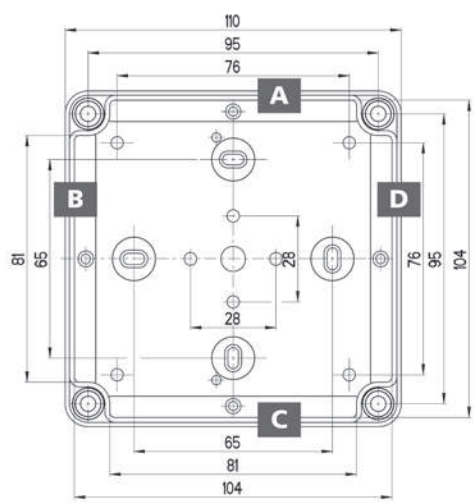
With knockouts

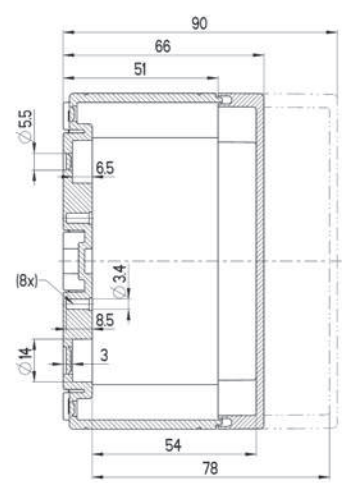


Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	8	4	2	2	-	-	-
B/D	8	4	2	2	-	-	-

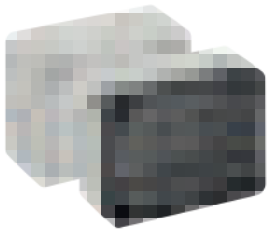




Industrial Enclosures TK PS | TK PC

TK 1309

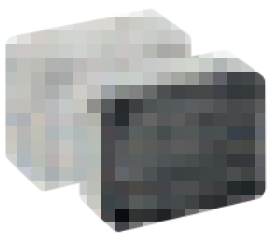
TK PS 1309 — 130 x 94 mm



Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 1309-6-m	grey	metric	57	10540901
TK PS 1309-8-m	grey	metric	81	10590901
TK PS 1309-6-o	grey	none	57	11040901
TK PS 1309-8-o	grey	none	81	11090901
TK PS 1309-6-tm	transparent	metric	57	10600901
TK PS 1309-8-tm	transparent	metric	81	10650901
TK PS 1309-6-to	transparent	none	57	11100901
TK PS 1309-8-to	transparent	none	81	11150901

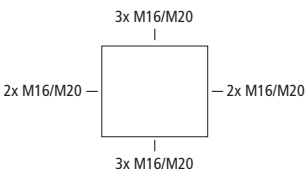
TK PC 1309 — 130 x 94 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 1309-6-m	grey	metric	57	12740901
TK PC 1309-8-m	grey	metric	81	12790901
TK PC 1309-6-tm	transparent	metric	57	13700901
TK PC 1309-8-tm	transparent	metric	81	13750901

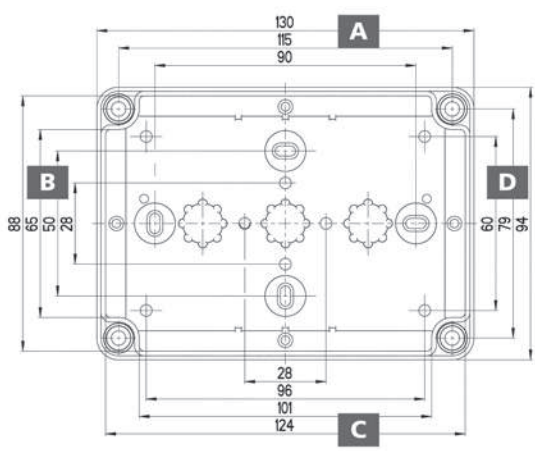
With knockouts

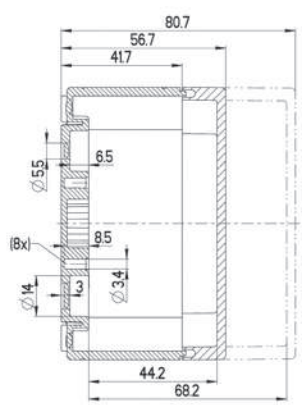


Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	5	4	3	2	-	-	-
B/D	3	2	2	1	-	-	-



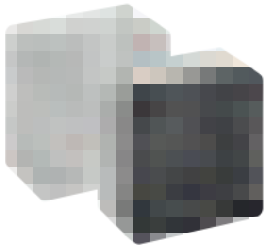


Industrial Enclosures TK PS | TK PC

TK 1313

TK PS 1313

130 x 130 mm

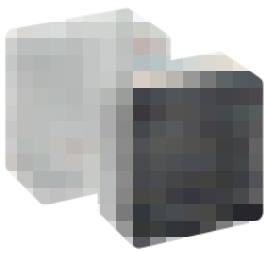


Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 1313-7-m	grey	metric	75	10540501
TK PS 1313-10-m	grey	metric	99	10590501
TK PS 1313-7-o	grey	none	75	11040501
TK PS 1313-10-o	grey	none	99	11090501
TK PS 1313-7-tm	transparent	metric	75	10600501
TK PS 1313-10-tm	transparent	metric	99	10650501
TK PS 1313-7-to	transparent	none	75	11100501
TK PS 1313-10-to	transparent	none	99	11150501

TK PC 1313

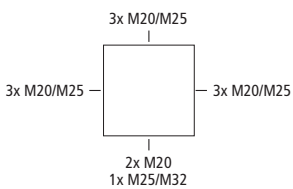
130 x 130 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 1313-7-m	grey	metric	75	12740501
TK PC 1313-10-m	grey	metric	99	12790501
TK PC 1313-7-tm	transparent	metric	75	13700501
TK PC 1313-10-tm	transparent	metric	99	13750501

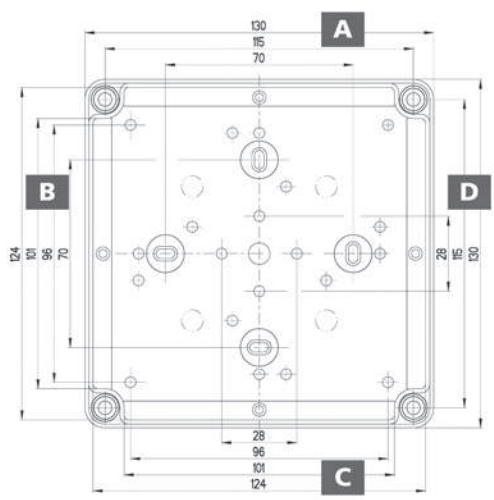
With knockouts

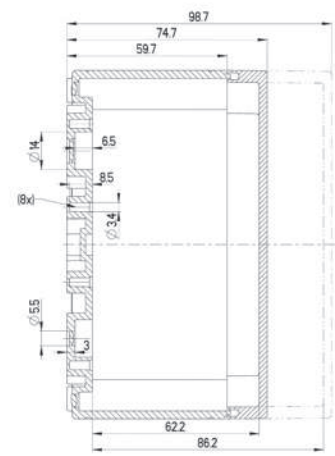


Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	10	6	3	3	2	-	-
B/D	10	6	3	3	2	-	-



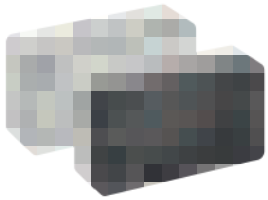


Industrial Enclosures TK PS | TK PC

TK 1809

TK PS 1809

180 x 94 mm

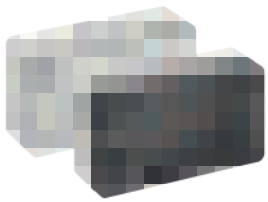


Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 1809-6-m	grey	metric	57	10541001
TK PS 1809-8-m	grey	metric	81	10591001
TK PS 1809-6-o	grey	none	57	11041001
TK PS 1809-8-o	grey	none	81	11091001
TK PS 1809-6-tm	transparent	metric	57	10601001
TK PS 1809-8-tm	transparent	metric	81	10651001
TK PS 1809-6-to	transparent	none	57	11101001
TK PS 1809-8-to	transparent	none	81	11151001

TK PC 1809

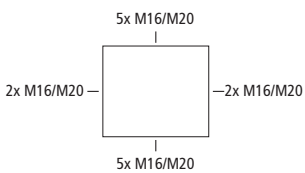
180 x 94 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 1809-6-m	grey	metric	57	12741001
TK PC 1809-8-m	grey	metric	81	12791001
TK PC 1809-6-tm	transparent	metric	57	13701001
TK PC 1809-8-tm	transparent	metric	81	13751001

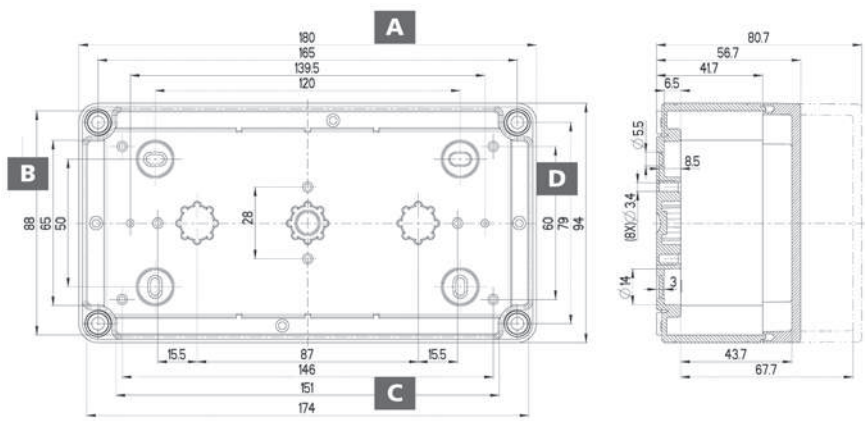
With knockouts



Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	8	6	5	4	-	-	-
B/D	3	2	2	1	-	-	-

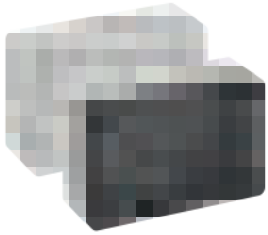


Industrial Enclosures TK PS | TK PC

TK 1811 Flat

TK PS 1811 flat

180 x 110 mm

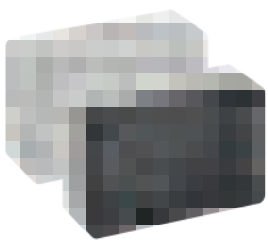


Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 1811-6f-m	grey	metric	63	10541401
TK PS 1811-8f-m	grey	metric	84	10591401
TK PS 1811-13f-m	grey	metric	137	10441401
TK PS 1811-6f-o	grey	none	63	11041401
TK PS 1811-8f-o	grey	none	84	11091401
TK PS 1811-13f-o	grey	none	137	10941401
TK PS 1811-6f-tm	transparent	metric	63	10601401
TK PS 1811-8f-tm	transparent	metric	84	10651401
TK PS 1811-13f-tm	transparent	metric	137	10701401
TK PS 1811-6f-to	transparent	none	63	11101401
TK PS 1811-8f-to	transparent	none	84	11151401
TK PS 1811-13f-to	transparent	none	137	11201401

TK PC 1811 flat

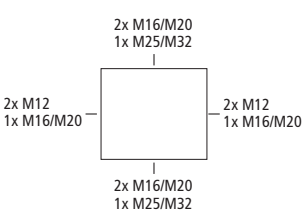
180 x 110 mm

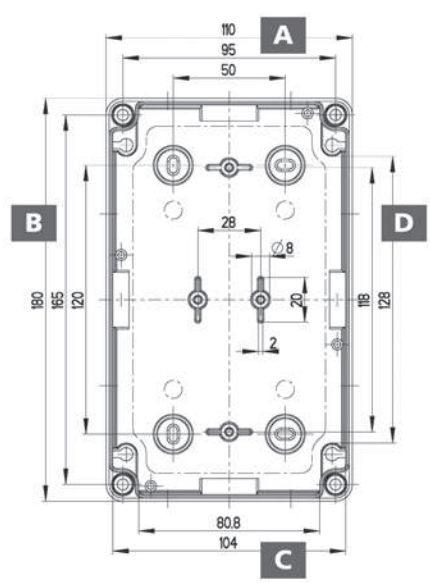


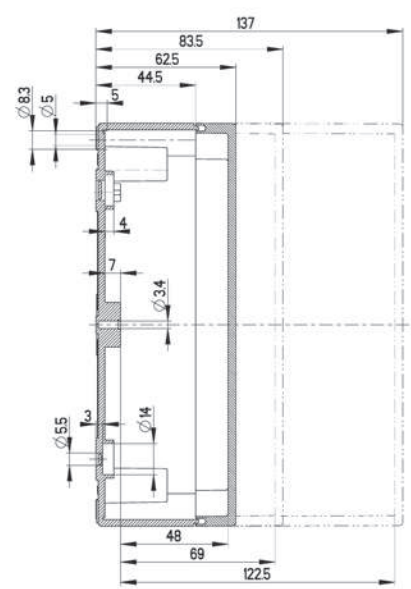
Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 1811-6f-m	grey	metric	63	12741401
TK PC 1811-8f-m	grey	metric	84	12791401
TK PC 1811-13f-m	grey	metric	137	12841401
TK PC 1811-6f-tm	transparent	metric	63	13701401
TK PC 1811-8f-tm	transparent	metric	84	13751401
TK PC 1811-13f-tm	transparent	metric	137	13801401

With knockouts







Without knockouts

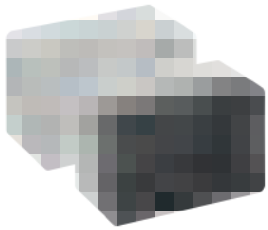
Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	4	3	2	2	1	-	-
B/D	8	4	4	3	2	-	-

Industrial Enclosures TK PS | TK PC

TK 1811

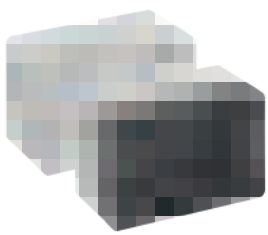
TK PS 1811 — 180 x 110 mm



Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 1811-9-m	grey	metric	90	10540601
TK PS 1811-11-m	grey	metric	111	10590601
TK PS 1811-16-m	grey	metric	165	10440601
TK PS 1811-9-o	grey	none	90	11040601
TK PS 1811-11-o	grey	none	111	11090601
TK PS 1811-16-o	grey	none	165	10940601
TK PS 1811-9-tm	transparent	metric	90	10600601
TK PS 1811-11-tm	transparent	metric	111	10650601
TK PS 1811-16-tm	transparent	metric	165	10700601
TK PS 1811-9-to	transparent	none	90	11100601
TK PS 1811-11-to	transparent	none	111	11150601
TK PS 1811-16-to	transparent	none	165	11200601

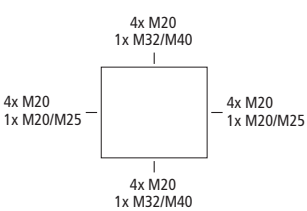
TK PC 1811 — 180 x 110 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 1811-9-m	grey	metric	90	12740601
TK PC 1811-11-m	grey	metric	111	12790601
TK PC 1811-16-m	grey	metric	165	12840601
TK PC 1811-9-tm	transparent	metric	90	13700601
TK PC 1811-11-tm	transparent	metric	111	13750601
TK PC 1811-16-tm	transparent	metric	165	13800601

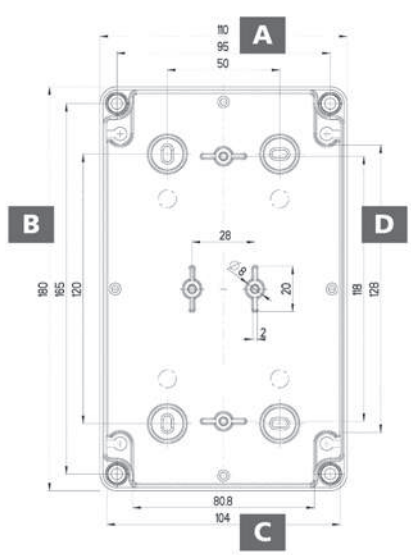
With knockouts



Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	12	6	5	3	1	1	1
B/D	20	10	8	5	3	2	1

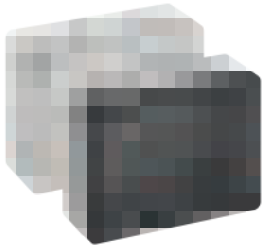


Industrial Enclosures TK PS | TK PC

TK 1813 Flat

TK PS 1813 flat

180 x 130 mm

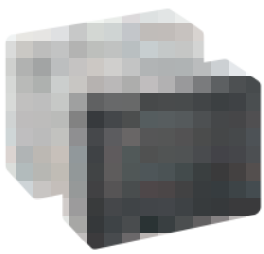


Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 1813-6f-m	grey	metric	63	10541501
TK PS 1813-8f-m	grey	metric	84	10591501
TK PS 1813-13f-m	grey	metric	137	10441501
TK PS 1813-6f-o	grey	none	63	11041501
TK PS 1813-8f-o	grey	none	84	11091501
TK PS 1813-13f-o	grey	none	137	10941501
TK PS 1813-6f-tm	transparent	metric	63	10601501
TK PS 1813-8f-tm	transparent	metric	84	10651501
TK PS 1813-13f-tm	transparent	metric	137	10701501
TK PS 1813-6f-to	transparent	none	63	11101501
TK PS 1813-8f-to	transparent	none	84	11151501
TK PS 1813-13f-to	transparent	none	137	11201501

TK PC 1813 flat

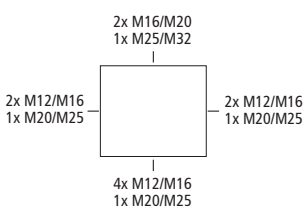
180 x 130 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 1813-6f-m	grey	metric	63	12741501
TK PC 1813-8f-m	grey	metric	84	12791501
TK PC 1813-13f-m	grey	metric	137	12841501
TK PC 1813-6f-tm	transparent	metric	63	13701501
TK PC 1813-8f-tm	transparent	metric	84	13751501
TK PC 1813-13f-tm	transparent	metric	137	13801501

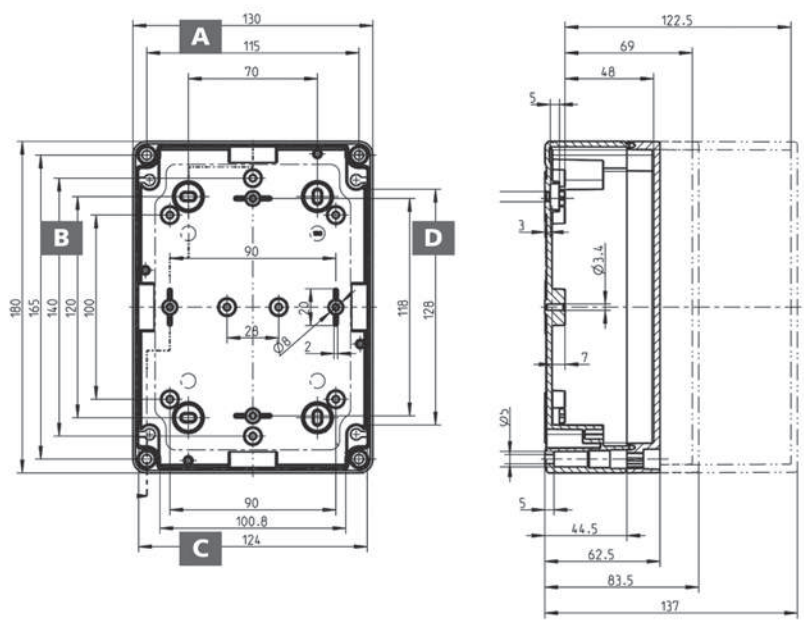
With knockouts



Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	10	4	3	2	1	-	-
B/D	12	5	4	4	1	-	-

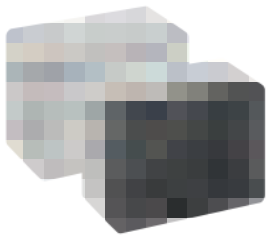


Industrial Enclosures TK PS | TK PC

TK 1813

TK PS 1813

180 x 130 mm

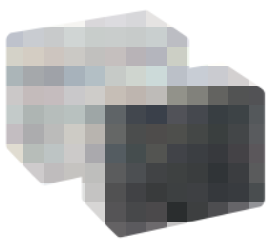


Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 1813-9-m	grey	metric	90	10541601
TK PS 1813-16-o	grey	none	165	10941601
TK PS 1813-11-o	grey	none	111	11091601
TK PS 1813-9-o	grey	none	90	11041601
TK PS 1813-16-m	grey	metric	165	10441601
TK PS 1813-11-m	grey	metric	111	10591601
TK PS 1813-9-tm	transparent	metric	90	10601601
TK PS 1813-11-tm	transparent	metric	111	10651601
TK PS 1813-16-tm	transparent	metric	165	10701601
TK PS 1813-9-to	transparent	none	90	11101601
TK PS 1813-11-to	transparent	none	111	11151601
TK PS 1813-16-to	transparent	none	165	11201601

TK PC 1813

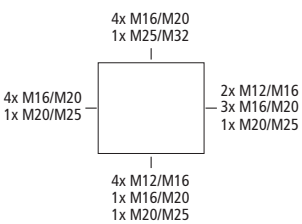
180 x 130 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 1813-9-m	grey	metric	90	12741601
TK PC 1813-16-m	grey	metric	165	12841601
TK PC 1813-11-m	grey	metric	111	12791601
TK PC 1813-9-tm	transparent	metric	90	13701601
TK PC 1813-11-tm	transparent	metric	111	13751601
TK PC 1813-16-tm	transparent	metric	165	13801601

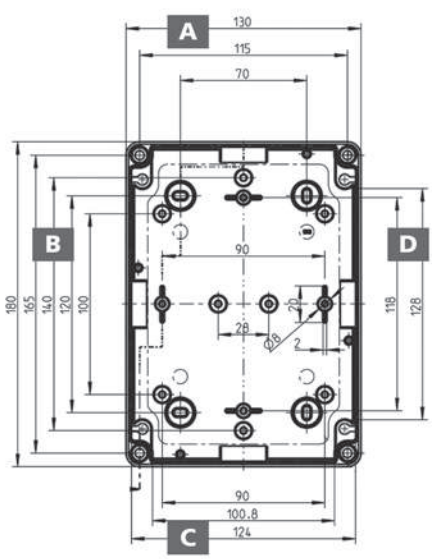
With knockouts

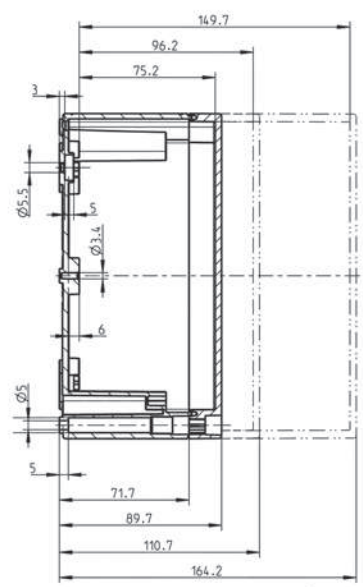


Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	15	8	6	3	2	1	1
B/D	20	10	8	5	3	2	1



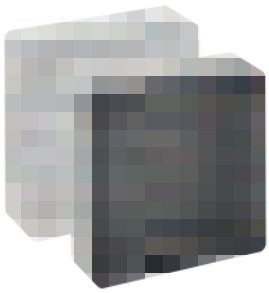


Industrial Enclosures TK PS | TK PC

TK 1818 Flat

TK PS 1818 flat

182 x 180 mm



Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 1818-6f-m	grey	metric	63	10541301
TK PS 1818-8f-m	grey	metric	84	10591301
TK PS 1818-13f-m	grey	metric	137	10441301
TK PS 1818-6f-o	grey	none	63	11041301
TK PS 1818-8f-o	grey	none	84	11091301
TK PS 1818-13f-o	grey	none	137	10941301
TK PS 1818-6f-tm	transparent	metric	63	10601301
TK PS 1818-8f-tm	transparent	metric	84	10651301
TK PS 1818-13f-tm	transparent	metric	137	10701301
TK PS 1818-6f-to	transparent	none	63	11101301
TK PS 1818-8f-to	transparent	none	84	11151301
TK PS 1818-13f-to	transparent	none	137	11201301

TK PC 1818 flat

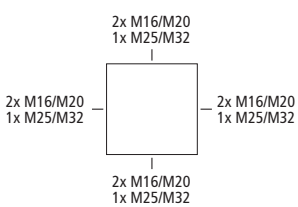
182 x 180 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 1818-6f-m	grey	metric	63	12741301
TK PC 1818-8f-m	grey	metric	84	12791301
TK PC 1818-13f-m	grey	metric	137	12841301
TK PC 1818-6f-tm	transparent	metric	63	13701301
TK PC 1818-8f-tm	transparent	metric	84	13751301
TK PC 1818-13f-tm	transparent	metric	137	13801301

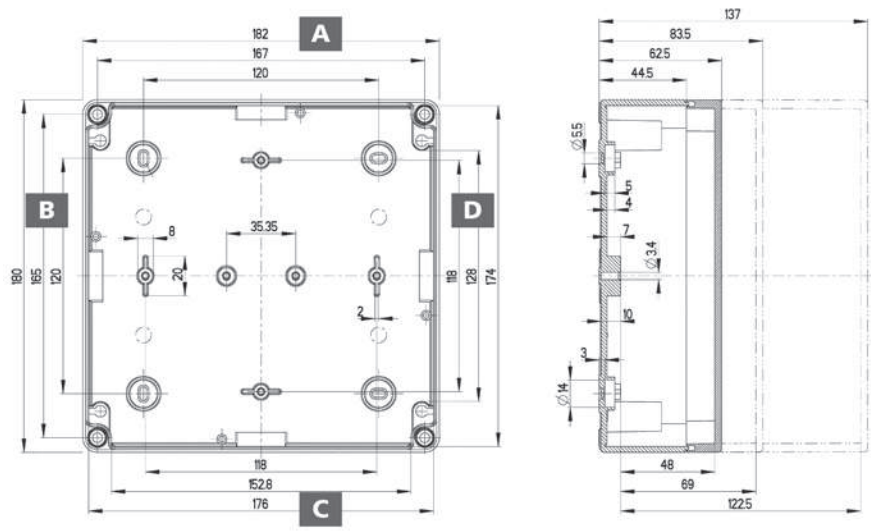
With knockouts



Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	12	6	4	3	1	-	-
B/D	12	6	4	3	1	-	-

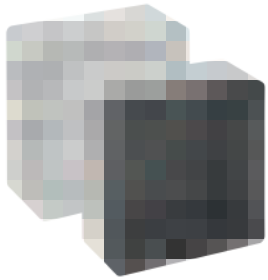


Industrial Enclosures TK PS | TK PC

TK 1818

TK PS 1818

182 x 180 mm

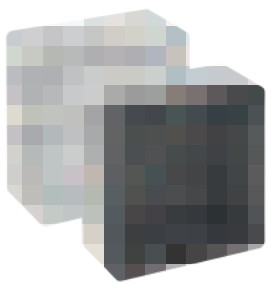


Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 1818-9-m	grey	metric	90	10540701
TK PS 1818-11-m	grey	metric	111	10590701
TK PS 1818-16-m	grey	metric	165	10440701
TK PS 1818-9-o	grey	none	90	11040701
TK PS 1818-11-o	grey	none	111	11090701
TK PS 1818-16-o	grey	none	165	10940701
TK PS 1818-9-tm	transparent	metric	90	10600701
TK PS 1818-11-tm	transparent	metric	111	10650701
TK PS 1818-16-tm	transparent	metric	165	10700701
TK PS 1818-9-to	transparent	none	90	11100701
TK PS 1818-11-to	transparent	none	111	11150701
TK PS 1818-16-to	transparent	none	165	11200701

TK PC 1818

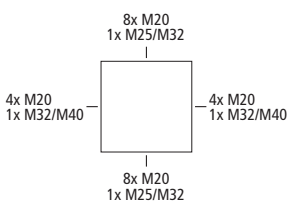
182 x 180 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 1818-9-m	grey	metric	90	12740701
TK PC 1818-11-m	grey	metric	111	12790701
TK PC 1818-16-m	grey	metric	165	12840701
TK PC 1818-9-tm	transparent	metric	90	13700701
TK PC 1818-11-tm	transparent	metric	111	13750701
TK PC 1818-16-tm	transparent	metric	165	13800701

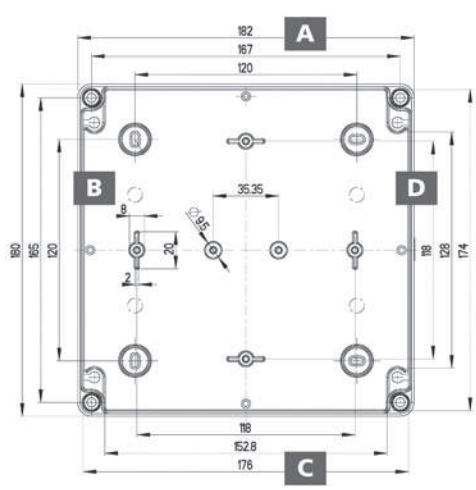
With knockouts

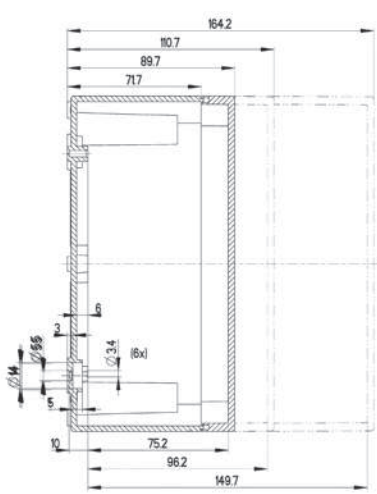


Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	23	12	10	5	3	3	2
B/D	20	10	8	5	3	2	1

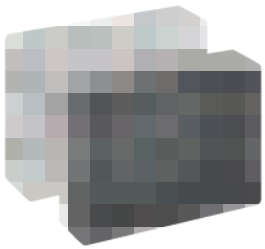




Industrial Enclosures TK PS | TK PC

TK 2518 Flat

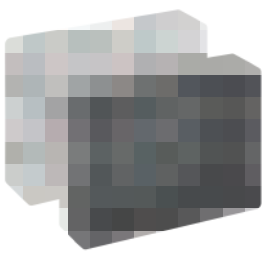
TK PS 2518 flat — 254 x 180 mm



Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 2518-6f-m	grey	metric	63	10541101
TK PS 2518-8f-m	grey	metric	84	10591101
TK PS 2518-13f-m	grey	metric	137	10441101
TK PS 2518-6f-o	grey	none	63	11041101
TK PS 2518-8f-o	grey	none	84	11091101
TK PS 2518-13f-o	grey	none	137	10941101
TK PS 2518-6f-tm	transparent	metric	63	10601101
TK PS 2518-8f-tm	transparent	metric	84	10651101
TK PS 2518-13f-tm	transparent	metric	137	10701101
TK PS 2518-6f-to	transparent	none	63	11101101
TK PS 2518-8f-to	transparent	none	84	11151101
TK PS 2518-13f-to	transparent	none	137	11201101

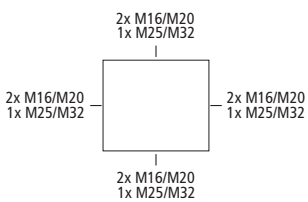
TK PC 2518 flat — 254 x 180 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 2518-6f-m	grey	metric	63	12741101
TK PC 2518-8f-m	grey	metric	84	12791101
TK PC 2518-13f-m	grey	metric	137	12841101
TK PC 2518-6f-tm	transparent	metric	63	13701101
TK PC 2518-8f-tm	transparent	metric	84	13751101
TK PC 2518-13f-tm	transparent	metric	137	13801101

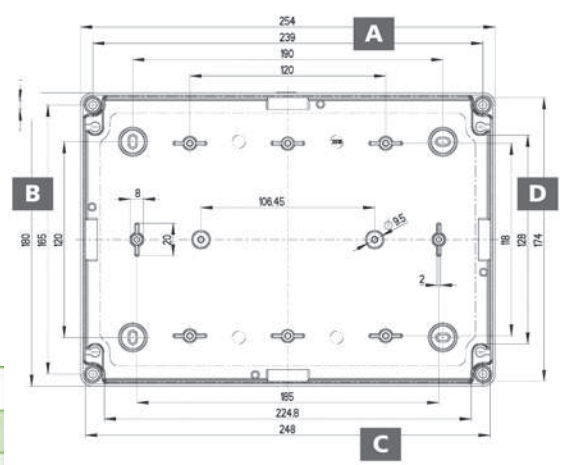
With knockouts

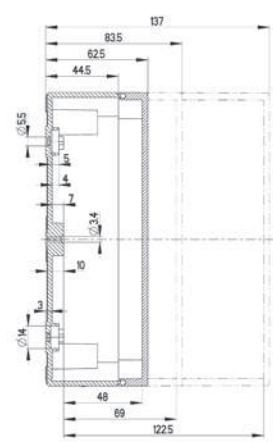


Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	22	10	7	6	1	-	-
B/D	12	5	4	3	1	-	-



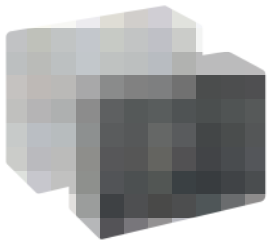


Industrial Enclosures TK PS | TK PC

TK 2518

TK PS 2518

254 x 180 mm

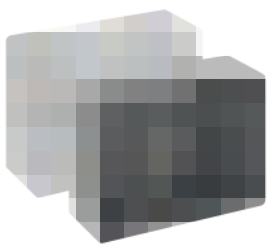


Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 2518-9-m	grey	metric	90	10540801
TK PS 2518-11-m	grey	metric	111	10590801
TK PS 2518-16-m	grey	metric	165	10440801
TK PS 2518-9-o	grey	none	90	11040801
TK PS 2518-11-o	grey	none	111	11090801
TK PS 2518-16-o	grey	none	165	10940801
TK PS 2518-9-tm	transparent	metric	90	10600801
TK PS 2518-11-tm	transparent	metric	111	10650801
TK PS 2518-16-tm	transparent	metric	165	10700801
TK PS 2518-9-to	transparent	none	90	11100801
TK PS 2518-11-to	transparent	none	111	11150801
TK PS 2518-16-to	transparent	none	165	11200801

TK PC 2518

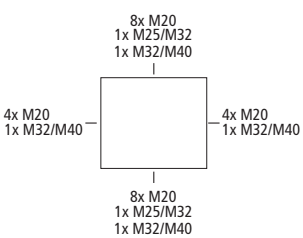
254 x 180 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 2518-9-m	grey	metric	90	12740801
TK PC 2518-11-m	grey	metric	111	12790801
TK PC 2518-16-m	grey	metric	165	12840801
TK PC 2518-9-tm	transparent	metric	90	13700801
TK PC 2518-11-tm	transparent	metric	111	13750801
TK PC 2518-16-tm	transparent	metric	165	13800801

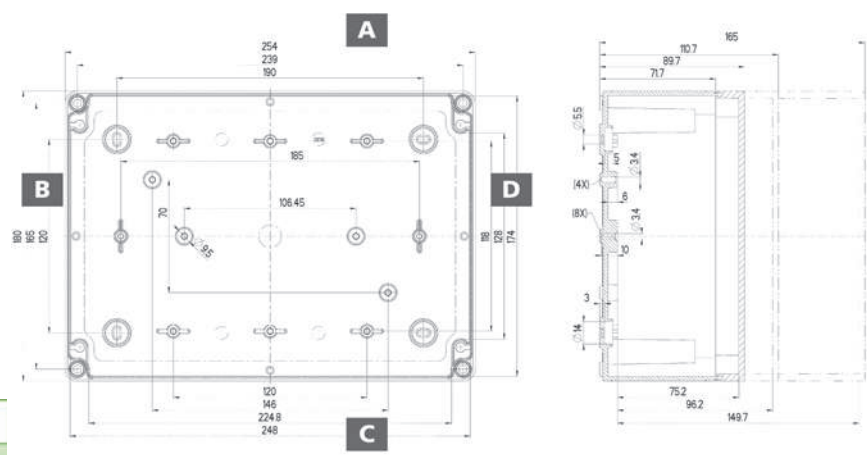
With knockouts



Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	33	18	14	11	5	4	3
B/D	20	10	8	5	3	2	1

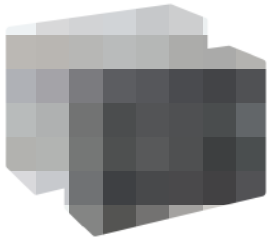


Industrial Enclosures TK PS | TK PC

TK 3625

TK PS 3625

361 x 254 mm

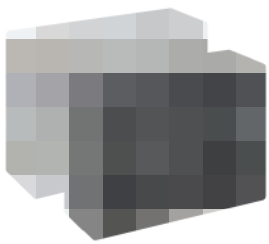


Empty enclosure IP66 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
TK PS 3625-11-m	grey	metric	111	10541201
TK PS 3625-16-m	grey	metric	165	10591201
TK PS 3625-11-o	grey	none	111	11041201
TK PS 3625-16-o	grey	none	165	11091201
TK PS 3625-11-tm	transparent	metric	111	10601201
TK PS 3625-16-tm	transparent	metric	165	10651201
TK PS 3625-11-to	transparent	none	111	11101201
TK PS 3625-16-to	transparent	none	165	11151201

TK PC 3625

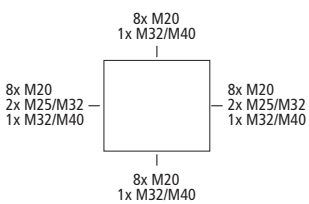
361 x 254 mm



Empty enclosure IP66 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TK PC 3625-11-m	grey	metric	111	12741201
TK PC 3625-16-m	grey	metric	165	12791201
TK PC 3625-11-tm	transparent	metric	111	13701201
TK PC 3625-16-tm	transparent	metric	165	13751201

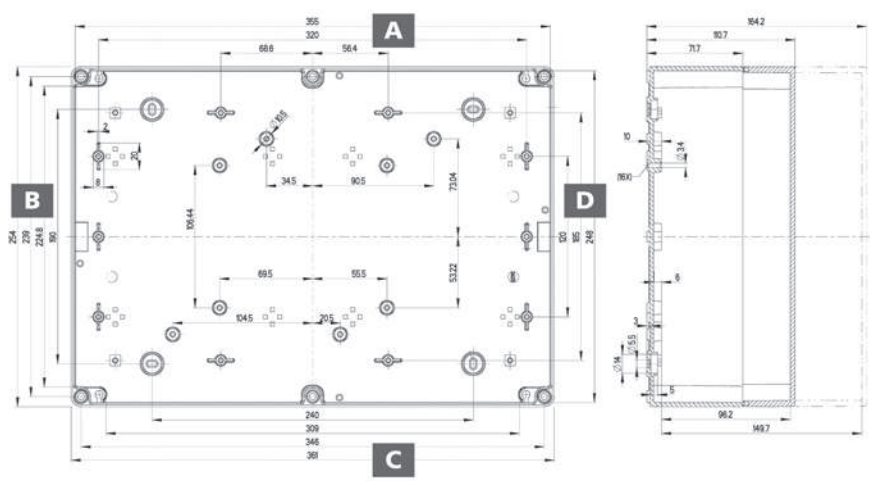
With knockouts



Without knockouts

Max. possible through openings per box side

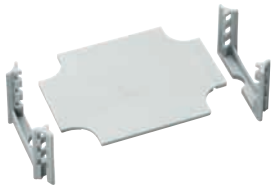
M	12	16	20	25	32	40	50
A/C	42	24	16	14	6	4	4
B/D	33	18	14	11	5	4	3



Industrial Enclosures TK PS | TK PC

TK PS | TK PC Accessories

Assembly plate insulating material TK 55 - 75



Mounting plate made from insulating material with mounting plate bracket for assembly without tools, set of 5 pieces

Description	Dimensions/mm	Order no.
TK MPI-55 TK PC 55	46 x 44 x 2	19505501
TK MPI-75 TK PC 75	59 x 44 x 2	19507501

Assembly plate insulating material



Mounting plate made from insulating material, incl. fixing screws and spacers

Description	Dimensions/mm	Order no.
TK MPI-77 TK PS/PC 77 + ALS 99	45 x 45 x 2,5	19500101
TK MPI-97 TK PS/PC 97	74 x 45 x 2,5	19500201
TK MPI-99 TK PS/PC 99 + ALS 1212	74 x 74 x 2,5	19500301
TK MPI-1111 TK PS/PC 1111 + ALS 1414	90 x 90 x 2,5	19500401
TK MPI-1309 TK PS/PC 1309	110 x 74 x 2,5	19500901
TK MPI-1313 TK PS/PC 1313 + ALS 1515	110 x 110 x 2,5	19500501
TK MPI-1809 TK PS/PC 1809	160 x 74 x 2,5	19501001

Assembly plate insulating material



Mounting plate made from insulating material, incl. fixing screws

Description	Dimensions/mm	Order no.
TK MPI-1811 TK PS/PC 1811 + ALS 2011	150 x 90 x 2,5	19500601
TK MPI-1813 TK PS/PC 1813	100 x 146 x 2,5	19501101
TK MPI-1818 TK PS/PC 1818 + ALS 2020	150 x 150 x 2,5	19500701
TK MPI-2518 TK PS/PC 2518 + ALS 2720	150 x 220 x 2,5	19500801
TK MPI-3625 TK PS/PC 3625 + ALS 3927	331 x 220 x 2,5	19501201

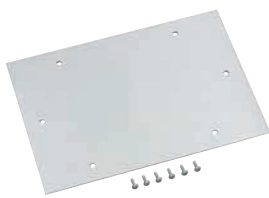
Assembly plate galvanized steel



Mounting plate made from galvanized steel, incl. fixing screws and spacers

Description	Dimensions/mm	Order no.
TK MPS-77 TK PS/PC 77 + ALS 99	45 x 45 x 2	19700101
TK MPS-97 TK PS/PC 97	45 x 74 x 2	19700201
TK MPS-99 TK PS/PC 99 + ALS 1212	74 x 74 x 2	19700301
TK MPS-1111 TK PS/PC 1111 + ALS 1414	90 x 90 x 2	19700401
TK MPS-1309 TK PS/PC 1309	74 x 110 x 2	19700901
TK MPS-1313 TK PS/PC 1313 + ALS 1515	110 x 110 x 2	19700501
TK MPS-1809 TK PS/PC 1809	74 x 160 x 2	19701001

Assembly plate galvanized steel



Mounting plate made from galvanized steel, incl. fixing screws

Description	Dimensions/mm	Order no.
TK MPS-1811 TK PS/PC 1811 + ALS 2011	90 x 150 x 2	19700601
TK MPS-1813 TK PS/PC 1813	100 x 146 x 2	19701101
TK MPS-1818 TK PS/PC 1818 + ALS 2020	150 x 150 x 2	19700701
TK MPS-2518 TK PS/PC 2518 + ALS 2720	150 x 220 x 2	19700801
TK MPS-3625 TK PS/PC 3625 + ALS 3927	220 x 331 x 2	19701201

Standard rail NS 35



Standard rail acc. to DIN EN 60715, 35 x 7.5 mm, incl. fixing screws

Description	Order no.
NS 35-144 TK PS/PC 1809/1811/1813/1818/2518 + ALS 2011/2020	19814401
NS 35-171	19817101
NS 35-216 TK PS/PC 2518/3625 + ALS 2720/3927	19821601
NS 35-336 TK PS/PC 3625 + ALS 3927	19833601

Industrial Enclosures TK PS | TK PC

TK PS | TK PC Accessories

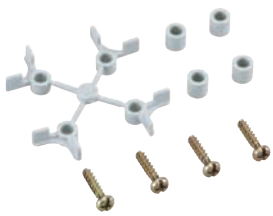
Standard rail TS 15



Standard rail acc. to DIN EN 60715, 15 x 5, width 15 mm, incl. fixing screws

Description	Order no.
TS 15-49,5 TK PS/PC 77/97 + ALS 99	19704901
TS 15-80 TK PS/PC 97/99/1111/1309/1313/1809/1811 + ALS 1212/1414/1515/2011	19708001
TS 15-92 TK PS/PC 1111/1309/1313/1809/1811 + ALS 1414/1515/2011	19709201
TS 15-111 TK PS/PC 1309/1313 + ALS 1515	19711101
TS 15-154 TK PS/PC 1809/1811/1813/1818/2518 + ALS 2020/2720	19715401

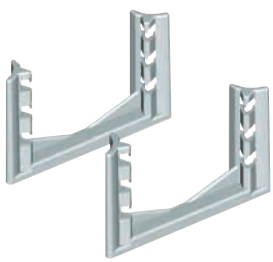
Spacing set



Spacer kit TK DST for creating a space between enclosure bottom and conductor or mounting plate 4 pieces spacing 6 mm, 4 pieces spacing 8 mm, incl. fixing screws for TK PS/PC

Description	Order no.
TK DST	19410001

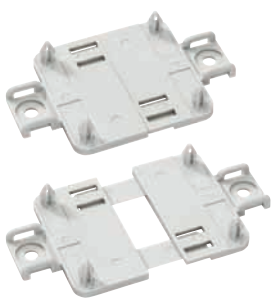
Mounting / PCB holder



Mounting/PCB holder made of plastic, suitable for assembly without tools in TK PC 55 and TK PC 75

Description	Order no.
TK MLH-55/75 Set = 25 pairs	19411001

External fixing plate



External mounting plate made of plastic, for TK PC 55 and TK PC 75

Description	Order no.
TK ABP-55/75 Set = 10 pcs.	19400201

Industrial Enclosures TK PS | TK PC

TK PS | TK PC Accessories

External hinge set



External hinge set for retrofitting the enclosure cover to hinged door, incl. 2 hinges, fixing screws, cover plugs and drilling template

Description	Order no.
ASS-kl External hinge set small, TK PS/PC 77 bis TK PS/PC 1809	19000201

External fixing lug set



External fixing lugs set made of plastic, for all TK PS/PC, RK enclosures, from TK PS/PC 77

Description	Order no.
TK ABL Set = 4 pcs.	19400101

Padlock set



Padlock kit for upgrading the enclosure cover to lockable hinged door, incl. padlock, 2 hinges, fixing screws, cover plugs and drilling template

Description	Order no.
VSG from TK PS/PC 1811 onwards and AKL/AKi 1	19010001

Mounting material



Manual activation attachment consisting of plastic for snapping onto the standard lid screw for TK PS/PC 77 and higher (except TK 1005)

Description	Order no.
HBA Set = 4 pcs.	19000101

TK partition wall



Divider made of plastic, suitable for the separation of two electric circuits

Description	Order no.
TK TW-n for TK PS/PC 1309-6 and TK PS/PC 1809-6	19600901
TK TW-h for TK PS/PC 1309-8 and TK PS/PC 1809-8	19690901

Industrial Enclosures TK PS | TK PC

TK PS | TK PC Accessories

Handle



Handle made of plastic, for mobile use of housing, screw spacing 120 mm

Description	Order no.
TG 2 with self-cutting screws	19180501
TG 1 with screws M6 and nuts made of plastic	19180001

Combi set



Combination set for connecting enclosures with metric entries, polystyrene, grey, complete with locknut and partition seal

Description	Wall thickness	Thread lenght/mm	Order no.
KS M20	2 x 3,0	12	19202001
KS M25	2 x 3,0	12	19202501
KS M25-gro	2 x 8,0	22	19202601
KS M32	2 x 3,5	14	19203201

Combi set



Combi set for combining enclosures from TK PS/PC 1811 (except for flat design), complete with screws and nuts made from plastic, intermediate sealing and drilling template

Description	Order no.
TK KS GRO	19201801

TK cover screw with special head



Cover screw set (set = 12 pieces) with T40 inner hexagon socket head to prevent unauthorised opening of the enclosure, can also be sealed, special screwdriver TK SDR T40 (19501801) required, can be used from TK PS/PC 77 (except TK 1005)

Description	for cover	Colour	Order no.
TK DS-ku/g/T40	flat	light grey	19001401
TK DS-ku/sw/T40	flat	deep black	19001501
TK DS-lg/g/T40	high	light grey	19001601
TK DS-lg/sw/T40	high	deep black	19001701

Installation screw



Self-cutting screw, for mounting assembly parts in TK PC 55 / 75 / 1005

Description	Order no.
TK ES-55/75/1005	19020001

TK cover screw



Cover screw as additional screw, from TK PS/PC 77

Description	for cover	Colour	Order no.
TK DS-ku/g	flat	light grey	19001001
TK DS-ku/sw	flat	deep black	19001201
TK DS-lg/g	high	light grey	19001101
TK DS-lg/sw	high	deep black	19001301

Special screwdriver



Special screwdriver for actuating the TK lid screw

Description	Order no.
TK SDR T40	19501801

Hole cutter



Hole cutter

Description	Order no.
LFR through opening: M16-32, drill hole: 16.5-32.5 mm	19599501





Protection class (IP code)
as per DIN EN 60529 (VDE 0470-1)



Protection class (IK code)
against mechanical stresses
as per DIN EN 50102 (VDE 0470-100)



Protection class II
Equipment with protective insulation as per DIN VDE 0100-410



Rated voltage
for use in **AC voltage systems**, maximum permissible nominal voltage of the electrical grid



Rated voltage
for use in **DC voltage systems**, maximum permissible nominal voltage of the electrical grid



c UL us (Underwriters Laboratories)
approved (American and Canadian approval).



DNV-GL
The approved products are approved by the DNV-GL for the installation on all classified ships



DLG Focus Test
for especially pointing out the innovations in machines and technical products - predominantly in agricultural and forestry applications.



Halogen-free enclosure,
without halogens such as fluorine, chlorine and bromine.



Industrial Quality

Overview of the **ambient conditions** and **mechanical properties** of the **Spelsberg products**

	Empty enclosures			Enclosure with fittings						
	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Max. relative humidity at 40 °C	Max. relative humidity at 25 °C (short-term)	Protection rating according to DIN EN 60529 / VDE 0470-1[1)]	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
TK PS (polystyrene) enclosure system	-25°C	40°C	35°C	-25°C	40°C	35°C	50%	95%	IP66	IK07
TK PC (polycarbonate) housing system	-35 °C	80°C	60°C	-25°C	40°C	35°C	50%	95%	IP66	IK08

Additional note: The specified temperatures may be limited by the installed devices.

[1)] When used with suitable connectors or cable screw couplings.

Overview of the **Properties** of the materials used in the **Spelsberg installations systems**

Material	Use in the products:	Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzene	Mineral oil	Diesel	Ammonia, gaseous (DLG Focus Test)	Vegetable fats	Animal fats	Halogen-free	Free from heavy metals, PVC and silicone	Flammability according to DIN EN 60695 (VDE 0471) / UL94
Polystyrene, impact proof	TK PS	O	Ø	O	O	O	X	X	O	X	not specified	O	X	yes	yes	650°C / HB
Polycarbonate, glass-fibre reinforced	TK PC	O	X	X	X	O	Ø	X	O	Ø	O	O	Ø	yes	yes	960 °C / V-2 (5VA*)
Polycarbonate, transparent	Cover TK PS / TK PC	O	X	X	X	Ø	Ø	X	O	Ø	O	O	O	yes	yes	850 °C / V-2

* 5 Inch (127 mm) Flame test according to UL 746 C (comparable with the requirements of UL 94, 5VA)

The materials used by Spelsberg were subjected to a weathering test according to DIN 53 387 (replaced by DIN EN ISO 4892-2), a 1000 hour test at the "State Examination Office" in Dortmund. The materials used in IQ products showed good result here.
The material also passed the UV resistance test according to UL 746 C, without any limitations.

When selecting the installation location, the climatic conditions and the occurrence of chemical influences should generally be examined in addition to the protection rating. Details of material properties and chemical resistance of the materials can be seen from the table, **though these are simply guide values.**

Power loss details for individually mounted TK empty enclosure	Horizontal installation				Vertical installation			
	[W]				[W]			
Type	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
TK 55-4	0.4	1.0	1.7	2.4	0.4	1.0	1.7	2.4
	[0.4]	[0.8]	[1.4]	[2.0]	[0.3]	[0.8]	[1.4]	[2.0]
TK 75-2	0.5	1.2	1.9	2.8	0.5	1.2	2.0	2.8
	[0.4]	[1.0]	[1.6]	[2.3]	[0.4]	[0.9]	[1.6]	[2.2]
TK 75-4	0.5	1.2	1.9	2.8	0.5	1.2	2.0	2.8
	[0.4]	[1.0]	[1.6]	[2.3]	[0.4]	[0.9]	[1.6]	[2.2]
TK 77-6	0.8	1.8	3.0	4.3	0.8	1.8	3.0	4.3
	[0.6]	[1.5]	[2.5]	[3.5]	[0.6]	[1.5]	[2.5]	[3.5]
TK 77-8	1.0	2.3	3.8	5.5	1.0	2.3	3.8	5.5
	[0.8]	[1.9]	[3.1]	[4.5]	[0.8]	[1.9]	[3.1]	[4.5]
TK 97-6	1.0	2.3	3.8	5.5	1.0	2.4	3.9	5.6
	[0.8]	[2.0]	[3.3]	[4.7]	[0.8]	[1.8]	[3.0]	[4.3]
TK 97-8	1.2	2.9	4.7	6.8	1.2	2.9	4.9	7.0
	[1.0]	[2.4]	[4.0]	[5.8]	[1.0]	[2.3]	[3.8]	[5.4]
TK 99-6	1.2	2.9	4.8	6.9	1.2	2.9	4.8	6.9
	[1.0]	[2.4]	[4.0]	[5.7]	[1.0]	[2.4]	[4.0]	[5.7]
TK 99-8	1.5	3.6	5.9	8.5	1.5	3.6	5.9	8.5
	[1.2]	[2.9]	[4.8]	[6.9]	[1.2]	[2.9]	[4.8]	[6.9]
TK 1005-4	0.7	1.7	2.8	4.0	0.7	1.8	2.9	4.1
	[0.6]	[1.5]	[2.5]	[3.5]	[0.6]	[1.3]	[2.2]	[3.1]
TK 1111-7	1.6	3.9	6.4	9.2	1.6	3.9	6.4	9.2
	[1.3]	[3.2]	[5.2]	[7.5]	[1.3]	[3.2]	[5.2]	[7.5]
TK 1111-9	2.0	4.6	7.7	11.0	2.0	4.6	7.7	11.0
	[1.6]	[3.8]	[6.3]	[9.0]	[1.6]	[3.8]	[6.3]	[9.0]
TK 1309-6	1.5	3.6	6.0	8.6	1.6	3.7	6.1	8.7
	[1.3]	[3.1]	[5.1]	[7.3]	[1.2]	[2.9]	[4.8]	[6.8]
TK 1309-8	1.8	4.4	7.2	10.3	1.9	4.5	7.4	10.6
	[1.6]	[3.7]	[6.2]	[8.8]	[1.5]	[3.5]	[5.8]	[8.3]
TK 1313-7	2.2	5.2	8.6	12.3	2.2	5.2	8.6	12.3
	[1.8]	[4.2]	[7.0]	[10.0]	[1.8]	[4.2]	[7.0]	[10.0]
TK 1313-10	2.6	6.0	10.0	14.3	2.6	6.0	10.0	14.3
	[2.1]	[4.9]	[8.2]	[11.7]	[2.1]	[4.9]	[8.2]	[11.7]
TK 1809-6	1.9	4.6	7.5	10.8	2.0	4.7	7.8	11.2
	[1.7]	[4.0]	[6.7]	[9.5]	[1.5]	[3.6]	[5.9]	[8.4]
TK1809-8	2.3	5.4	9.0	12.9	2.4	5.7	9.4	13.4
	[2.0]	[4.8]	[8.0]	[11.4]	[1.8]	[4.3]	[7.1]	[10.1]
TK 1811-6f	2.2	5.3	8.8	12.5	2.3	5.4	9.0	12.9
	[1.9]	[4.6]	[7.6]	[10.9]	[1.8]	[4.2]	[6.9]	[9.9]
TK 1811-8f	2.6	6.1	10.1	14.4	2.7	6.3	10.4	14.9
	[2.2]	[5.3]	[8.8]	[12.5]	[2.0]	[4.8]	[8.0]	[11.4]
TK 1811-13f	3.4	8.1	13.4	19.2	3.6	8.4	14.0	20.0
	[3.0]	[7.0]	[11.7]	[16.7]	[2.7]	[6.5]	[10.7]	[15.3]
TK 1811-9	2.7	6.3	10.5	15.0	2.8	6.5	10.8	15.5
	[2.3]	[5.5]	[9.1]	[13.0]	[2.1]	[5.0]	[8.3]	[11.9]
TK 1811-11	3.0	7.1	11.8	16.9	3.1	7.4	12.3	17.5
	[2.6]	[6.2]	[10.3]	[14.7]	[2.4]	[5.7]	[9.4]	[13.4]
TK 1811-16	3.9	9.2	15.2	21.7	4.0	9.5	15.8	22.6
	[3.4]	[8.0]	[13.2]	[18.8]	[3.1]	[7.3]	[12.1]	[17.3]

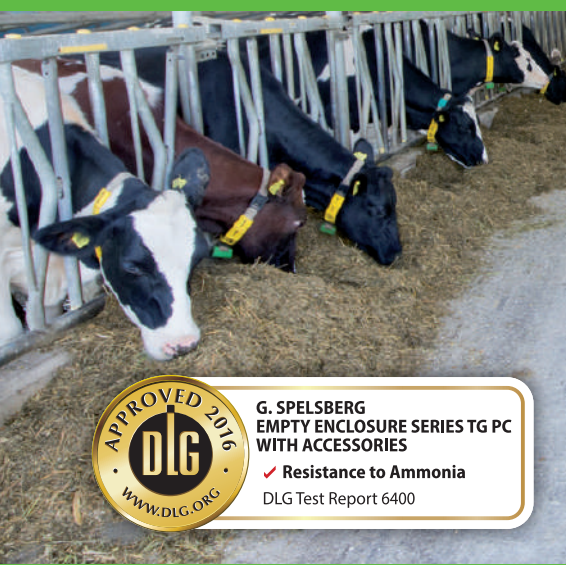
Permissible power loss P_{per} in Watts per DIN VDE 0660-507 for **individually-mounted empty installations** at specified ΔT.
Power loss at 50% of the enclosure height and [75%] of the enclosure height.

Power loss details for individually mounted TK empty enclosure	Horizontal installation				Vertical installation			
	[W]				[W]			
Type	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
TK 1813-9	3.0	7.0	11.7	16.7	3.0	7.2	11.9	17.0
	[2.5]	[6.0]	[9.9]	[14.2]	[2.4]	[5.6]	[9.3]	[13.3]
TK 1813-11	3.3	7.9	13.1	18.7	3.4	8.1	13.4	19.1
	[2.8]	[6.7]	[11.1]	[15.9]	[2.7]	[6.3]	[10.4]	[14.9]
TK 1813-16	4.3	10.1	16.7	23.9	4.4	10.3	17.1	24.5
	[3.6]	[8.6]	[14.2]	[20.3]	[3.4]	[8.1]	[13.4]	[19.1]
TK 1813-6f	2.5	5.9	9.8	14.0	2.5	6.0	10.0	14.3
	[2.1]	[5.0]	[8.3]	[11.9]	[2.0]	[4.7]	[7.8]	[11.1]
TK 1813-8f	2.9	6.8	11.2	16.1	2.9	6.9	11.5	16.4
	[2.4]	[5.8]	[9.6]	[13.7]	[2.3]	[5.4]	[9.0]	[12.8]
TK 1813-13f	3.8	8.9	14.8	21.2	3.9	9.2	15.2	21.7
	[3.2]	[7.6]	[12.6]	[18.0]	[3.0]	[7.2]	[11.9]	[17.0]
TK 1818-6f	3.2	7.5	12.5	17.8	3.2	7.5	12.5	17.8
	[2.6]	[6.1]	[10.2]	[14.6]	[2.6]	[6.1]	[10.2]	[14.5]
TK 1818-8f	3.6	8.5	14.2	20.2	3.6	8.6	14.2	20.3
	[2.9]	[7.0]	[11.6]	[16.5]	[2.9]	[7.0]	[11.5]	[16.5]
TK 1818-13f	4.7	11.1	18.3	26.2	4.7	11.1	18.3	26.2
	[3.8]	[9.0]	[15.0]	[21.4]	[3.8]	[9.0]	[14.9]	[21.4]
TK 1818-9	3.7	8.8	14.6	20.9	3.7	8.8	14.6	20.9
	[3.0]	[7.2]	[11.9]	[17.1]	[3.0]	[7.2]	[11.9]	[17.0]
TK 1818-11	4.2	9.8	16.3	23.3	4.2	9.8	16.3	23.3
	[3.4]	[8.0]	[13.3]	[19.0]	[3.4]	[8.0]	[13.3]	[19.0]
TK 1818-16	5.2	12.4	20.5	29.3	5.2	12.4	20.5	29.4
	[4.3]	[10.1]	[16.7]	[23.9]	[4.3]	[10.1]	[16.7]	[23.9]
TK 2518-6f	4.0	9.6	15.8	22.7	4.1	9.7	16.1	23.0
	[3.4]	[8.2]	[13.5]	[19.3]	[3.2]	[7.6]	[12.5]	[17.9]
TK 2518-8f	4.5	10.7	17.8	25.4	4.6	10.9	18.1	25.9
	[3.9]	[9.2]	[15.2]	[21.7]	[3.6]	[8.5]	[14.1]	[20.2]
TK 2518-13f	5.8	13.6	22.6	32.3	5.9	14.0	23.1	33.1
	[4.9]	[11.6]	[19.3]	[27.6]	[4.6]	[10.9]	[18.0]	[25.8]
TK 2518-9	4.7	11.1	18.3	26.2	4.8	11.3	18.7	26.7
	[4.0]	[9.4]	[15.6]	[22.4]	[3.7]	[8.8]	[14.5]	[20.8]
TK 2518-11	5.2	12.2	20.2	29.0	5.3	12.5	20.7	29.6
	[4.4]	[10.4]	[17.3]	[24.7]	[4.1]	[9.7]	[16.1]	[23.0]
TK 2518-16	6.4	15.2	25.1	35.9	6.6	15.5	25.7	36.8
	[5.5]	[12.9]	[21.4]	[30.6]	[5.1]	[12.1]	[20.0]	[28.7]
TK 3625-11	8.4	19.8	32.8	46.9	8.5	20.2	33.4	47.7
	[7.1]	[16.9]	[28.0]	[40.0]	[6.6]	[15.7]	[26.0]	[37.1]
TK 3625-16	10.0	23.8	39.4	56.3	10.3	24.3	40.3	57.6
	[8.6]	[20.3]	[33.6]	[48.1]	[8.0]	[18.9]	[31.3]	[44.8]

Permissible power loss P_{per} in Watts per DIN VDE 0660-507 for **individually-mounted empty installations** at specified ΔT.
Power loss at 50% of the enclosure height and [75%] of the enclosure height.

Empty Enclosures
TG PC

- Ammonia resistance
- Resistance against stable air for minimum 20 years







- 9 basic enclosures in various heights
- High-quality design with a stylish high-gloss appearance
- Grey or transparent covers
- Plastic, choice of ABS (TG ABS) or polycarbonate (TG PC)
- Smooth side walls for added flexibility
- Attachment points in the usual positions
- Time-saving stainless steel snap lock
- Cover screws available on request

IP66 IP67 | IK07 | 690V AC | 1000V DC | halogen-free

IP66 IP67 | IK08 | 690V AC | 1000V DC | cULus | DLG | halogen-free | iQ

- Recess in cover facilitates placement of decals or membrane keypads
- Individual choice of attachments
- Internal hinges





Industrial Enclosures TG ABS | TG PC

TG 88-6

TG ABS 88-6

84 x 82 mm

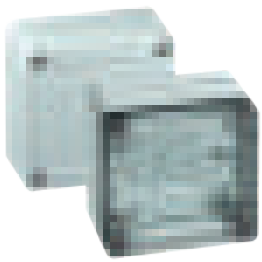


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 88-6-o	grey	none	55	10040301
TG ABS 88-6-to	transparent	none	55	10100301

TG PC 88-6

84 x 82 mm

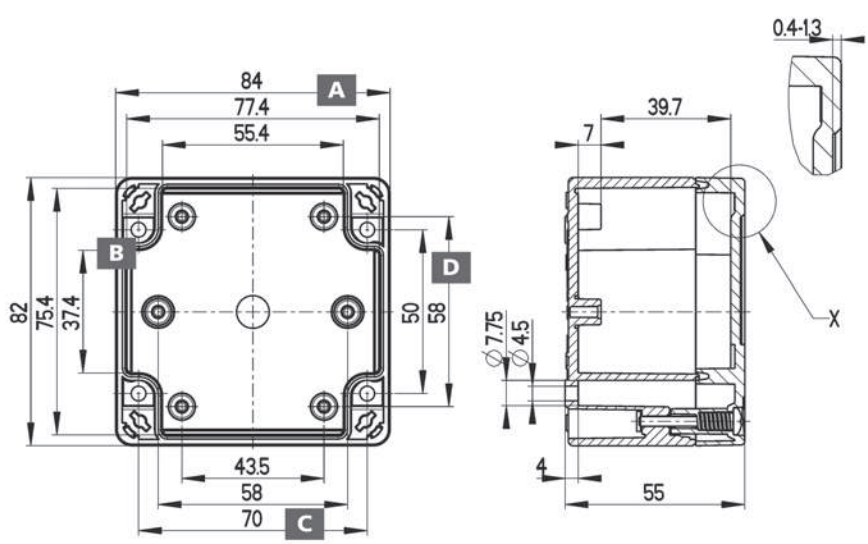


Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 88-6-o	grey	none	55	20040301
TG PC 88-6-to	transparent	none	55	20100301

Without knockouts
Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	3	2	1	-	-	-	-
B/D	2	2	1	-	-	-	-

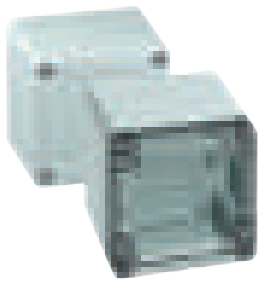


Industrial Enclosures TG ABS | TG PC

TG 88-9

TG ABS 88-9

84 x 82 mm

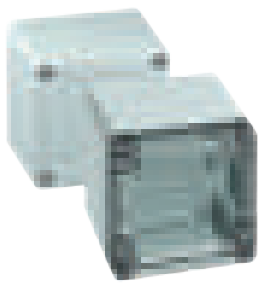


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 88-9-o	grey	none	85	10090301
TG ABS 88-9-to	transparent	none	85	10150301

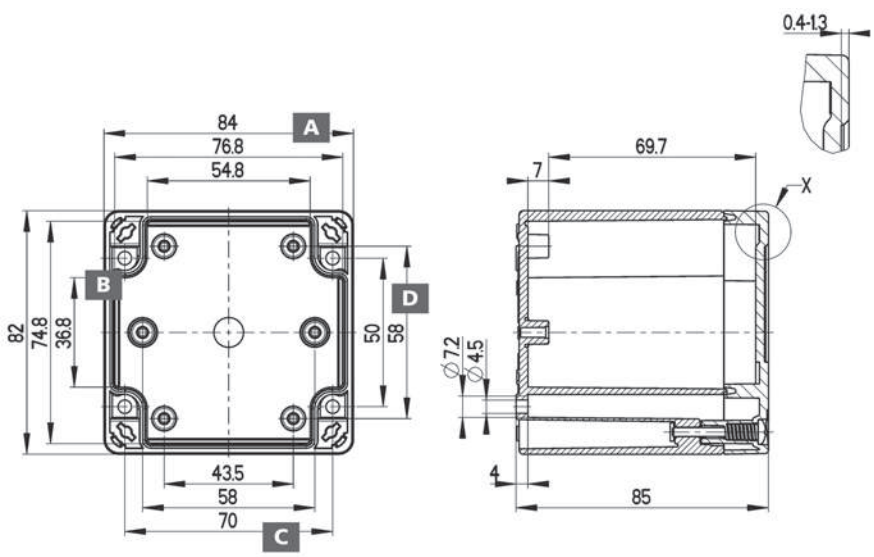
TG PC 88-9

84 x 82 mm



Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 88-9-o	grey	none	85	20090301
TG PC 88-9-to	transparent	none	85	20150301



Without knockouts
Max. possible through openings per box side

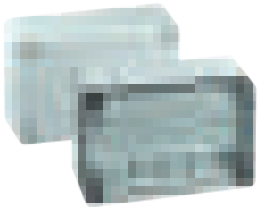
M	12	16	20	25	32	40	50
A/C	6	4	2	1	1	-	-
B/D	4	2	2	1	-	-	-

Industrial Enclosures TG ABS | TG PC

TG 1208-6

TG ABS 1208-6

122 x 82 mm

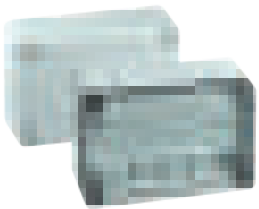


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 1208-6-o	grey	none	55	10040401
TG ABS 1208-6-to	transparent	none	55	10100401

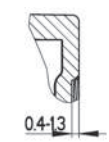
TG PC 1208-6

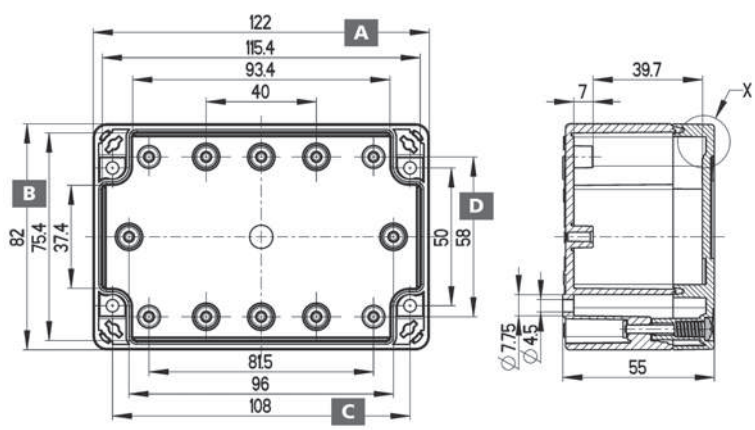
122 x 82 mm



Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 1208-6-o	grey	none	55	20040401
TG PC 1208-6-to	transparent	none	55	20100401





Without knockouts

Max. possible through openings per box side

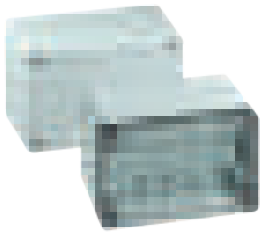
M	12	16	20	25	32	40	50
A/C	5	3	2	2	-	-	-
B/D	2	1	-	-	-	-	-

Industrial Enclosures TG ABS | TG PC

TG 1208-9

TG ABS 1208-9

122 x 82 mm

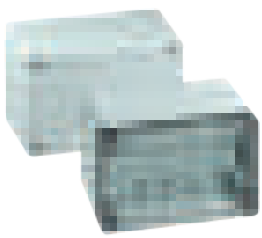


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 1208-9-o	grey	none	85	10090401
TG ABS 1208-9-to	transparent	none	85	10150401

TG PC 1208-9

122 x 82 mm

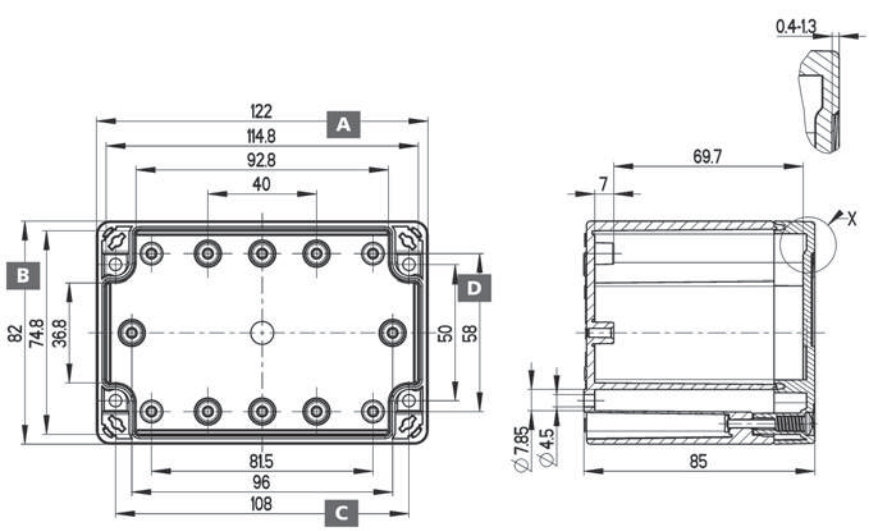


Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 1208-9-o	grey	none	85	20090401
TG PC 1208-9-to	transparent	none	85	20150401

Without knockouts
Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	12	6	6	3	2	1	-
B/D	4	2	1	1	-	-	-

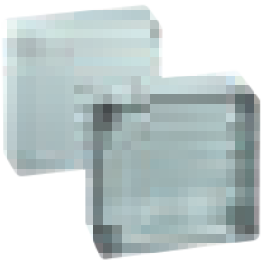


Industrial Enclosures TG ABS | TG PC

TG 1212-6

TG ABS 1212-6

124 x 122 mm

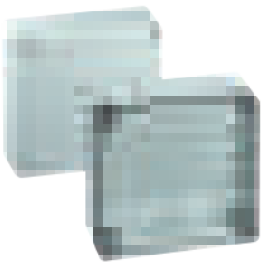


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 1212-6-o	grey	none	55	10040501
TG ABS 1212-6-to	transparent	none	55	10100501

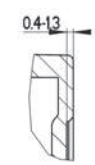
TG PC 1212-6

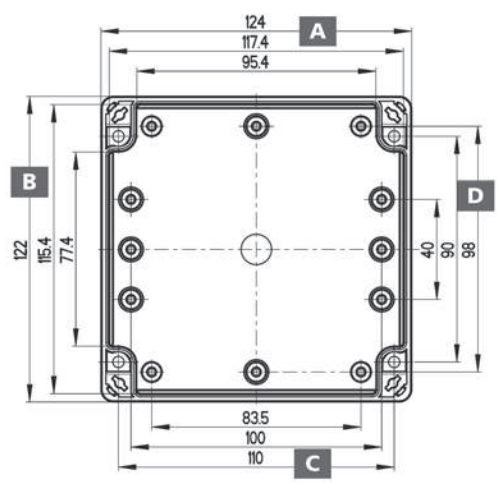
124 x 122 mm

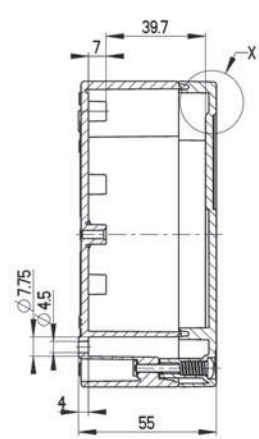


Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 1212-6-o	grey	none	55	20040501
TG PC 1212-6-to	transparent	none	55	20100501







Without knockouts
Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	6	3	3	2	-	-	-
B/D	5	3	2	2	-	-	-

Industrial Enclosures TG ABS | TG PC

TG 1212-9

TG ABS 1212-9

124 x 122 mm



Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 1212-9-o	grey	none	85	10090501
TG ABS 1212-9-to	transparent	none	85	10150501

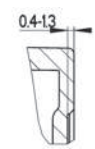
TG PC 1212-9

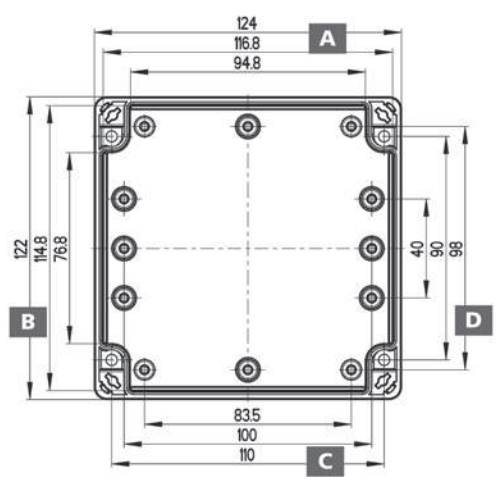
124 x 122 mm

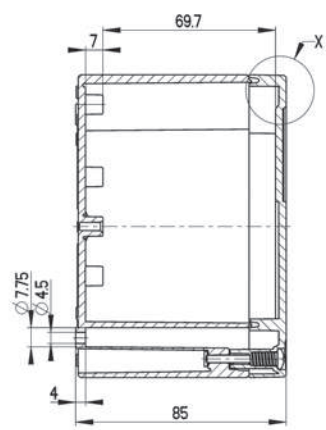


Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 1212-9-o	grey	none	85	20090501
TG PC 1212-9-to	transparent	none	85	20150501







Without knockouts
Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	12	6	6	3	2	1	1
B/D	9	6	4	2	1	1	-

Industrial Enclosures TG ABS | TG PC

TG 1608-6

TG ABS 1608-6

162 x 82 mm



Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 1608-6-o	grey	none	55	10040601
TG ABS 1608-6-to	transparent	none	55	10100601

TG PC 1608-6

162 x 82 mm



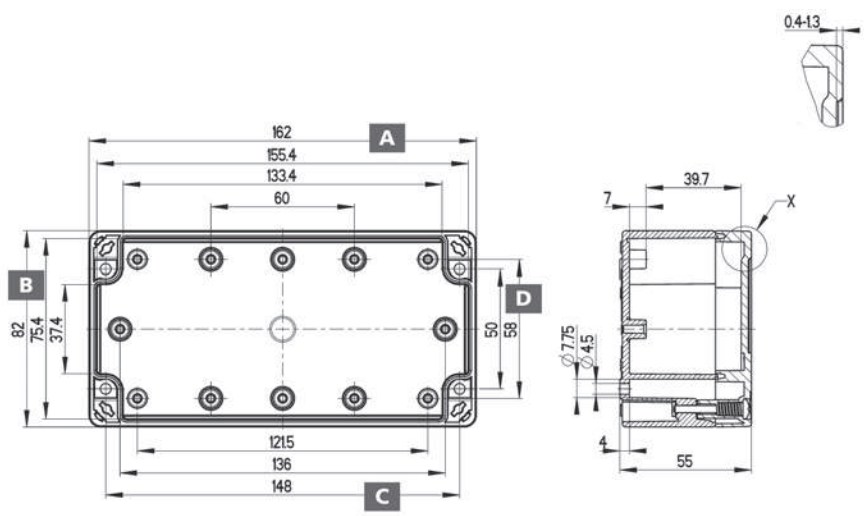
Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 1608-6-o	grey	none	55	20040601
TG PC 1608-6-to	transparent	none	55	20100601

Without knockouts

Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	9	5	4	-	-	-	-
B/D	2	1	1	-	-	-	-

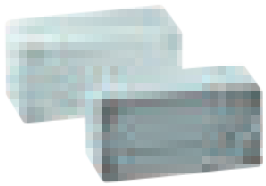


Industrial Enclosures TG ABS | TG PC

TG 1608-9

TG ABS 1608-9

162 x 82 mm

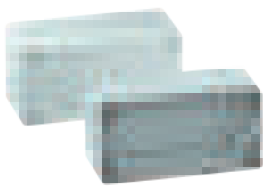


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 1608-9-o	grey	none	85	10090601
TG ABS 1608-9-to	transparent	none	85	10150601

TG PC 1608-9

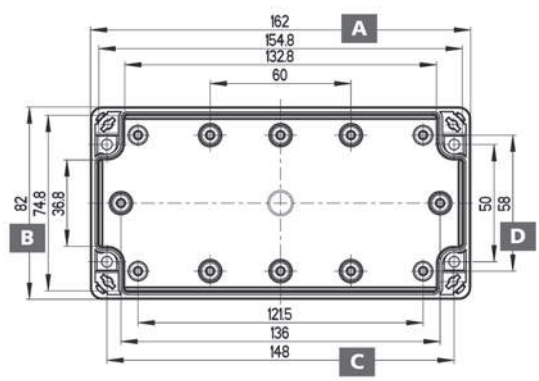
162 x 82 mm

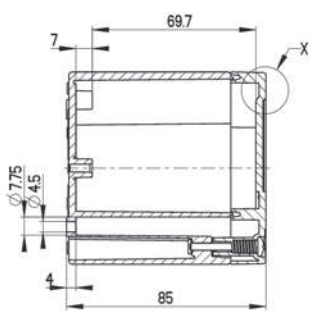


Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 1608-9-o	grey	none	85	20090601
TG PC 1608-9-to	transparent	none	85	20150601







Without knockouts
Max. possible through openings per box side

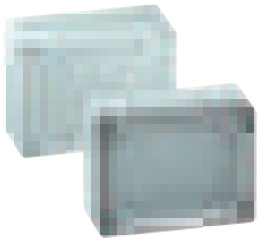
M	12	16	20	25	32	40	50
A/C	18	10	8	4	3	2	2
B/D	4	2	2	1	-	-	-

Industrial Enclosures TG ABS | TG PC

TG 1612-9

TG ABS 1612-9

162 x 122 mm

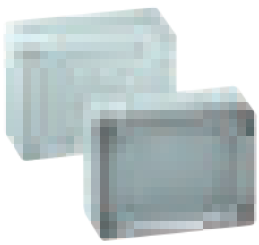


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 1612-9-o	grey	none	90	10040701
TG ABS 1612-9-to	transparent	none	90	10100701

TG PC 1612-9

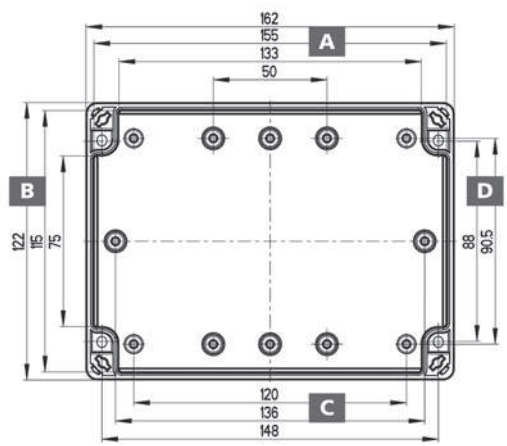
162 x 122 mm

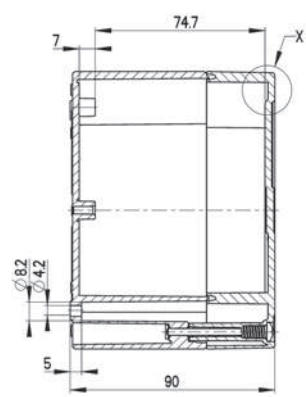


Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 1612-9-o	grey	none	90	20040701
TG PC 1612-9-to	transparent	none	90	20100701







Without knockouts
Max. possible through openings per box side

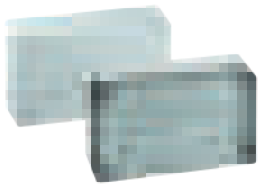
M	12	16	20	25	32	40	50
A/C	9	5	4	-	-	-	-
B/D	2	1	1	-	-	-	-

Industrial Enclosures TG ABS | TG PC

TG 2012-8

TG ABS 2012-8

202 x 122 mm

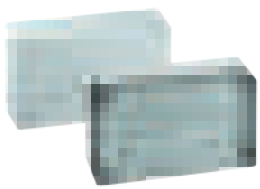


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 2012-8-o	grey	none	75	10040801
TG ABS 2012-8-to	transparent	none	75	10100801

TG PC 2012-8

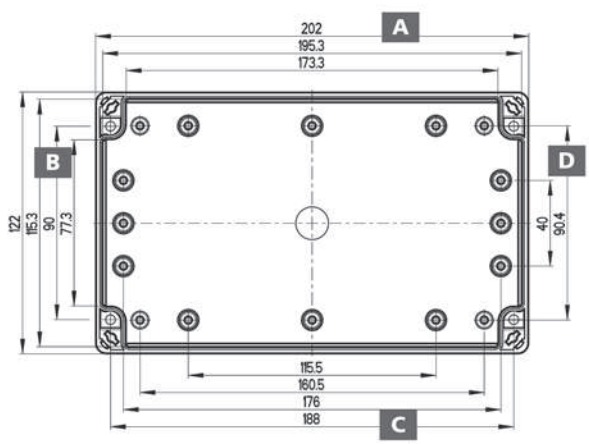
202 x 122 mm

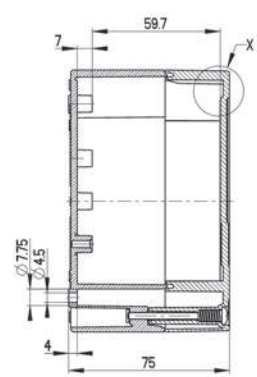


Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 2012-8-o	grey	none	75	20040801
TG PC 2012-8-to	transparent	none	75	20100801







Without knockouts
Max. possible through openings per box side

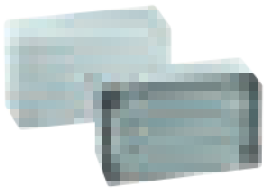
M	12	16	20	25	32	40	50
A/C	16	8	5	4	-	-	-
B/D	6	3	2	2	-	-	-

Industrial Enclosures TG ABS | TG PC

TG 2012-9

TG ABS 2012-9

202 x 122 mm

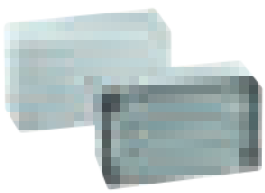


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 2012-9-o	grey	none	90	10090801
TG ABS 2012-9-to	transparent	none	90	10150801

TG PC 2012-9

202 x 122 mm

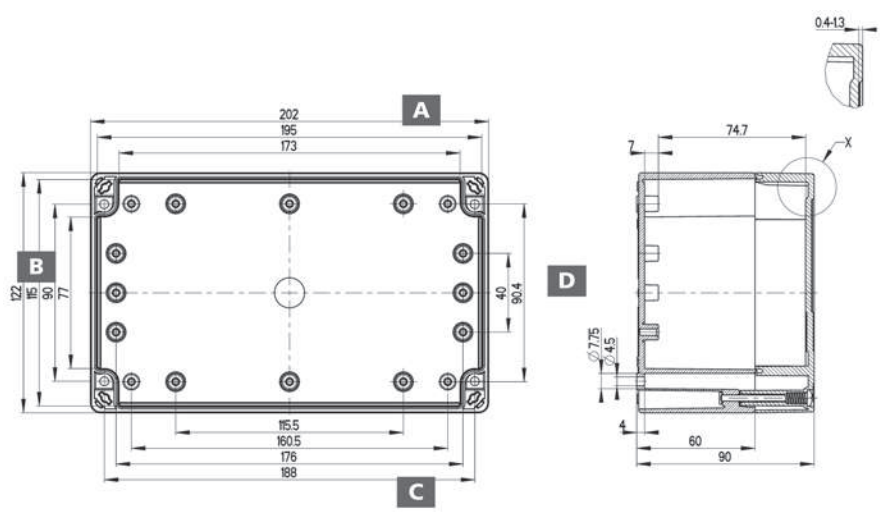


Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 2012-9-o	grey	none	90	20090801
TG PC 2012-9-to	transparent	none	90	20150801

Without knockouts
Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	16	12	5	4	3	-	-
B/D	6	3	3	2	1	-	-

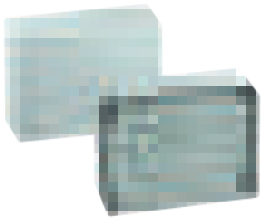


Industrial Enclosures TG ABS | TG PC

TG 2015-9

TG ABS 2015-9

202 x 152 mm

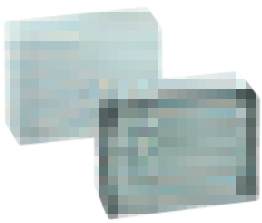


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 2015-9-o	grey	none	90	10040901
TG ABS 2015-9-to	transparent	none	90	10100901

TG PC 2015-9

202 x 152 mm

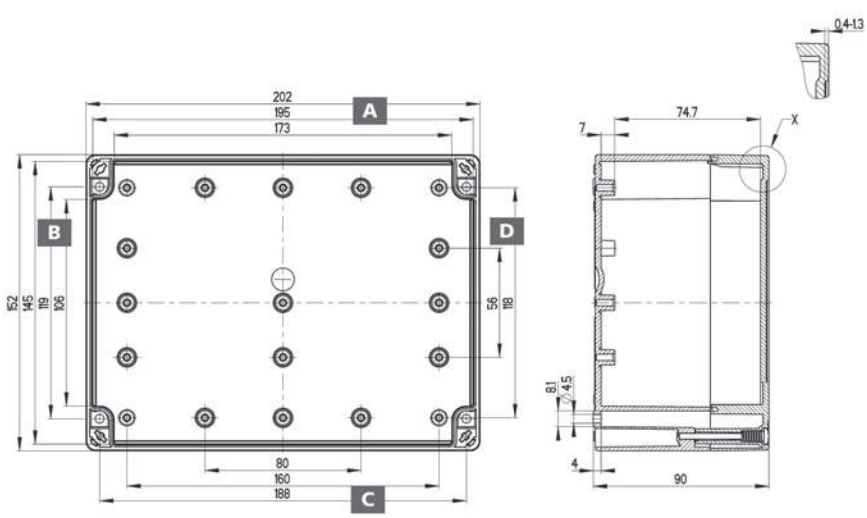


Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 2015-9-o	grey	none	90	20040901
TG PC 2015-9-to	transparent	none	90	20100901

Without knockouts
Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	16	12	5	4	3	-	-
B/D	10	8	4	3	2	-	-

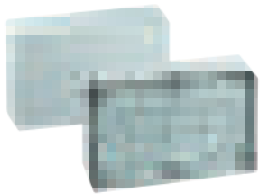


Industrial Enclosures TG ABS | TG PC

TG 2516-9

TG ABS 2516-9

252 x 162 mm

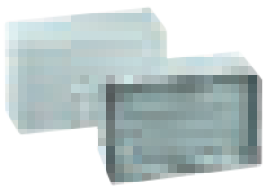


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 2516-9-o	grey	none	90	10041201
TG ABS 2516-9-to	transparent	none	90	10101201

TG PC 2516-9

252 x 162 mm

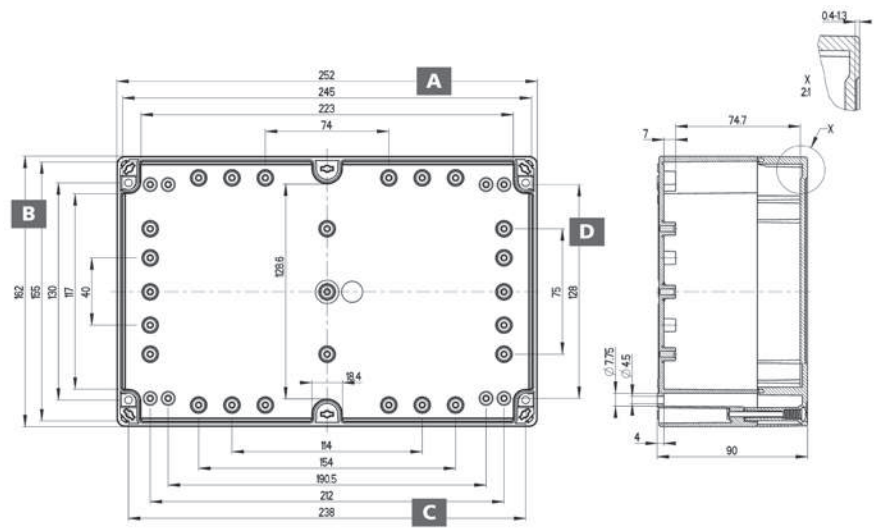


Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 2516-9-o	grey	none	90	20041201
TG PC 2516-9-to	transparent	none	90	20101201

Without knockouts
Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	20	12	6	4	4	2	-
B/D	10	8	3	3	2	2	-



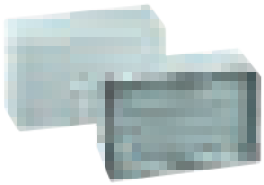
All prices are non-binding recommended gross prices in EUR excluding value-added tax. Prices as of 01/01/2020

Industrial Enclosures TG ABS | TG PC

TG 2516-12

TG ABS 2516-12

252 x 162 mm

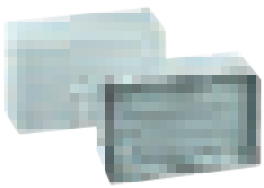


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 2516-12-o	grey	none	120	10091201
TG ABS 2516-12-to	transparent	none	120	10151201

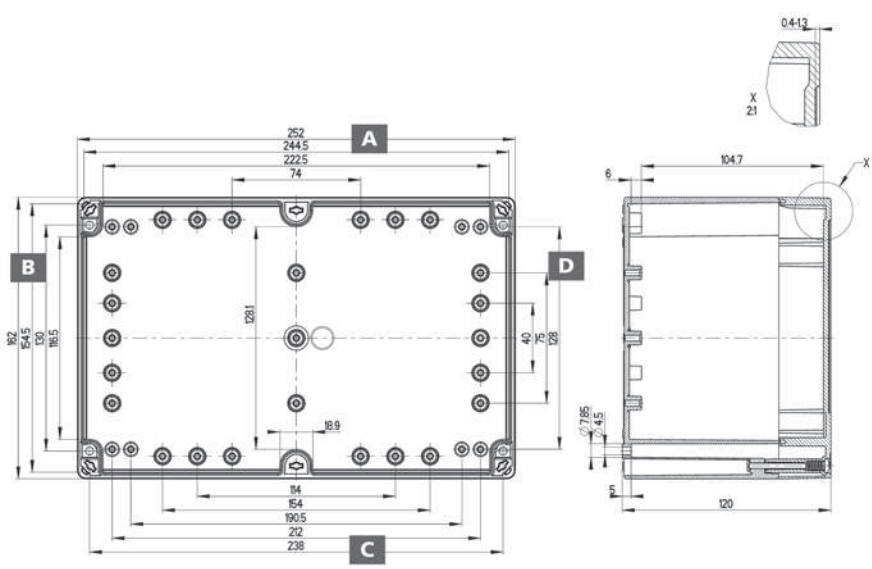
TG PC 2516-12

252 x 162 mm



Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 2516-12-o	grey	none	120	20091201
TG PC 2516-12-to	transparent	none	120	20151201



Without knockouts
Max. possible through openings per box side

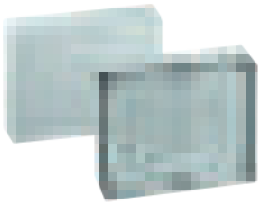
M	12	16	20	25	32	40	50
A/C	40	18	12	8	6	2	2
B/D	20	12	8	6	3	2	1

Industrial Enclosures TG ABS | TG PC

TG 3023-9

TG ABS 3023-9

302 x 232 mm

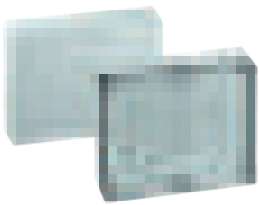


Empty enclosure IP66 / IP67 ABS

Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 3023-9-o	grey	none	90	10041301
TG ABS 3023-9-to	transparent	none	90	10101301

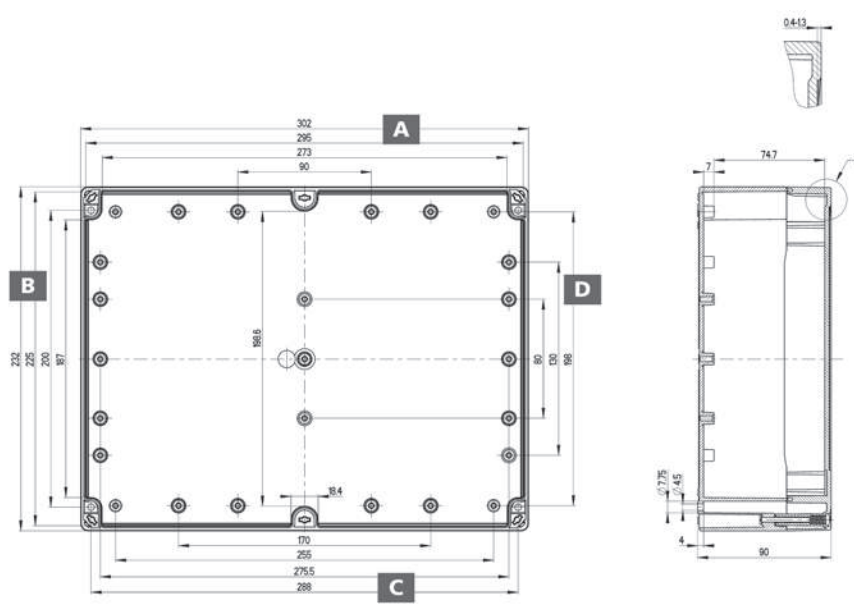
TG PC 3023-9

302 x 232 mm



Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 3023-9-o	grey	none	90	20041301
TG PC 3023-9-to	transparent	none	90	20101301



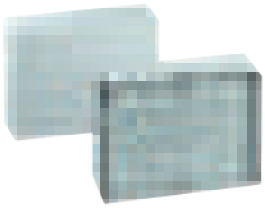
Without knockouts
Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	24	16	8	6	4	4	-
B/D	18	14	6	5	4	2	-

Industrial Enclosures TG ABS | TG PC

TG 3023-11

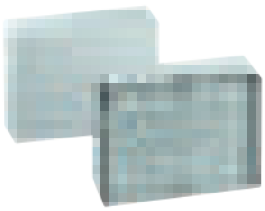
TG ABS 3023-11 — 302 x 232 mm



Empty enclosure IP66 / IP67 ABS

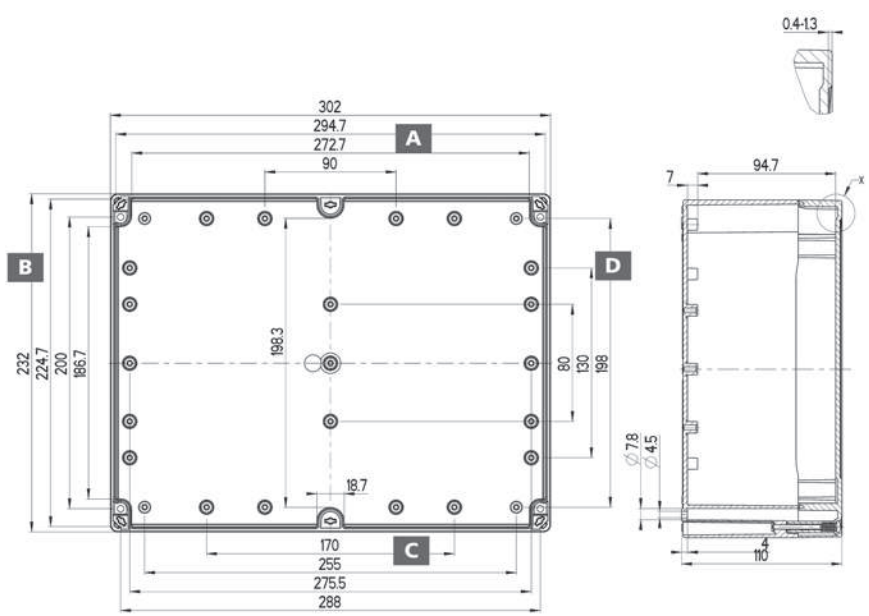
Description	Cover	Knockouts	Height/mm	Order no.
TG ABS 3023-11-o	grey	none	110	10091301
TG ABS 3023-11-to	transparent	none	110	10151301

TG PC 3023-11 — 302 x 232 mm



Empty enclosure IP66 / IP67 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
TG PC 3023-11-o	grey	none	110	20091301
TG PC 3023-11-to	transparent	none	110	20151301



Without knockouts
Max. possible through openings per box side

M	12	16	20	25	32	40	50
A/C	36	26	16	12	6	4	2
B/D	27	20	12	9	4	3	2

Industrial Enclosures TG ABS | TG PC

TG ABS / TG PC Accessories

Assembly plate insulating material



Mounting plate made from insulating material

Description	Dimensions/mm	Order no.
TG MPI-88	53 x 73 x 2,5	18600301
TG MPI-1208	73 x 91 x 2,5	18600401
TG MPI-1212	93 x 113 x 2,5	18600501
TG MPI-1608	73 x 131 x 2,5	18600601
TG MPI-1612	113 x 131 x 2,5	18600701
TG MPI-2012	113 x 171 x 2,5	18600801
TG MPI-2015	143 x 171 x 2,5	18600901
TG MPI-2516	152 x 220 x 2,5	18601201
TG MPI-3023	222 x 270 x 2,5	18601301

Assembly plate galvanized steel



Mounting plate made from galvanized steel

Description	Dimensions/mm	Order no.
TG MPS-88	53 x 73 x 2	18700301
TG MPS-1208	73 x 91 x 2	18700401
TG MPS-1212	93 x 113 x 2	18700501
TG MPS-1608	73 x 131 x 2	18700601
TG MPS-1612	113 x 131 x 2	18700701
TG MPS-2012	113 x 171 x 2	18700801
TG MPS-2015	143 x 171 x 2	18700901
TG MPS-2516	152 x 220 x 2	18701201
TG MPS-3023	222 x 270 x 2	18701301

Standard rail NS 35



Standard rail acc. to DIN EN 60715, 35 x 7.5mm

Description	Length	Order no.
NS 35-66	66	19806801
NS 35-104	104	19810701
NS 35-108	108	19811001
NS 35-144/2	144	19814601
NS 35-184	184	19818601
NS 35-168	168	19817001
NS 35-220	220	19822201
NS 35-283,5	283.5	19828501

Industrial Enclosures TG ABS | TG PC

TG ABS / TG PC Accessories

Standard rail TS 15



Standard rail according to DIN EN 60715, 15 x 5

Description	Length	Order no.
TS 15-66	66	19706901
TS 15-104	104	19710701
TS 15-108	108	19711001
TS 15-144	144	19714601
TS 15-184	184	19718601
TS 15-168	168	19717001
TS 15-220	220	19722201
TS 15-283,5	283.5	19728501

Interior hinge set



Interior hinge set for retrofitting the housing cover to a hinged door, incl. 2 hinges, fixing screws and drilling template

Description	Order no.
TG ISS for TG 1612, TG 2012, TG 2015, TG 2516, TG 3023	18200101

External fixing lug set



External fixing lugs set, made of plastic

Description	Order no.
TG ABL for all TG enclosures, Set = 4 pcs.	18200201

Sealing kit



Sealing kit

Description	Order no.
TG PST1 for TG 88, TG 1208, TG 1212, TG 1608	18200401
TG PST2 for TG 1612, TG 2012, TG 2015, TG 2516, TG 3023	18200501

Cover retainer



spare cover retainer, Set = 10 pcs.

Description	Order no.
TG DVS-42 for TG 88, TG 1208, TG 1212, TG 1608	18200601
TG DVS-57 for TG 1612, TG 2012, TG 2015, TG 2516, TG 3023	18200701

Hole cutter



Hole cutter

Description	Order no.
LFR through opening: M16-32, drill hole: 16.5-32.5 mm	19599501







Protection class (IP code)
as per DIN EN 60529 (VDE 0470-1)



Protection class (IK code)
against mechanical stresses
as per DIN EN 50102 (VDE 0470-100)



Protection class II
Equipment with protective insulation
as per DIN VDE 0100-410



Rated voltage
for use in **AC voltage systems**, maximum permissible nominal voltage of the electrical grid



Rated voltage
for use in **DC voltage systems**, maximum permissible nominal voltage of the electrical grid



c UL us (Underwriters Laboratories)
approved (American and Canadian approval).



Halogen-free enclosure,
without halogens such as fluorine, chlorine and bromine.



Industrial Quality



DLG Focus Test
for especially pointing out the innovations in machines and technical products - predominantly in agricultural and forestry applications.

Pictograms | Empty enclosure TG ABS / TG PC

Standard Quality

Industry Quality

Overview of the **ambient conditions** and **mechanical properties** of the **Spelsberg products**	Empty enclosure			Enclosure with fittings						
	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Max. relative humidity at 40 °C	Max. relative humidity at 25 °C (short-term)	Protection rating according to DIN EN 60529 / VDE 0470-1[1]	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
TG ABS empty enclosure	-25°C	40°C	35°C	-25°C	40°C	35°C	50%	95%	IP66/ IP67	IK07
TG-PC (polycarbonate)	-35 °C	80°C	60°C	-25°C	40°C	35°C	50%	95%	IP66/ IP67	IK08

Additional note: The specified temperatures may be limited by the installed devices.

[1] When used with suitable connectors or cable screw couplings.

Overview of the **Properties** of the materials used in the **Spelsberg installations systems**		Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzene	Mineral oil	Diesel	Ammonia, gaseous (DLG Focus Test)	Vegetable fats	Animal fats	Halogen-free	Free from heavy metals, PVC and silicone	Flammability according to DIN EN 60695 (VDE 0471) / UL94
Material	**use in:**															
ABS (Acrylonitrile-Butadiene-Styrene)	TG-ABS	O	Ø	O	O	O	X	X	O	O	not specified	Ø	Ø	yes	yes	650°C / HB
polycarbonate	TG-PC	O	X	X	X	O	Ø	X	O	Ø	O	O	Ø	yes	yes	960 °C / V-2 (5VA*)
Polycarbonate, transparent	TG-ABS / TG-PC cover	O	X	X	X	Ø	Ø	X	O	Ø	O	O	O	yes	yes	850 °C / V-2

* 5 Inch (127 mm) Flame test according to UL 746 C (comparable with the requirements of UL 94, 5VA)

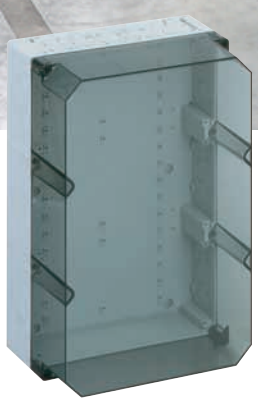
The materials used by Spelsberg were subjected to a weathering test according to DIN 53 387 (replaced by DIN EN ISO 4892-2), a 1000 hour test at the "State Examination Office" in Dortmund. The materials used in IQ products showed good results. The material also passed the UV resistance test according to UL 746 C, without any limitations.

When selecting the installation location, the climatic conditions and the occurrence of chemical influences should generally be examined in addition to the protection Details of material properties and chemical resistance of the materials can be seen from the table, **though these are simply guide values.**

Power loss details for individually mounted TG empty enclosure	Horizontal installation				Vertical installation			
	[W]				[W]			
Type	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
TG 88-6	1.0	2.4	4.0	5.8	1.0	2.4	4.1	5.8
	[0.8]	[2.0]	[3.3]	[4.7]	[0.8]	[2.0]	[3.3]	[4.7]
TG 88-9	1.3	3.2	5.3	7.5	1.3	3.2	5.3	7.5
	[1.1]	[2.6]	[4.3]	[6.1]	[1.1]	[2.6]	[4.3]	[6.1]
TG 1208-6	1.3	3.1	5.2	7.4	1.3	3.2	5.3	7.6
	[1.1]	[2.7]	[4.4]	[6.3]	[1.0]	[2.5]	[4.1]	[5.8]
TG 1208-9	1.7	4.0	6.6	9.4	1.7	4.1	6.8	9.7
	[1.4]	[3.4]	[5.6]	[8.1]	[1.3]	[3.2]	[5.2]	[7.5]
TG 1212-6	1.7	4.1	6.8	9.8	1.7	4.1	6.8	9.8
	[1.4]	[3.4]	[5.6]	[8.0]	[1.4]	[3.4]	[5.6]	[8.0]
TG 1212-9	2.2	5.2	8.5	12.2	2.2	5.2	8.6	12.2
	[1.8]	[4.2]	[7.0]	[10.0]	[1.8]	[4.2]	[7.0]	[9.9]
TG 1608-6	1.6	3.8	6.3	9.0	1.7	4.0	6.6	9.4
	[1.4]	[3.4]	[5.6]	[8.0]	[1.3]	[3.0]	[4.9]	[7.1]
TG 1608-9	2.0	4.8	7.9	11.4	2.1	5.0	8.3	11.9
	[1.8]	[4.2]	[7.0]	[10.1]	[1.6]	[3.8]	[6.3]	[9.0]
TG 1612-9	2.7	6.3	10.4	14.9	2.7	6.4	10.6	15.2
	[2.3]	[5.3]	[8.8]	[12.6]	[2.1]	[5.0]	[8.3]	[11.9]
TG 2012-8	2.8	6.7	11.0	15.8	2.9	6.9	11.4	16.3
	[2.4]	[5.8]	[9.6]	[13.7]	[2.2]	[5.3]	[8.7]	[12.4]
TG 2012-9	3.1	7.3	12.1	17.3	3.2	7.6	12.5	17.9
	[2.7]	[6.4]	[10.5]	[15.0]	[2.4]	[5.8]	[9.6]	[13.7]
TG 2015-9	3.6	8.4	14.0	20.0	3.6	8.6	14.2	20.3
	[3.0]	[7.1]	[11.8]	[16.9]	[2.8]	[6.7]	[11.1]	[15.9]
TG 2516-9	4.3	10.3	17.0	24.3	4.4	10.5	17.4	24.9
	[3.7]	[8.8]	[14.6]	[21.0]	[3.4]	[8.1]	[13.4]	[19.2]
TG 2516-12	5.0	11.8	19.6	28.0	5.1	12.2	20.2	28.8
	[4.3]	[10.2]	[16.9]	[24.2]	[4.0]	[9.4]	[15.5]	[22.2]
TG 3023-9	6.3	15.0	24.8	35.5	6.4	15.2	25.1	35.9
	[5.3]	[12.6]	[20.9]	[29.9]	[5.0]	[11.9]	[19.8]	[28.3]
TG 3023-11	6.9	16.3	27.0	38.6	7.0	16.5	27.4	39.2
	[5.8]	[13.8]	[22.8]	[32.6]	[5.5]	[13.0]	[21.5]	[30.8]

Permissible power loss Pper in Watts per DIN VDE 0660-507 for **individually-mounted empty installations** at specified ΔT.
Power loss at 50% of the enclosure height and [75%] of the enclosure height.







- 4 basic enclosures up to 600 x 300 mm, with two different cover heights
- Box: choice of polystyrene (AKL) or glass-fibre-reinforced polycarbonate (AKi), grey, similar to RAL 7035
- Cover: grey (polystyrene or polycarbonate) or transparent (polycarbonate)
- Side walls with metric knockouts
- Can be combined up to protection class IP 65 with AK / AKi small distributors from AK 14

IP65 IK07 690V AC 1000V DC halogen-free

IP65 IK08 690V AC 1000V DC halogen-free iQ Industrial Quality

Empty Enclosures AKL / AKi-L



External fixing lugs



External hinges



Easy combination



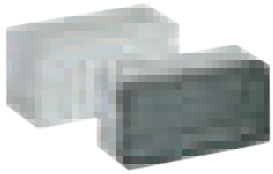
Empty Enclosures AKL / AKi-L

Industrial Enclosures AKL | AKi

AKL / AKi 1

AKL 1-g

300 x 150 mm

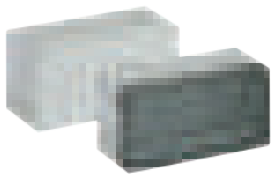


Empty enclosure IP65 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
AKL 1-g	grey	metric	132	74040101
AKL 1-t	transparent	metric	132	74400101

AKi 1-g

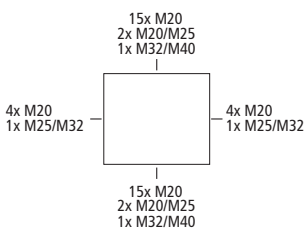
300 x 150 mm

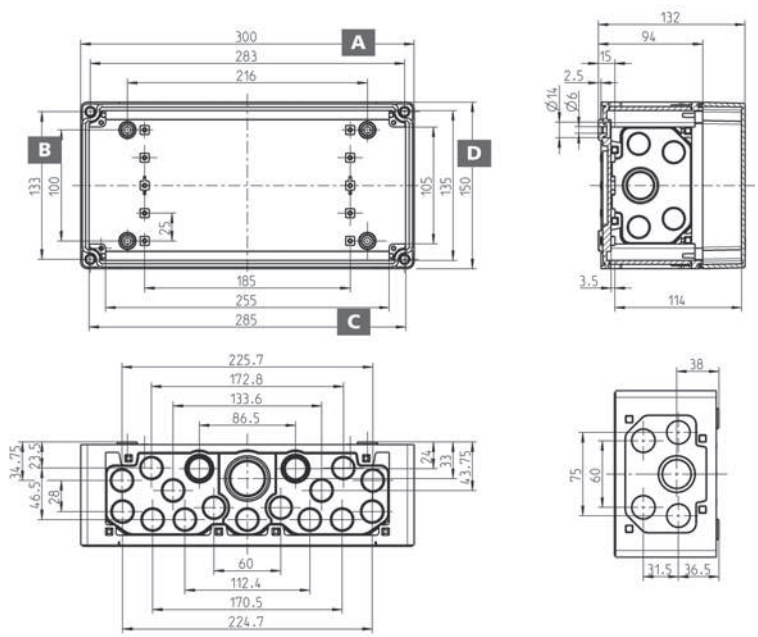


Empty enclosure IP65 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
AKi 1-g	grey	metric	132	74140101
AKi 1-t	transparent	metric	132	74500101

With knockouts

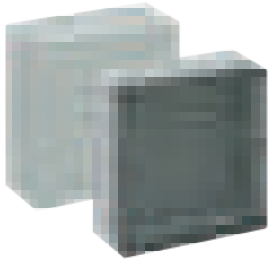




Industrial Enclosures AKL | AKi

AKL / AKi 2

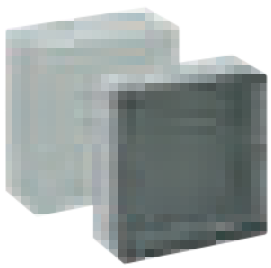
AKL 2-g — 300 x 300 mm



Empty enclosure IP65 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
AKL 2-g	grey	metric	132	74040201
AKL 2-gh	grey	metric	209	74290201
AKL 2-t	transparent	metric	132	74400201
AKL 2-th	transparent	metric	209	74690201

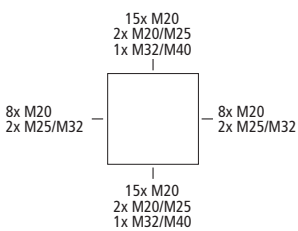
AKi 2-g — 300 x 300 mm

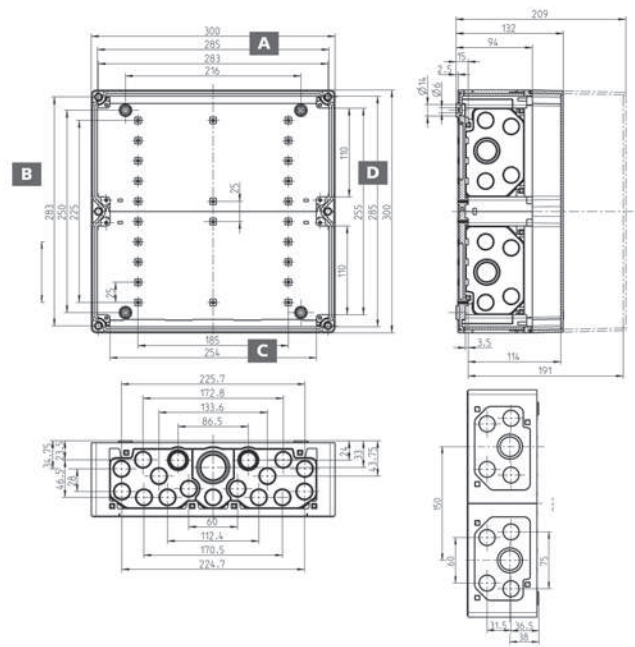


Empty enclosure IP65 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
AKi 2-g	grey	metric	132	74140201
AKi 2-gh	grey	metric	209	74390201
AKi 2-t	transparent	metric	132	74500201
AKi 2-th	transparent	metric	209	74790201

With knockouts



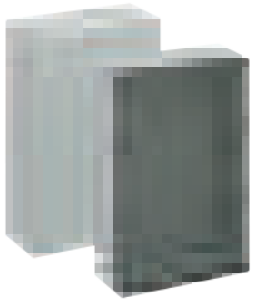


Industrial Enclosures AKL | AKi

AKL / AKi 3

AKL 3-g

300 x 450 mm

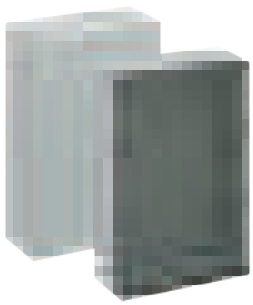


Empty enclosure IP65 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
AKL 3-g	grey	metric	132	74040301
AKL 3-gh	grey	metric	209	74290301
AKL 3-t	transparent	metric	132	74400301
AKL 3-th	transparent	metric	209	74690301

AKi 3-g

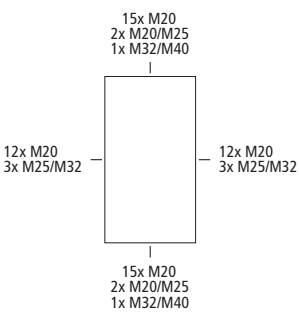
300 x 450 mm

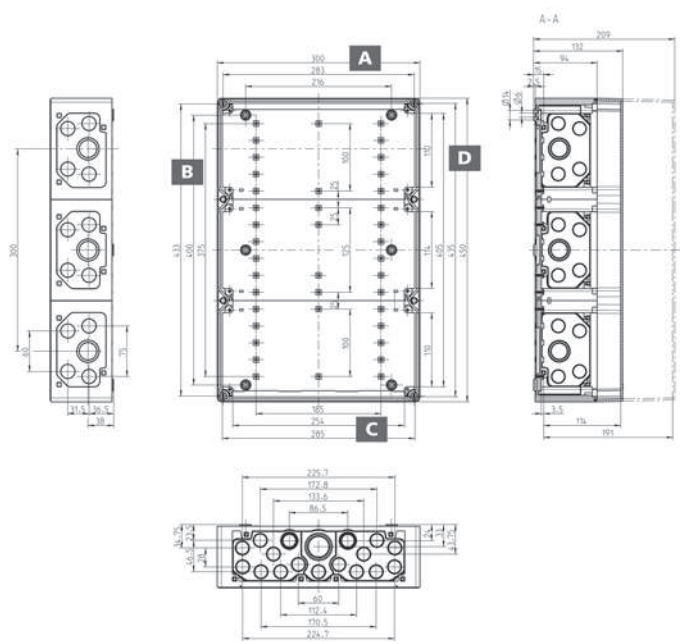


Empty enclosure IP65 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
AKi 3-g	grey	metric	132	74140301
AKi 3-gh	grey	metric	209	74390301
AKi 3-t	transparent	metric	132	74500301
AKi 3-th	transparent	metric	209	74790301

With knockouts

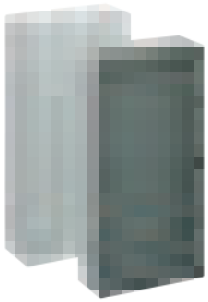




Industrial Enclosures AKL | AKi

AKL / AKi 4

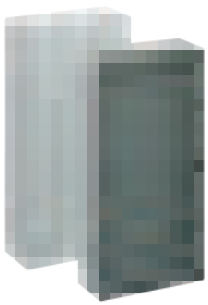
AKL 4-g — 300 x 600 mm



Empty enclosure IP65 polysterene

Description	Cover	Knockouts	Height/mm	Order no.
AKL 4-g	grey	metric	132	74040401
AKL 4-gh	grey	metric	209	74290401
AKL 4-t	transparent	metric	132	74400401
AKL 4-th	transparent	metric	209	74690401

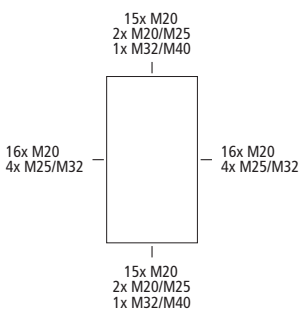
AKi 4-g — 300 x 600 mm

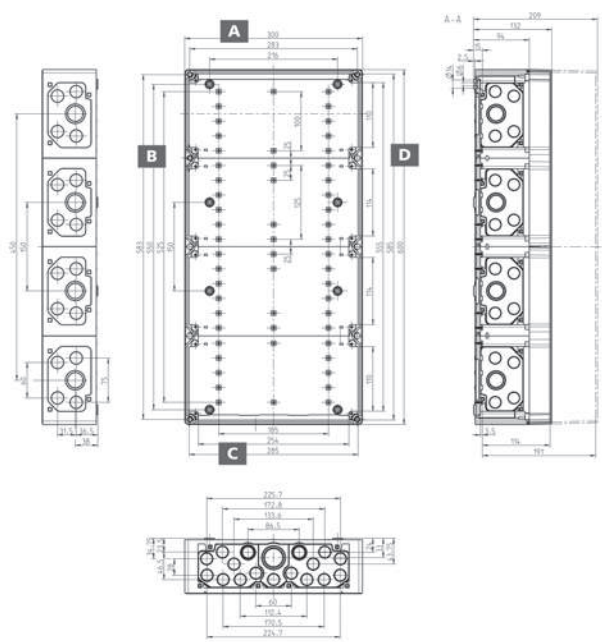


Empty enclosure IP65 polycarbonate

Description	Cover	Knockouts	Height/mm	Order no.
AKi 4-g	grey	metric	132	74140401
AKi 4-gh	grey	metric	209	74390401
AKi 4-t	transparent	metric	132	74500401
AKi 4-th	transparent	metric	209	74790401

With knockouts





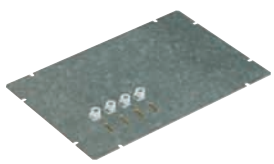
Assembly plate insulating material



Mounting plate made from insulating material, incl. fixing screws

Description	Dimensions/mm	Order no.
AK MPI 1 AKL / AKi 1-4	240 x 112 x 4	79500101
AK MPI 2 AKL / AKi 2-4	240 x 240 x 4	79500201
AK MPI 3 AKL/AKi 3-4, Abox 700	240 x 390 x 4	79500301
AK MPI 4 AKL / AKi 4	240 x 540 x 4	79500401

Assembly plate galvanized steel



Mounting plate made from galvanized steel, incl. fixing screws

Description	Dimensions/mm	Order no.
AK MPS 2	240 x 240 x 2	79501201
AK MPS 3	240 x 390 x 2	79501301
AK MPS 4	240 x 540 x 2	79501401

Standard rail NS 35



Standard rail acc. to DIN EN 60715, 35 x 7.5mm

Description	Order no.
AK NS35-250 from 300 x 300 mm, length 250 mm, including spacers	56273501
NS35-216/3 universal floor fixing, with fixing screws, length 216 mm	79503001
NS 35-406 universal floor fixing, incl. fixing screws, length 406 mm	79504501
AK NS35-556 universal floor fixing, incl. fixing screws, length 556 mm	79506001

Support NS



Carrier for standard rails acc. to DIN EN 60715, 35 x 7.5 mm, set = 10 pcs.

Description	Height/mm	Order no.
TR NS35-20	20	79502001
TR NS35-34	34.5	79503401
TR NS35-42	42.5	79504201
TR NS35-58	58.5	79505801
TR NS35-64	64	79506401
TR NS35-91	91	79509101

Industrial Enclosures AKL | AKi

AKL / AKi-L Accessories

Support NS fastening screws



Fixing screws for 1 TR NS35-xx, set of 30 pieces

Description	Order no.
SR NS35 Fixing screws for 1 support set TR NS35/xx	79541301

K 12 hinged window



Hinged window, for fitting to enclosure cover, for maximum 12 modules à 17.5 mm, with transparent hinged window, frame with sealing on both sides, with drilling template and fixing screws

Description	Order no.
KF 12	56741201

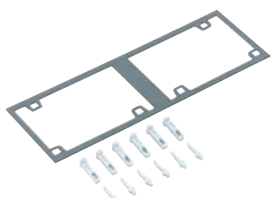
SF 12 inspection window



Inspection window, for fitting to enclosure cover, transparent inspection glass, with drilling template and fixing screws

Description	Order no.
SF 12	56801201

AK combi set



Combi set, for horizontal or vertical combination of all AK enclosures (until 04/15) and AKi enclosures from 300 x 150 mm, complete with wedge connectors and intermediate sealing for 150 and 300 mm enclosure sides, each 300 mm = 1 combi set

Description	Order no.
AK KS-IP65	79100101

AK combi set



Combi set without intermediate enclosure seal, for horizontal or vertical combination of all AK enclosures (until 04/15) and AKi enclosures from 300 x 150 mm, 1 set = 10 wedge connectors

Description	Order no.
AK KS-IP30	59110001

Industrial Enclosures AKL | AKi

AKL / AKi-L Accessories

Combi connector



Combination socket for connecting enclosures, polyethylene, grey, for wall thickness 1.5 - 4.0 mm

Description	Order no.
KST M32 Length 25 mm, for vertical and horizontal connection of AK/AKi 24 distribution boards, ZKi meter housings and AKL/AKi 1-4 empty enclosures, for vertical connection of AK/AKi 09/12 distribution boards, as well as TK empty enclosures with M32 knock-outs	19303201
KST M25-33 Length 33 mm, for vertical connection of AK 14 - 56, AK/AKi 24 distribution boards, ZKi meter enclosures and AKL/AKi 1 - 4 empty enclosures, as well as for horizontal connection of AK 28 – 56 distribution boards	19302601
KST M25-17 Length 17 mm, for vertical connection of AK/AKi 03 - 12 distribution boards, AKL / AKi 1-4, as well as TK and SVi enclosures with M25 knock-outs	19302501

Combi set



Combination set for connecting enclosures with metric entries, polystyrene, grey, complete with locknut and partition seal

Description	Wall thickness	Thread lenght/mm	Order no.
KS M20	2 x 3,0	12	19202001
KS M25	2 x 3,0	12	19202501
KS M25-gro	2 x 8,0	22	19202601
KS M32	2 x 3,5	14	19203201

AK mounting flange



Enclosure wall, for installation in the components of the AK enclosure system (until 04/15) for 300 mm wide end walls, with cable covers as standard

Description	Order no.
AK ABF 1 with knockouts, 2 x M32 / M40 / M50, 1 x M40 / M50 / M63	79504801
AK ABF 2 Smooth for self-drilling	79505001

AKi mounting flange



Enclosure wall, for attachment to components of AKi enclosure system to 300 mm wide sides, with cable covers as standard

Description	Order no.
AKi ABF 1 with knockouts, 2 x M32 / M40 / M50, 1 x M40 / M50 / M63	79605101
AKi ABF 2 Smooth for self-drilling	79605001

All prices are non-binding recommended gross prices in EUR excluding value-added tax. Prices as of 01/01/2020

Industrial Enclosures AKL | AKi

AKL / AKi-L Accessories

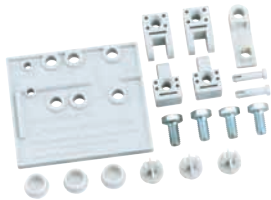
Padlock set



Padlock kit for upgrading the enclosure cover to lockable hinged door, incl. padlock, 2 hinges, fixing screws, cover plugs and drilling template

Description	Order no.
VSG from TK PS/PC 1811 onwards and AKL/AKi 1	19010001

Hinge set



External hinge set for retrofitting the enclosure cover to hinged door, incl. 2 hinges, fixing screws, cover plugs and drilling template

Description	Order no.
ASS-gro External hinge set large, from TK PS/PC 1811 and from AKL/AKi 1	19000501

AK partition wall



Partition wall, for installation in the components of the AK enclosure system, from AK 28 / AKL 2 / AKi 2, universal application for various enclosure heights, with break-out openings, grey

Description	Order no.
AK TW	79791001

AK external fixing lugs



External fixing lugs, for mounting separate enclosures or small units on flat wall surfaces, can be fixed to the box base at an angle of 0°, 45°, or 90°, wall gap 7 mm, material stainless steel, suitable for all AK enclosures from 300 mm front,

Description	Order no.
AK ABL-ES Set = 4 pcs.	79300401

Z wall profile



Z-wall profile, length 2 m, with 8 M6 cylinder screws and 8 captive push nuts, wall clearance 70 mm, material: galvanised steel

Description	Order no.
ZPR	07080001



Protection class (IP code)
as per DIN EN 60529 (VDE 0470-1)



Protection class (IK code)
against mechanical stresses
as per DIN EN 50102 (VDE 0470-100)



Protection class II
Equipment with protective insulation
as per DIN VDE 0100-410



Rated voltage
for use in **AC voltage systems**,
maximum permissible nominal
voltage of the electrical grid



Rated voltage
for use in **DC voltage systems**,
maximum permissible nominal
voltage of the electrical grid



Halogen-free enclosure,
without halogens such as fluorine,
chlorine and bromine.



Industrial Quality

Pictograms | Empty enclosure AKL / AKI-L

Standard Quality

Industry Quality

Overview of the **ambient conditions** and **mechanical properties** of the **Spelsberg products**	Enclosure empty			Enclosure with fittings						
	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Max. relative humidity at 40 °C	Max. relative humidity at 25 °C (short-term)	Protection rating according to DIN EN 60529 / VDE 0470-1[1]	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
AKL empty enclosure	-25°C	40°C	35°C	-25°C	40°C	35°C	50%	95%	IP65	IK07
AKi empty enclosure	-35 °C	80°C	60°C	-25°C	40°C	35°C	50%	95%	IP65	IK08

Additional note: The specified temperatures may be limited by the installed devices.

[1] When used with suitable connectors or cable screw couplings.
[2] Has passed the flame test of UL 746C as V-2 material.

Overview of the **Properties** of the materials used in the **Spelsberg installations systems**

Material	Use in the products:	Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzene	Mineral oil	Diesel	Ammonia, gaseous (DLG Focus Test)	Vegetable fats	Animal fats	Halogen-free	Free from heavy metals, PVC and silicone	Flammability according to DIN EN 60695 (VDE 0471) / UL94
Polystyrene, impact proof	AKL	O	Ø	O	O	O	X	X	O	X	not specified	O	X	yes	yes	650°C / HB
Polycarbonate, glass-fibre reinforced	AKi-L	O	X	X	X	O	Ø	X	O	Ø	O	O	Ø	yes	yes	960°C / V-2 (5VA*)
Polycarbonate, transparent	Cover AKL / AKi-L	O	X	X	X	Ø	Ø	X	O	Ø	O	O	O	yes	yes	850 °C / V-2
Polyamide 6, glass-fibre reinforced	Cover screws	X	X	O	O	O	O	Ø	O	O	O	O	O	yes	yes	750°C / HB/V-2

* 5 Inch (127 mm) Flame test according to UL 746 C (comparable with the requirements of UL 94, 5VA)

The materials used by Spelsberg were subjected to a weathering test according to DIN 53 387 (replaced by DIN EN ISO 4892-2), a 1000 hour test at the "State Examination Office" in Dortmund. The materials used in IQ products showed good result here. The material also passed the UV resistance test according to UL 746 C, without any limitations.

When selecting the installation location, the climatic conditions and the occurrence of chemical influences should generally be examined in addition to the protection rating. Details of material properties and chemical resistance of the materials can be seen from the table, **though these are simply guide values.**

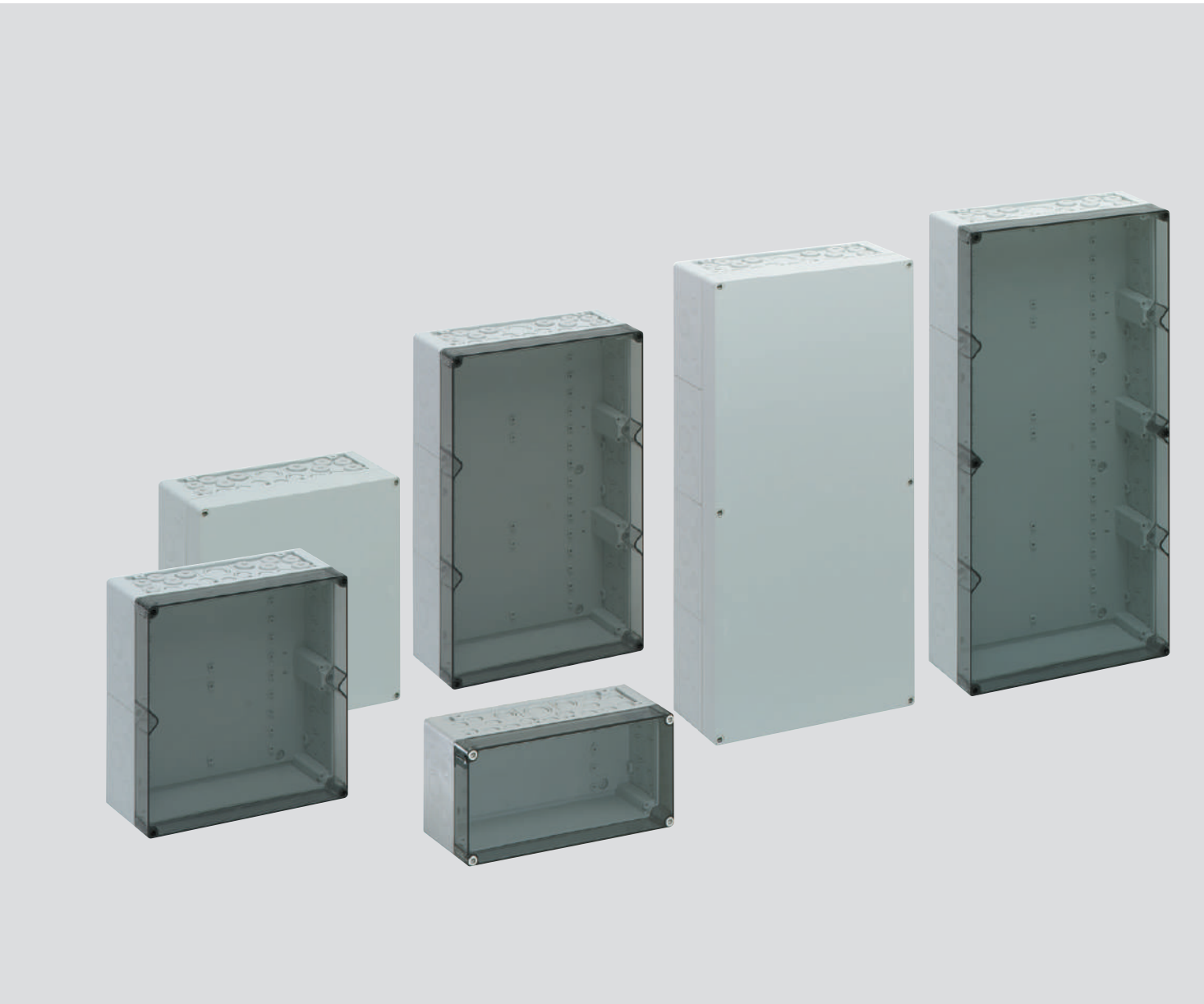
Power loss details for individually mounted AKL- / Aki empty enclosure

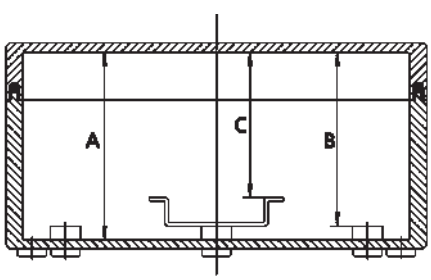
Type	Horizontal installation [W]				Vertical installation [W]			
	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
AKL 1-g/t / AKi 1-g/t	5.7	13.4	22.2	31.7	5.9	14.0	23.2	33.2
	[5.0]	[11.9]	[19.7]	[28.2]	[4.5]	[10.6]	[17.5]	[25.0]
AKL 2-g/t / AKi 2-g/t	8.9	21.1	35.0	50.1	8.9	21.1	35.0	50.1
	[7.3]	[17.2]	[28.5]	[40.8]	[7.3]	[17.2]	[28.5]	[40.8]
AKL 2-g/t-h / AKi 2-g/t-h	11.3	26.8	44.3	63.4	11.3	26.8	44.3	63.4
	[9.2]	[21.8]	[36.1]	[51.7]	[9.2]	[21.8]	[36.1]	[51.7]
AKL 3-g/t / AKi 3-g/t	11.8	28.0	46.4	66.4	12.1	28.6	47.4	67.8
	[10.2]	[24.1]	[39.9]	[57.0]	[9.3]	[22.1]	[36.6]	[52.4]
AKL 3-g/t-h / AKi 3-g/t-h	14.7	34.7	57.5	82.3	15.1	35.7	59.0	84.4
	[12.6]	[29.8]	[49.4]	[70.7]	[11.6]	[27.5]	[45.6]	[65.2]
AKL 4-g/t / AKi 4-g/t	14.7	34.8	57.6	82.4	15.2	35.9	59.5	85.1
	[13.0]	[30.9]	[51.1]	[73.1]	[11.4]	[27.1]	[44.8]	[64.1]
AKL 4-g/t-h / AKi 4-g/t-h	18.0	42.5	70.4	100.8	18.7	44.4	73.5	105.1
	[15.9]	[37.7]	[62.5]	[89.4]	[14.1]	[33.4]	[55.3]	[79.1]

Permissible power loss Pper in Watt as per DIN VDE 0660-507 for **individually surface-mounted installation small-scale distributors** and **surface-mounted empty enclosures** at specified ΔT. Power loss at 50% of the enclosure height and [75%] of the enclosure height.

Power loss details for interconnected **AKL / AKi empty enclosures**	Horizontal installation [W]				Vertical installation [W]			
Type	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
AKL 1-g/t / AKi 1-g/t	4.2	9.9	16.3	23.4	4.4	10.4	17.2	24.5
	[3.7]	[8.8]	[14.5]	[20.7]	[3.3]	[7.8]	[12.9]	[18.5]
AKL 2-g/t / AKi 2-g/t	7.0	16.5	27.4	39.1	7.0	16.5	27.4	39.1
	[5.7]	[13.5]	[22.3]	[31.9]	[5.7]	[13.5]	[22.3]	[31.9]
AKL 2-g/t-h / AKi 2-g/t-h	8.3	19.6	32.4	46.4	8.3	19.6	32.4	46.4
	[6.7]	[16.0]	[26.4]	[37.8]	[6.7]	[16.0]	[26.4]	[37.8]
AKL 3-g/t / AKi 3-g/t	9.5	22.5	37.2	53.2	9.7	22.9	38.0	54.3
	[8.2]	[19.3]	[32.0]	[45.7]	[7.5]	[17.7]	[29.3]	[42.0]
AKL 3-g/t-h / AKi 3-g/t-h	11.0	26.1	43.2	61.8	11.3	26.8	44.4	63.4
	[9.5]	[22.4]	[37.1]	[53.1]	[8.7]	[20.7]	[34.3]	[49.0]
AKL 4-g/t / AKi 4-g/t	12.0	28.3	46.9	67.0	12.3	29.2	48.3	69.1
	[10.6]	[25.1]	[41.6]	[59.5]	[9.3]	[22.0]	[36.4]	[52.0]
AKL 4-g/t-h / AKi 4-g/t-h	13.7	32.4	53.7	76.8	14.3	33.8	56.0	80.1
	[12.2]	[28.8]	[47.7]	[68.2]	[10.8]	[25.5]	[42.2]	[60.3]

Permissible power loss Pper in Watt as per DIN VDE 0660-507 for **surface-mounted interconnected empty enclosures** at specified ΔT.
Power loss at 50% of the enclosure height and [75%] of the enclosure height.





Installation dimensions of the Spelsberg installation products

(clear installation height)

Clear installation height of important article series

	A	B	C
AKL- / Aki empty enclosure	[mm]	[mm]	[mm]
AKL 1 to 4 / AKi 1 to 4	117.5	114	106.5
AKL 2-h to 4-h / AKi 2-h to 4-h	194.5	191	183.5



- 8 enclosure sizes up to 388 x 270 mm
- Powder coating to prevent corrosion
- Colour: silver grey, similar to RAL 7001
- Material: Aluminium die-cast
- Effective protection against electromagnetic interference (EMI) and electrostatic discharges (ESD)
- Compatible with TK built-in parts such as mounting plates or standard rails
- High resistance to chemicals
- Special designs on customer request

IP66 IK09 Industrial quality

Empty Enclosures ALS





- 16 standard enclosure sizes up to 330 x 230 mm
- Powder coating to prevent corrosion
- Colour: silver grey, similar to RAL 7001
- Material: Aluminium die-cast
- Effective protection against electro-magnetic interference (EMI) and electrostatic discharges (ESD)
- An even higher level of protection can be achieved by using conductive seals (available on request) between the components of the enclosure
- High resistance to chemicals
- Special designs on customer request



IP66 IK09 halogen-free iQ Industrial quality

Empty Enclosures AL

Aluminium Industrial Enclosures

ALS

ALS 99-6

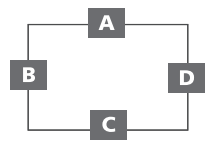
89 x 89 mm



Empty enclosure, IP 66, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
ALS 99-6	grey	none	64	15100101

M	12	16	20	25	32	40	50
A/C	2	1	1	-	-	-	-
B/D	1	1	1	-	-	-	-



ALS 1212-6

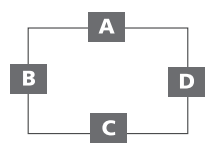
119 x 119 mm



Empty enclosure, IP 66, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
ALS 1212-6	grey	none	64	15100301

M	12	16	20	25	32	40	50
A/C	6	3	2	1	-	-	-
B/D	3	1	1	1	-	-	-



ALS 1414-7

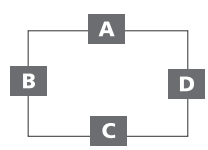
139 x 139 mm



Empty enclosure, IP 66, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
ALS 1414-7	grey	none	73	15100401

M	12	16	20	25	32	40	50
A/C	8	3	3	2	1	-	-
B/D	6	5	2	1	1	-	-

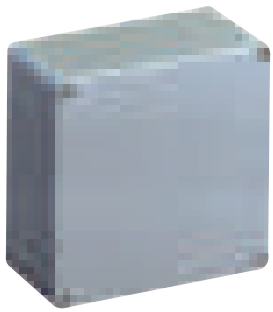


Aluminium Industrial Enclosures

ALS

ALS 1515-8

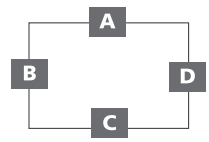
154 x 154 mm



Empty enclosure, IP 66, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
ALS 1515-8	grey	none	81	15100501

M	12	16	20	25	32	40	50
A/C	10	6	5	3	2	-	-
B/D	8	5	3	2	1	-	-



ALS 2011-9

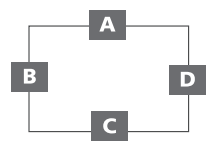
199 x 114 mm



Empty enclosure, IP 66, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
ALS 2011-9	grey	none	95	15100601

M	12	16	20	25	32	40	50
A/C	21	10	8	6	3	2	2
B/D	6	3	2	1	1	-	-



ALS 2020-9

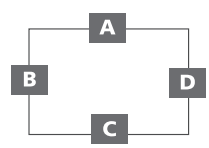
199 x 199 mm



Empty enclosure, IP 66, aluminium, powder-coated, Silver grey similar to RAL 7001

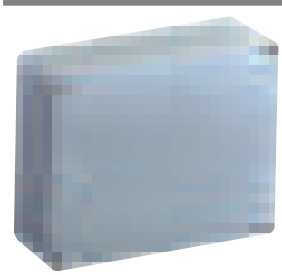
Description	Cover	Knockouts	Height/mm	Order no.
ALS 2020-9	grey	none	95	15100701

M	12	16	20	25	32	40	50
A/C	21	14	8	8	3	2	2
B/D	18	9	8	6	1	2	-



ALS 2720-9

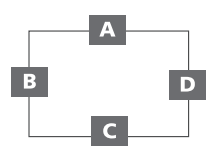
273 x 205 mm



Empty enclosure, IP 66, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
ALS 2720-9	grey	none	95	15100801

M	12	16	20	25	32	40	50
A/C	33	18	14	12	5	4	3
B/D	18	10	8	6	3	2	1



Aluminium Industrial Enclosures

ALS

ALS 3927-12

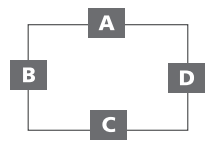
388 x 270 mm



Empty enclosure, IP 66, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
ALS 3927-12	grey	none	117	15101201

M	12	16	20	25	32	40	50
A/C	48	35	22	17	8	6	4
B/D	27	18	12	9	4	3	2





Aluminium Industrial Enclosures

AL

AL 55-3

50 x 45 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 55-3	grey	none	30	15000101

M	12	16	20	25	32	40	50
A/C	1						
B/D	1						

AL 66-3

64 x 58 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 66-3	grey	none	34	15000201

M	12	16	20	25	32	40	50
A/C	2	-	-	-	-	-	-
B/D	1	-	-	-	-	-	-

AL 88-6

80 x 75 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 88-6	grey	none	57	15000501

M	12	16	20	25	32	40	50
A/C	4	2	1	-	-	-	-
B/D	4	2	1	-	-	-	-

Aluminium Industrial Enclosures

AL

AL 1006-3

98 x 64 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 1006-3	grey	none	34	15000301

M	12	16	20	25	32	40	50
A/C	4	-	-	-	-	-	-
B/D	1	-	-	-	-	-	-

AL 1010-8

100 x 100 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 1010-8	grey	none	81	15000801

M	12	16	20	25	32	40	50
A/C	9	5	4	2	1	-	-
B/D	6	4	2	1	-	-	-

AL 1212-8

122 x 120 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 1212-8	grey	none	81	15000901

M	12	16	20	25	32	40	50
A/C	10	6	5	2	2	-	-
B/D	8	4	2	1	1	-	-

Aluminium Industrial Enclosures

AL

AL 1308-6

125 x 80 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 1308-6	grey	none	57	15000601

M	12	16	20	25	32	40	50
A/C	10	4	3	-	-	-	-
B/D	3	3	1	-	-	-	-

AL 1506-3

150 x 64 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 1506-3	grey	none	34	15000401

M	12	16	20	25	32	40	50
A/C	6	-	-	-	-	-	-
B/D	1	-	-	-	-	-	-

AL 1616-9

160 x 160 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 1616-9	grey	none	91	15001101

M	12	16	20	25	32	40	50
A/C	21	10	8	4	2	2	1
B/D	12	6	5	2	2	1	-

AL 1808-6

175 x 80 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 1808-6	grey	none	57	15000701

M	12	16	20	25	32	40	50
A/C	14	7	5	-	-	-	-
B/D	3	3	2	-	-	-	-

Aluminium Industrial Enclosures

AL

AL 2212-8

220 x 120 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 2212-8	grey	none	81	15001001

M	12	16	20	25	32	40	50
A/C	22	14	11	5	3	-	-
B/D	8	4	2	1	1	-	-

AL 2320-11

230 x 200 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 2320-11	grey	none	111	15001401

M	12	16	20	25	32	40	50
A/C	32	18	10	8	3	2	2
B/D	36	21	10	8	4	3	2

AL 2616-9

260 x 160 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 2616-9	grey	none	91	15001201

M	12	16	20	25	32	40	50
A/C	36	18	14	7	4	3	3
B/D	12	6	5	2	2	2	-

AL 2823-11

280 x 230 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 2823-11	grey	none	111	15001501

M	12	16	20	25	32	40	50
A/C	52	30	16	12	6	4	3
B/D	32	18	10	8	4	2	2

Aluminium Industrial Enclosures

AL

AL 3323-11 — 330 x 230 mm

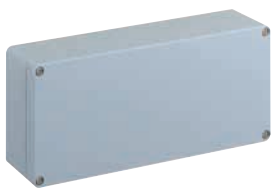


Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 3323-11	grey	none	111	15001601

M	12	16	20	25	32	40	50
A/C	64	36	20	14	7	5	4
B/D	32	18	10	8	4	2	2

AL 3616-9 — 360 x 160 mm



Empty enclosure, aluminium, powder-coated, Silver grey similar to RAL 7001

Description	Cover	Knockouts	Height/mm	Order no.
AL 3616-9	grey	none	90	15001301

M	12	16	20	25	32	40	50
A/C	54	28	20	10	6	5	4
B/D	12	6	5	2	2	1	-



Aluminium Industrial Enclosures

ALS / AL Accessories

Assembly plate galvanized steel



Mounting plate made from galvanized steel

Description	Dimensions/mm	Order no.
AL MPS-88	64 x 69 x 1,5	15500501
AL MPS-1010	88 x 88 x 1,5	15500801
AL MPS-1212	107 x 109 x 1,5	15500901
AL MPS-1308	69 x 114 x 1,5	15500601
AL MPS-1616	143 x 145 x 1,5	15501101
AL MPS-1808	69 x 164 x 1,5	15500701
AL MPS-2212	107 x 207 x 1,5	15501001
AL MPS-2320	184 x 213 x 1,5	15501401
AL MPS-2616	143 x 244 x 1,5	15501201
AL MPS-2823	214 x 264 x 1,5	15501501
AL MPS-3323	213 x 314 x 1,5	15501601
AL MPS-3616	143 x 345 x 1,5	15501301

Standard rail NS 35



Standard rail acc. to DIN EN 60715, 35 x 7.5mm

Description	Order no.
AL NS35-110 Enclosure type AL 1212	16200901
AL NS35-145 Enclosure type AL 1616	16201101
AL NS35-186 Enclosure type AL 2320	16201401
AL NS35-208 Enclosure type AL 2212	16201001
AL NS35-245 Enclosure type AL 2616	16201201
AL NS35-266 Enclosure type AL 2823	16201501
AL NS35-316 Enclosure type AL 3323	16201601
AL NS35-345 Enclosure type AL 3616	16201301

External fixing lugs



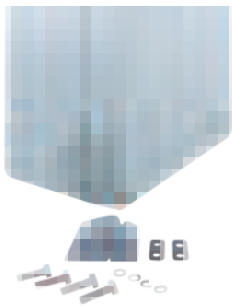
External fixing lugs

Description	Order no.
AL ALS-kl for AL/ALR 88, 1006, 1010, 1308, 1506, 1808, for ALS 99/1212	15400401
AL ALS-gro for AL/ALR 1212, 1616, 2212, 2320 , 2616, 2823, 3323, 3616, for ALS 1414, 1515, 2011, 2020, 2720, 3927	15400601

Aluminium Industrial Enclosures

ALS / AL Accessories

External hinge set



For converting the enclosure cover into a hinged door. Incl. 2 hinges, fastening screws and drilling template

Description	Order no.
AL ASS for AL/ALR 1010, 1212, 1616, 2212, 2320, 2616, 2823, 3323, 3616, for ALS 1515, 2011, 2020, 2720, 3927	15421001

Assembly plate insulating material



Mounting plate made from insulating material, incl. fixing screws and spacers

Description	Dimensions/mm	Order no.
TK MPI-77 TK PS/PC 77 + ALS 99	45 x 45 x 2,5	19500101
TK MPI-97 TK PS/PC 97	74 x 45 x 2,5	19500201
TK MPI-99 TK PS/PC 99 + ALS 1212	74 x 74 x 2,5	19500301
TK MPI-1111 TK PS/PC 1111 + ALS 1414	90 x 90 x 2,5	19500401
TK MPI-1309 TK PS/PC 1309	110 x 74 x 2,5	19500901
TK MPI-1313 TK PS/PC 1313 + ALS 1515	110 x 110 x 2,5	19500501
TK MPI-1809 TK PS/PC 1809	160 x 74 x 2,5	19501001

Assembly plate insulating material



Mounting plate made from insulating material, incl. fixing screws

Description	Dimensions/mm	Order no.
TK MPI-1811 TK PS/PC 1811 + ALS 2011	150 x 90 x 2,5	19500601
TK MPI-1813 TK PS/PC 1813	100 x 146 x 2,5	19501101
TK MPI-1818 TK PS/PC 1818 + ALS 2020	150 x 150 x 2,5	19500701
TK MPI-2518 TK PS/PC 2518 + ALS 2720	150 x 220 x 2,5	19500801
TK MPI-3625 TK PS/PC 3625 + ALS 3927	331 x 220 x 2,5	19501201

Aluminium Industrial Enclosures

ALS / AL Accessories

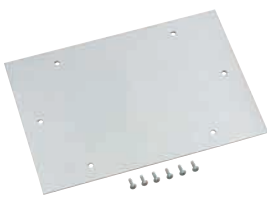
Assembly plate galvanized steel



Mounting plate made from galvanized steel, incl. fixing screws and spacers

Description	Dimensions/mm	Order no.
TK MPS-77 TK PS/PC 77 + ALS 99	45 x 45 x 2	19700101
TK MPS-97 TK PS/PC 97	45 x 74 x 2	19700201
TK MPS-99 TK PS/PC 99 + ALS 1212	74 x 74 x 2	19700301
TK MPS-1111 TK PS/PC 1111 + ALS 1414	90 x 90 x 2	19700401
TK MPS-1309 TK PS/PC 1309	74 x 110 x 2	19700901
TK MPS-1313 TK PS/PC 1313 + ALS 1515	110 x 110 x 2	19700501
TK MPS-1809 TK PS/PC 1809	74 x 160 x 2	19701001

Assembly plate galvanized steel



Mounting plate made from galvanized steel, incl. fixing screws

Description	Dimensions/mm	Order no.
TK MPS-1811 TK PS/PC 1811 + ALS 2011	90 x 150 x 2	19700601
TK MPS-1813 TK PS/PC 1813	100 x 146 x 2	19701101
TK MPS-1818 TK PS/PC 1818 + ALS 2020	150 x 150 x 2	19700701
TK MPS-2518 TK PS/PC 2518 + ALS 2720	150 x 220 x 2	19700801
TK MPS-3625 TK PS/PC 3625 + ALS 3927	220 x 331 x 2	19701201

Standard rail NS 35



Standard rail acc. to DIN EN 60715, 35 x 7.5 mm, incl. fixing screws

Description	Order no.
NS 35-144 TK PS/PC 1809/1811/1813/1818/2518 + ALS 2011/2020	19814401
NS 35-171	19817101
NS 35-216 TK PS/PC 2518/3625 + ALS 2720/3927	19821601
NS 35-336 TK PS/PC 3625 + ALS 3927	19833601

Aluminium Industrial Enclosures

ALS / AL Accessories

Standard rail TS 15



Standard rail acc. to DIN EN 60715, 15 x 5, width 15 mm, incl. fixing screws

Description	Order no.
TS 15-49,5 TK PS/PC 77/97 + ALS 99	19704901
TS 15-80 TK PS/PC 97/99/1111/1309/1313/1809/1811 + ALS 1212/1414/1515/2011	19708001
TS 15-92 TK PS/PC 1111/1309/1313/1809/1811 + ALS 1414/1515/2011	19709201
TS 15-111 TK PS/PC 1309/1313 + ALS 1515	19711101
TS 15-154 TK PS/PC 1809/1811/1813/1818/2518 + ALS 2020/2720	19715401

Ventilation plug



Ventilation Plug, IP44, with ventilation seal to avoid condensation formation in enclosures, flow rate 100 l/min. at 0.1 bar overpressure, thermoplastic elastomer, grey, recommended for insertion on the left and right enclosure sides in different heights (see Technical Appendix - protection against condensate water), f. wall thicknesses 1.5 - 4.5 mm

Description	for wall thickness	Order no.
BST M20 Grey	4,5 - 1,5	26242001
BST M20/sw Black	4,5 - 1,5	26202001

Double membrane seals, grey



Double membrane seals, IP66, with two sealing membranes, closed, thermoplastic elastomer (TPE), grey, for wall thicknesses 1.5 - 4.5 mm

Description	Sealing area/mm	Order no.
DMS M16	5 - 9	26041601
DMS M20	7 - 12	26042001
DMS M25	9 - 16	26042501
DMS M32	14 - 21	26043201
DMS M40	19 - 28	26044001

Cable gland, grey



Cable gland, IP68, with strain relief, polyamide, M_ x 1.5 mm, without lock nut

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12	2 - 6.5	8	24741201
KVR M16	4 - 10	8	24741601
KVR M20	6 - 12	9	24742001
KVR M20-GDB	7 - 14	9	24742101
KVR M25	9 - 16	11	24742501
KVR M32	11 - 21	11	24743201
KVR M40	16 - 28	11	24744001
KVR M50	21 - 34.5	13	24745001

Attachment bushes



Attachment bushes, IP54, with open sealing membrane, no lock nuts required

Description	Sealing area/mm	Order no.
AST M16	6 - 10	23041601
AST M20	8 - 13.5	23042001
AST M25	9 - 18.5	23042501
AST M32	13 - 23	23043201
AST M40	17 - 30	23044001





Protection class (IP code)
as per DIN EN 60529 (VDE 0470-1)



Protection class (IK code)
against mechanical stresses
as per DIN EN 50102 (VDE 0470-100)



Equipment of **protection class I**
as per EN 61140 (VDE 140-1)



Halogen-free enclosure,
without halogens such as fluorine, chlorine and bromine.



Industrial Quality



c UL us (Underwriters Laboratories)
Products with the **c UL us** test symbol have independently been certified by the UL (Underwriters Laboratories Inc.). Representative samples of this product were evaluated by UL and in accordance with the applicable national standards of USA and Canada.

Pictograms | Empty enclosure ALS / AL



Industry
Quality

Overview of the **ambient conditions** and **mechanical properties** of the **els products**	Empty enclosures			Enclosure with fittings						
	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Max. relative humidity at 40 °C	Max. relative humidity at 25 °C (short-term)	Protection rating according to DIN EN 60529 / VDE 0470-1[1)]	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
AL / ALS aluminium enclosure	-35 °C	75°C	60°C	-25°C	40°C	35°C	50%	95%	IP66	IK09

Additional note: The specified temperatures may be limited by the installed devices.

[1)] When used with suitable connectors or cable screw couplings.

Technical Information | ALS / AL

Overview of the **Properties** of the materials used in the **els installations systems**

Material	Use in the products:	Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzene	Mineral oil	Diesel	Ammonia, gaseous (DLG Focus Test)	Vegetable fats	Animal fats	Halogen-free	Free from heavy metals, PVC and silicone	Flammability according to DIN EN 60695 (VDE 0471) / UL94
Aluminium	AL, ALS	O	Ø	O	O	O	O	O	O	O	not speci-fied	O	O	yes	yes	---

The materials used by Spelsberg were subjected to a weathering test according to DIN 53 387 (replaced by DIN EN ISO 4892-2), a 1000 hour test at the "State Examination Office" in Dortmund. The materials used in IQ products showed good result here.
The material also passed the UV resistance test according to UL 746 C, without any limitations.

When selecting the installation location, the climatic conditions and the occurrence of chemical influences should generally be examined in addition to the protection rating. Details of material properties and chemical resistance of the materials can be seen from the table, **though these are simply guide values.**

Power loss details for individually mounted ALS empty enclosure

	Horizontal installation				Vertical installation			
	[W]				[W]			
Type	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
ALS 99-6	1.2	2.9	4.8	6.9	1.2	2.9	4.8	6.9
	[1.0]	[2.4]	[3.9]	[5.6]	[1.0]	[2.4]	[3.9]	[5.6]
ALS 1212-6	1.8	4.2	7.0	10.1	1.8	4.2	7.0	10.1
	[1.5]	[3.5]	[5.7]	[8.2]	[1.5]	[3.5]	[5.7]	[8.2]
ALS 1414-7	2.4	5.6	9.2	13.2	2.4	5.6	9.2	13.2
	[1.9]	[4.6]	[7.5]	[10.8]	[1.9]	[4.6]	[7.5]	[10.8]
ALS 1515-8	2.9	6.8	11.2	16.0	2.9	6.8	11.2	16.0
	[2.3]	[5.5]	[9.1]	[13.0]	[2.3]	[5.5]	[9.1]	[13.0]
ALS 2011-9	3.0	7.1	11.8	16.9	3.1	7.4	12.3	17.6
	[2.6]	[6.2]	[10.3]	[14.8]	[2.4]	[5.6]	[9.3]	[13.3]
ALS 2020-9	4.4	10.3	17.1	24.4	4.4	10.3	17.1	24.4
	[3.6]	[8.4]	[13.9]	[19.9]	[3.6]	[8.4]	[13.9]	[19.9]
ALS 2720-9	5.5	13.1	21.6	30.9	5.6	13.3	22.0	31.4
	[4.7]	[11.1]	[18.3]	[26.2]	[4.4]	[10.4]	[17.2]	[24.6]
ALS 3927-12	9.4	22.2	36.8	52.7	9.6	22.7	37.5	53.7
	[8.0]	[19.0]	[31.5]	[45.0]	[7.4]	[17.6]	[29.1]	[41.7]

Permissible power loss Pper in Watts per DIN VDE 0660-507 for **individually-mounted empty installations** at specified ΔT.
Power loss at 50% of the enclosure height and [75%] of the enclosure height.

Power loss details for individually mounted AL empty enclosure

	Horizontal installation				Vertical installation			
	[W]				[W]			
Type	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
AL 55-3	0.4	0.8	1.4	2.0	0.4	0.9	1.4	2.0
	[0.3]	[0.7]	[1.2]	[1.7]	[0.3]	[0.7]	[1.1]	[1.6]
AL 66-3	0.5	1.3	2.1	3.0	0.5	1.3	2.1	3.0
	[0.4]	[1.0]	[1.7]	[2.5]	[0.4]	[1.0]	[1.7]	[2.4]
AL 88-6	1.0	2.3	3.8	5.4	1.0	2.3	3.8	5.4
	[0.8]	[1.9]	[3.1]	[4.4]	[0.8]	[1.9]	[3.1]	[4.4]
AL 1006-3	0.8	1.8	3.0	4.3	0.8	1.8	3.0	4.4
	[0.7]	[1.5]	[2.6]	[3.7]	[0.6]	[1.4]	[2.3]	[3.4]
AL 1010-8	1.6	3.9	6.4	9.2	1.6	3.9	6.4	9.2
	[1.3]	[3.2]	[5.2]	[7.5]	[1.3]	[3.2]	[5.2]	[7.5]
AL 1212-8	2.1	4.9	8.1	11.6	2.1	4.9	8.2	11.7
	[1.7]	[4.0]	[6.7]	[9.5]	[1.7]	[4.0]	[6.6]	[9.5]
AL 1308-6	1.3	3.2	5.3	7.5	1.4	3.3	5.4	7.7
	[1.2]	[2.7]	[4.5]	[6.5]	[1.1]	[2.5]	[4.2]	[5.9]
AL 1506-3	1.0	2.5	4.1	5.8	1.1	2.6	4.3	6.1
	[0.9]	[2.2]	[3.7]	[5.3]	[0.8]	[1.9]	[3.2]	[4.6]
AL 1616-9	**3.2**	**7.5**	**12.5**	**17.9**	**3.2**	**7.5**	**12.5**	**17.9**
	[2.6]	**[6.1]**	**[10.2]**	**[14.6]**	**[2.6]**	**[6.1]**	**[10.2]**	**[14.6]**
AL 1808-6	**1.7**	**4.0**	**6.7**	**9.5**	**1.8**	**4.2**	**7.0**	**10.0**
	[1.5]	**[3.6]**	**[6.0]**	**[8.5]**	**[1.3]**	**[3.2]**	**[5.2]**	**[7.5]**
AL 2212-8	**3.1**	**7.3**	**12.1**	**17.2**	**3.2**	**7.6**	**12.5**	**17.9**
	[2.7]	**[6.4]**	**[10.6]**	**[15.2]**	**[2.4]**	**[5.7]**	**[9.5]**	**[13.5]**
AL 2320-11	**5.2**	**12.3**	**20.3**	**29.1**	**5.2**	**12.4**	**20.5**	**29.3**
	[4.3]	**[10.2]**	**[16.9]**	**[24.2]**	**[4.2]**	**[9.9]**	**[16.4]**	**[23.5]**
AL 2616-9	**4.4**	**10.5**	**17.3**	**24.7**	**4.5**	**10.7**	**17.8**	**25.5**
	[3.8]	**[9.1]**	**[15.0]**	**[21.5]**	**[3.5]**	**[8.2]**	**[13.6]**	**[19.5]**
AL 2823-11	**6.5**	**15.4**	**25.6**	**36.6**	**6.6**	**15.6**	**25.9**	**37.0**
	[5.5]	**[12.9]**	**[21.4]**	**[30.6]**	**[5.2]**	**[12.4]**	**[20.5]**	**[29.3]**
AL 3323-11	**7.3**	**17.3**	**28.7**	**41.0**	**7.5**	**17.7**	**29.2**	**41.8**
	[6.2]	**[14.8]**	**[24.5]**	**[35.0]**	**[5.8]**	**[13.7]**	**[22.7]**	**[32.5]**
AL 3616-9	**5.6**	**13.2**	**21.9**	**31.3**	**5.8**	**13.8**	**22.9**	**32.7**
	[5.0]	**[11.9]**	**[19.7]**	**[28.1]**	**[4.4]**	**[10.4]**	**[17.2]**	**[24.5]**

Permissible power loss Pper in Watts per DIN VDE 0660-507 for **individually-mounted empty installations** at specified ΔT.
Power loss at 50% of the enclosure height and [75%] of the enclosure height.



Application areas

- Stops
- Pumping systems
- Measuring stations
- Telecommunications devices
- Charging stations
- Urban furnishings
- Allotments

Characteristics

- Compact construction
- For AC connections

SVi:

Flexible communication options, numerous housing variants

Benefits

- No corrosion
- For use in harsh environments
- Easy installation
- Individual adaptation to spatial conditions
- Application-optimised mains connection solutions, quick to implement

IP54 IP65 | IK07 | 400V AC | halogen-free | iQ Industrial quality

Automatic machine enclosure SVi - Compact construction

Automatic Machine Enclosures

SVi

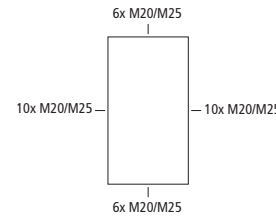
SVi A 6

150 x 300 x 156 mm



IP65 IK07 6 400V AC halogen-free iQ

Automatic machine enclosure 1-row - Industrial Quality - 6 distribution units, arranged at the top, with hinged window,1x PE/N terminal (2x (1 x 25 mm² + 7 x 4(6) mm²))



Description	Order no.
SVi A 6	59106101

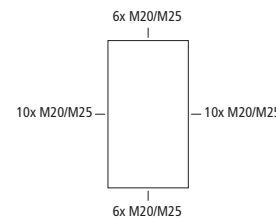
SVi A 2x6

150 x 300 x 156 mm



IP65 IK07 12 400V AC halogen-free iQ

Automatic machine enclosure 2-row - Industrial Quality - 2 x 6 distribution units, with hinged window, 1x PE/N terminal (2x (1 x 25 mm² + 7 x 4(6) mm²))



Description	Order no.
SVi A 2x6	59106401

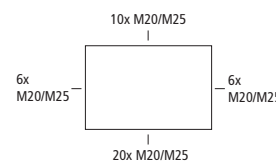
SVi A 12

150 x 300 x 156 mm



IP65 IK07 12 400V AC halogen-free iQ

Automatic machine enclosure 1-row - Industrial Quality - 12 distribution units, with hinged window, 1x PE/N terminal (2x (1 x 25 mm² + 7 x 4(6) mm²))



Description	Order no.
SVi A 12	59113201

Automatic Machine Enclosures

SVi

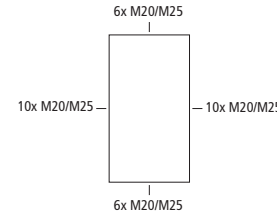
SVi L

150 x 300 mm



IP65 IK07 400V AC halogen-free iQ

Empty enclosure - Industrial Quality -, for individual expansion with standard rails or mounting plates, halogen-free



Description	Height/mm	Order no.
SVi L-g Cover, grey	137	59112001
SVi L-gh Cover, grey	162	59112101
SVi L-t Cover, transparent	137	59111001
SVi L-th Cover, transparent	162	59111201

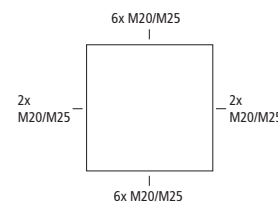
SVi LQ

150 x 150 x 137 mm



IP65 IK07 400V AC halogen-free iQ

Empty enclosure - Industrial Quality -, for individual expansion with standard rails or mounting plates



Description	Order no.
SVi LQ-t IP65, protective insulation, box + lid polycarbonate, box grey, simil. RAL 7035, Cover, transparent	59121001
SVi LQ-g IP65, protective insulation, box + lid polycarbonate, grey, simil. RAL 7035	59122001

All prices are non-binding recommended gross prices in EUR excluding value-added tax. Prices as of 01/01/2020

Automatic Machine Enclosures

SVi

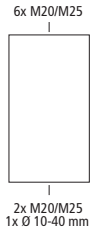
SVi LS

150 x 300 x 137 mm



IP54 IK07 400V AC halogen-free iQ

Empty enclosure - Industrial Quality -, with sliding seal and cable clamp



Description	Height/mm	Order no.
SVi LS-g	137	59112201
SVi LS-gh	162	59112301
SVi LS-t	137	59111301
SVi LS-th	162	59111401



Automatic Machine Enclosures

Accessories SVi

Support NS



Carrier for standard rails acc. to DIN EN 60715, 35 x 7.5 mm, set = 10 pcs.

Description	Height/mm	Order no.
TR NS35-20	20	79502001
TR NS35-34	34.5	79503401
TR NS35-42	42.5	79504201
TR NS35-58	58.5	79505801
TR NS35-64	64	79506401
TR NS35-91	91	79509101

Support NS fastening screws



Fixing screws for 1 TR NS35-xx, set of 30 pieces

Description	Order no.
SR NS35 Fixing screws for 1 support set TR NS35/xx	79541301

Assembly plate insulating material



Mounting plate made from insulating material, incl. fixing screws

Description	for cover	Dimensions/mm	Order no.
SVI MPI	SVi-L	240 x 112 x 4	59190001

Standard rail NS 35



Standard rail acc. to DIN EN 60715, 35 x 7.5 mm, incl. fixing screws

Description	for cover	Dimensions/mm	Order no.
NS35-125	SVi-L/SVi A 6	35 x 125 x 7,5	59190601
NS35-260	SVi-L	35 x 260 x 7,5	59191201



Protection class (IP code)
as per DIN EN 60529 (VDE 0470-1)



Protection class (IK code)
against mechanical stresses
as per DIN EN 50102 (VDE 0470-100)



Protection class II
Equipment with protective insulation
as per DIN VDE 0100-410



Rated voltage
for use in **AC voltage systems**,
maximum permissible nominal voltage
of the electrical grid



Halogen-free enclosure,
without halogens such as fluorine,
chlorine and bromine.



Industrial quality



Maximum number **Partition units**



The **VDE mark** stands for approved safety
of the product referring electrical,
mechanical, thermal and other hazards

Pictograms | SVi



Industrial-
Quality

Technical Information | SVi

Overview of the **ambient conditions** and **mechanical properties** of the **Spelsberg products**

	Empty enclosure			Enclosure with fittings						
	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Ambient temperature Minimum value	Ambient temperature Maximum value	Ambient temperature Average value over 24 h	Max. relative humidity at 40 °C	Max. relative humidity at 25 °C (short-term)	Protection rating according to DIN EN 60529 / VDE 0470-1[1]	Shock-proof as per DIN EN 50102 / DE 0470 Part 100
SVi Enclosure	-35 °C	80°C	60°C	-25°C	40°C	35°C	50%	95%	IP65[2]	IK07

Additional note: The specified temperatures may be limited by the installed devices.

[1] When used with suitable connectors or cable screw couplings

[2] Enclosures with slide-in seal ensure protective class IP54

Overview of the **Properties** of the materials used in the **Spelsberg installations systems**

Material	Use in the products:	Weak acids	Strong acids	Weak bases	Strong bases	Alcohol	Petrol	Benzene	Mineral oil	Diesel	Ammonia, gaseous (DLG Focus Test)	Vegetable fats	Animal fats	Halogen-free	Free of heavy metals, PVC and silicone	Flammability according toDIN EN 60695 (VDE 0471) / UL94
Polycarbonate, glass-fibre reinforced	Box SVi	O	X	X	X	O	Ø	X	O	Ø	O	O	Ø	yes	yes	960°C / V-2 (5VA*)
Polycarbonate	Cover SVi	O	X	X	X	Ø	Ø	X	O	Ø	O	O	O	yes	yes	850 °C / V-2
Polyamide 6, glass-fibre reinforced	Screwed connections IP 68, cover screws	X	X	O	O	O	O	Ø	O	O	O	O	O	yes	yes	750°C / HB/V-2

* 5 Inch (127 mm) Flame test according to UL 746 C (comparable with the requirements of UL 94, 5VA)

O = resistant Ø = partially resistant X = not resistant

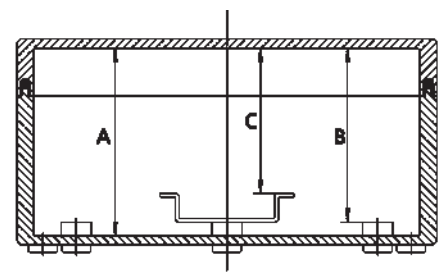
The materials used by Spelsberg were subjected to a weathering test according to DIN 53 387 (replaced by DIN EN ISO 4892-2), a 1000 hour test at the "State Examination Office" in Dortmund. The materials used in IQ products showed good result here. The material also passed the UV resistance test according to UL 746 C, without any limitations.

When selecting the installation location, the climatic conditions and the occurrence of chemical influences should generally be examined in addition to the protection rating. Details of material properties and chemical resistance of the materials can be seen from the table, **though these are simply guide values.**

Installation dimensions of the Spelsberg installation products

(clear installation height)

SVi empty enclosure	[mm]	[mm]	[mm]
SVi enclosure height 137mm	119	111.5	—
SVi enclosure height 162mm	144	136.5	—



Details on power losses for SVi enclosure	Installation horizontal				Installation upright			
	[W]				[W]			
Type	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
Enclosure SVi (150 x 300 x 137 mm)	5.8	13.7	22.7	32.4	6.1	14.3	23.7	34.0
	[5.1]	[12.1]	[20.1]	[28.7]	[4.6]	[10.8]	[17.9]	[25.6]
Enclosure SVi (150 x 300 x 162 mm)	6.4	15.1	24.9	35.6	6.7	15.8	26.2	37.5
	[5.6]	[13.4]	[22.1]	[31.6]	[5.0]	[11.9]	[19.7]	[28.2]
Enclosure SVi LQ (150 x 150 x 137 mm)	3.7	8.8	14.5	20.8	3.7	8.8	14.5	20.8
	[3.0]	[7.2]	[11.8]	[16.9]	[3.0]	[7.2]	[11.8]	[16.9]

Permissible power loss Pper in Watt as per DIN VDE 0660-507 for **individually surface-mounted installation small-scale distributors** and **surface-mounted empty enclosures** at specified ΔT. Power loss at 50% of the enclosure height and [75%] of the enclosure height.

Power dissipation details for SVi enclosures mounted in combination	Installation horizontal				Installation upright			
	[W]				[W]			
Type	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
Enclosure SVi (150 x 300 x 137 mm)	3.6	8.5	14.1	20.2	3.8	9.0	15.0	21.4
	[3.2]	[7.6]	[12.5]	[17.9]	[2.9]	[6.8]	[11.3]	[16.1]
Enclosure SVi (150 x 300 x 162 mm)	3.9	9.3	15.4	22.0	4.2	9.9	16.4	23.4
	[3.5]	[8.2]	[13.6]	[19.5]	[3.1]	[7.4]	[12.3]	[17.6]
Enclosure SVi LQ (150 x 150 x 137 mm)	2.3	5.4	8.9	12.8	2.3	5.4	8.9	12.8
	[1.9]	[4.4]	[7.3]	[10.4]	[1.9]	[4.4]	[7.3]	[10.4]

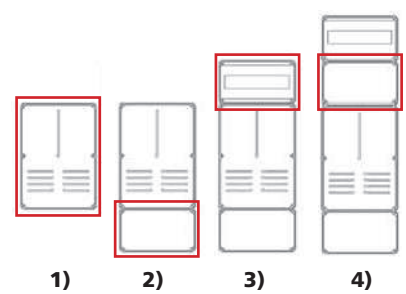
Permissible power loss Pper in Watt as per DIN VDE 0660-507 for **surface-mounted interconnected empty enclosures** at specified ΔT. Power loss at 50% of the enclosure height and [75%] of the enclosure height.

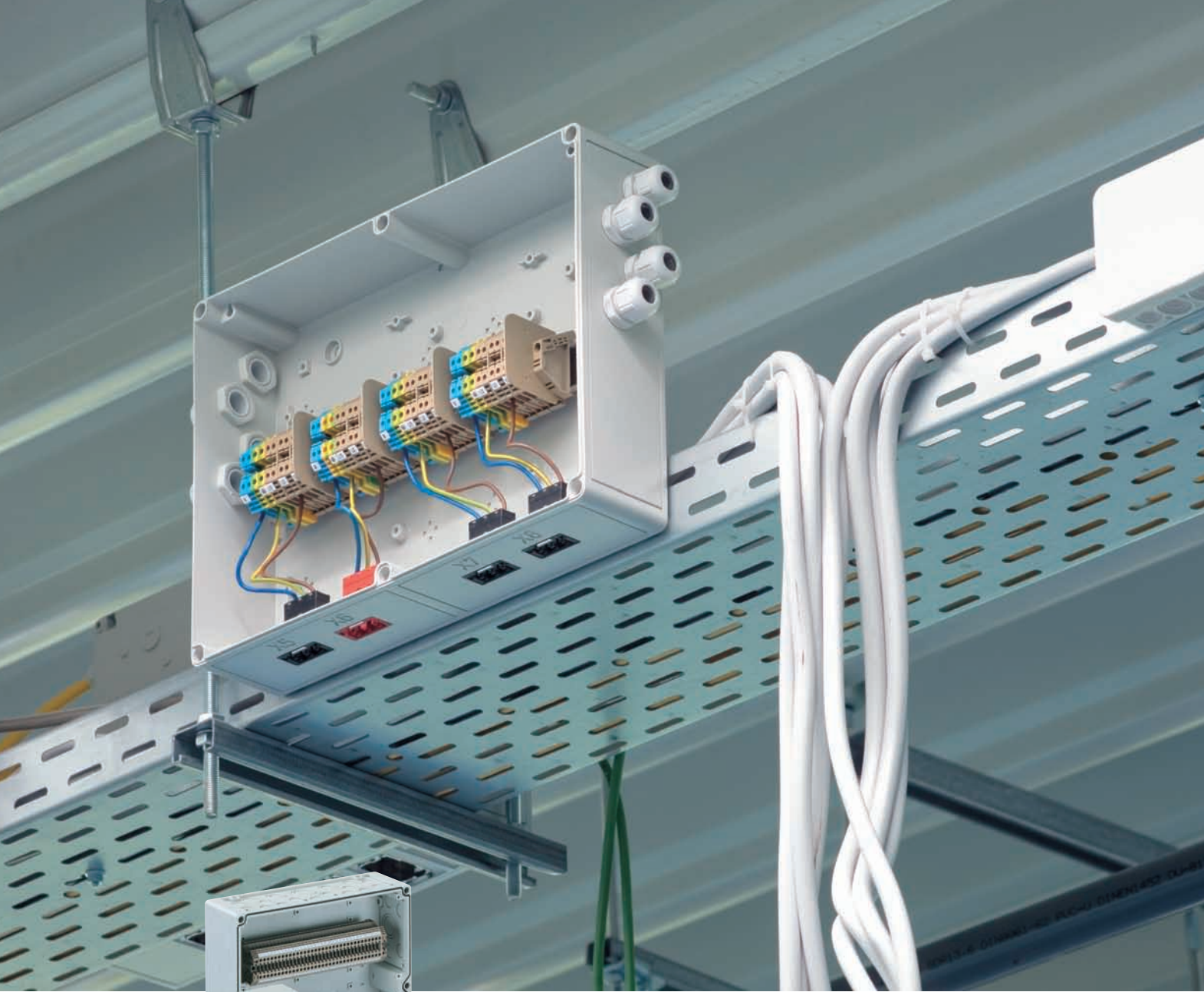
SVi single enclosure

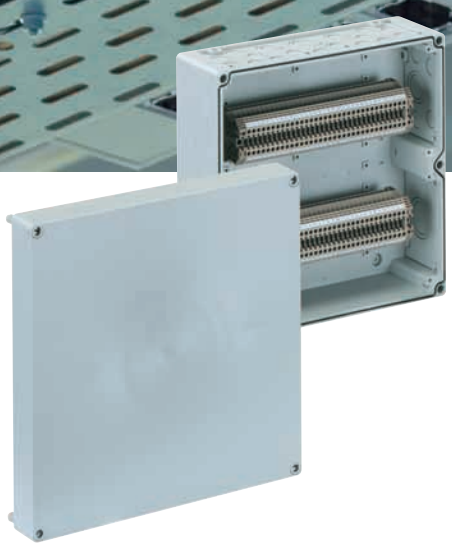
The details on power losses of the single SVi enclosures for the arrangement of individual ZVi-K-meter distributions can be retrieved from the Internet where the SVi-enclosures are offered.

Enclosure area	ΔT= 10K	ΔT= 20K	ΔT= 30K	ΔT= 40K
1) Meter position with high cover (193 mm)	11,3 [8,7]*	26.7 [20.7]*	44.2 [34.2]*	63.2 [48.9]*
1) Meter position with flat cover (137 mm)	9.4 [7.3]*	22.4 [17.3]*	37.0 [28.7]*	53 [41.0]*
2) Connecting space bottom	4.3 [3.7]*	10.1 [8.8]*	16.7 [14.6]*	24 [20.8]*
3) Consumer space top	5.1 [4.4]*	12.1 [10.5]*	20.0 [17.4]*	28.6 [24.9]*
4) Additional space	4.3 [3.7]*	10.1 [8.8]*	16.7 [14.6]*	24.0 [20.8]*

*These maximum power losses are allowed to be applied in the connecting area (red marking) of the meter enclosures.







Empty or fully fitted, compact or with plenty of space for up to 136 terminals - RK terminal block enclosures from Spelsberg offer space for a variety of solutions for every installation.

Special solutions on request.

Terminal Block Enclosures

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Terminal Block Enclosures

RK Compact | RKi Compact

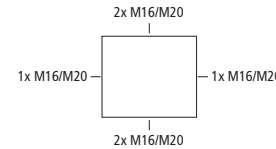
RKK 4/05

94 x 65 x 57 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, flat design, polystyrene, light grey, similar to RAL 7035, equipped with 5-pole terminal block 0.2-4 mm² (screw connection), incl. 3 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKK 4/05-5x4²	60540401

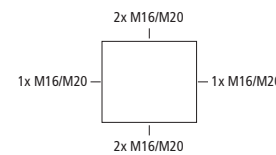
RKKi 4/05

94 x 65 x 57 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, flat design, polycarbonate, grey similar RAL 7035, equipped with 5-pole terminal block 0.2-4 mm² (screw connection), incl. 3 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKKi 4/05-5x4²	63540401

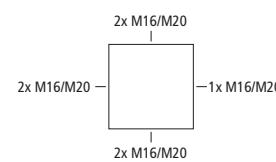
RKK 4/07
RKK 4/08

94 x 94 x 57 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, flat design, polystyrene, light grey, similar to RAL 7035, equipped with 7- or 8-pole terminal block 0.2-4 mm² (screw connection), incl. 4 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKK 4/07-7x4² (with 7-pole block terminal)	60040701
RKK 4/08-8x4² (with 8-pole block terminal)	60640401

Terminal Block Enclosures

RK Compact | RKi Compact

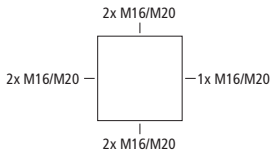
RKKi 4/07
RKKi 4/08

94 x 94 x 57 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, flat design, polycarbonate, grey similar RAL 7035, equipped with 7- or 8-pole terminal block 0.2-4 mm² (screw connection), incl. 4 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKKi 4/07-7x4² (with 7-pole block terminal)	63040701
RKKi 4/08-8x4² (with 8-pole block terminal)	63640401

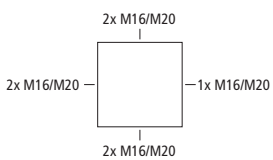
RKK 4/10

94 x 94 x 57 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, flat design, polystyrene, light grey, similar to RAL 7035, equipped with 10-pole terminal block 0.2-4 mm² (screw connection), incl. 4 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKK 4/10-10x4²	60740401

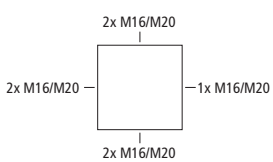
RKKi 4/10

94 x 94 x 57 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, flat design, polycarbonate, grey similar RAL 7035, equipped with 10-pole terminal block 0.2-4 mm² (screw connection), incl. 4 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKKi 4/10-10x4²	63740401

Terminal Block Enclosures

RK Compact | RKi Compact

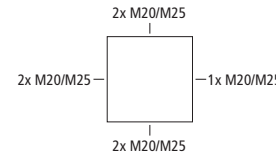
RKK 4/12

110 x 110 x 66 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, flat design, polystyrene, light grey, similar to RAL 7035, equipped with 12-pole terminal block 0.2-4 mm² (screw connection), incl. 4 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKK 4/12-12x4²	61040401

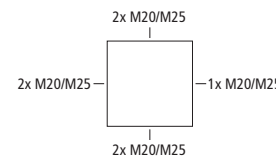
RKKi 4/12

110 x 110 x 66 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, flat design, polycarbonate, grey similar RAL 7035, equipped with 12-pole terminal block 0.2-4 mm² (screw connection), incl. 4 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKKi 4/12-12x4²	63040401

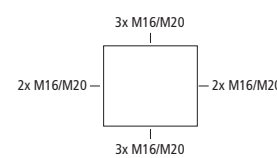
RKK 4/12 XL

130 x 94 x 57 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, flat design, polystyrene, light grey, similar to RAL 7035, equipped with 12-pole terminal block 0.2-4 mm² (screw connection), incl. 6 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKK 4/12 XL-12x4²	60041201

Terminal Block Enclosures

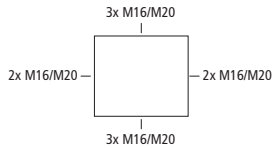
RK Compact | RKi Compact

RKKi 4/12 XL — 130 x 94 x 57 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, flat design, polycarbonate, grey similar RAL 7035, equipped with 12-pole terminal block 0.2-4 mm² (screw connection), incl. 6 attachment bushes M20, seal range 8 - 13.5 mm, IP54



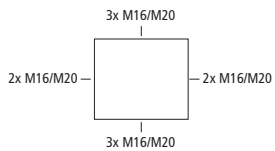
Description	Order no.
RKKi 4/12 XL-12x4²	63041201

RKK 4/15 — 130 x 94 x 57 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, flat design, polystyrene, light grey, similar to RAL 7035, equipped with 15-pole terminal block 0.2-4 mm² (screw connection), incl. 6 attachment bushes M20, seal range 8 - 13.5 mm, IP54



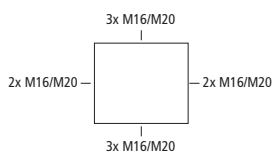
Description	Order no.
RKK 4/15-15x4²	61240401

RKKi 4/15 — 130 x 94 x 57 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, flat design, polycarbonate, grey similar RAL 7035, equipped with 15-pole terminal block 0.2-4 mm² (screw connection), incl. 6 attachment bushes M20, seal range 8 - 13.5 mm, IP54



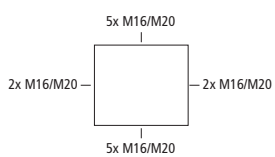
Description	Order no.
RKKi 4/15-15x4²	63240401

RKK 4/18 — 180 x 94 x 57 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, flat design, polystyrene, light grey, similar to RAL 7035, equipped with 18-pole terminal block 0.2-4 mm² (screw connection), incl. 6 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKK 4/18-18x4²	60041801

Terminal Block Enclosures

RK Compact | RKi Compact

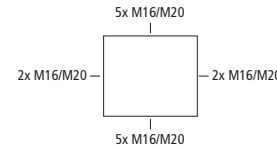
RKKi 4/18

180 x 94 x 57 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, flat design, polycarbonate, grey similar RAL 7035, equipped with 18-pole terminal block 0.2-4 mm² (screw connection), incl. 6 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKKi 4/18-18x4²	63041801

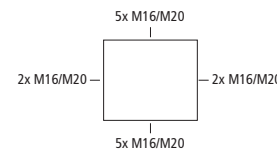
RKK 4/22

180 x 94 x 57 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, flat design, polystyrene, light grey, similar to RAL 7035, equipped with 22-pole terminal block 0.2-4 mm² (screw connection), incl. 6 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKK 4/22-22x4²	61440401

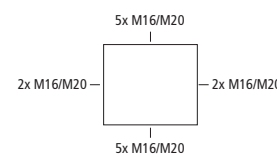
RKKi 4/22

180 x 94 x 57 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, flat design, polycarbonate, grey similar RAL 7035, equipped with 22-pole terminal block 0.2-4 mm² (screw connection), incl. 6 attachment bushes M20, seal range 8 - 13.5 mm, IP54



Description	Order no.
RKKi 4/22-22x4²	63440401

Terminal Block Enclosures

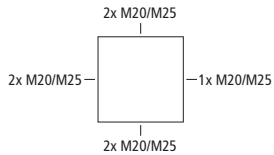
RK | RKi

RK 4/07 — 110 x 110 x 90 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, polystyrene, light grey, similar to RAL 7035, incl. 4 attachment bushes M20, seal range 8 - 13.5 mm, IP54, 1 attachment bush M25, seal range 9 - 18.5 mm, IP54



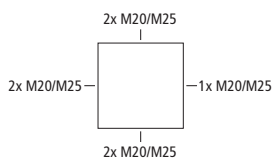
Description	Order no.
RK 4/07-L without terminals, with NS 35	61990701
RK 4/07-7x4² with 7 screw terminals 4 mm², (type Weidmüller WDU 4)	61500701
RK 4/07 SL-7x4² with 7 screwless terminals 4 mm², (type Weidmüller ZDU 4)	61000701

RKi 4/07 — 110 x 110 x 90 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, polycarbonate, grey similar RAL 7035, incl. 4 attachment bushes M20, seal range 8 - 13.5 mm, IP54, 1 attachment bush M25, seal range 9 - 18.5 mm, IP54



Description	Order no.
RKi 4/07-L without terminals, with NS 35	63990701
RKi 4/07-7x4² with 7 screw terminals 4 mm², (type Weidmüller WDU 4)	63500701
RKi 4/07 SL-7x4² with 7 screwless terminals 4 mm², (type Weidmüller ZDU 4)	63000701

Terminal Block Enclosures

RK | RKi

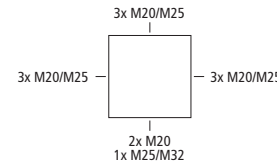
RK 4/12

130 x 130 x 75 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, polystyrene, light grey, similar to RAL 7035, incl. 4 attachment bushes M20, seal range 8 - 13.5 mm, IP54, 1 attachment bush M25, seal range 9 - 18.5 mm, IP54



Description	Order no.
RK 4/12-L without terminals, with NS 35	61390601
RK 4/12-12x4² with 12 screw terminals 4 mm², (type Weidmüller WDU 4)	61501201
RK 4/12 SL-12x4² with 12 screwless terminals 4 mm², (type Weidmüller ZDU 4)	61001201

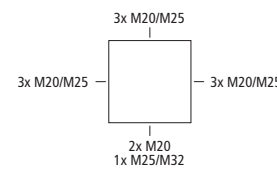
RKi 4/12

130 x 130 x 75 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free | iQ

Terminal block enclosure, polycarbonate, grey similar RAL 7035, incl. 4 attachment bushes M20, seal range 8 - 13.5 mm, IP54, 1 attachment bush M25, seal range 9 - 18.5 mm, IP54



Description	Order no.
RKi 4/12-L without terminals, with NS 35	63390601
RKi 4/12-12x4² with 12 screw terminals 4 mm², (type Weidmüller WDU 4)	63501201
RKi 4/12 SL-12x4² with 12 screwless terminals 4 mm², (type Weidmüller ZDU 4)	63001201

Terminal Block Enclosures

RK | RKi

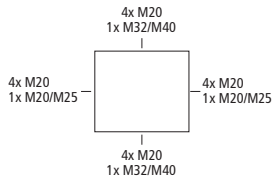
RK 4/18 K

180 x 110 x 90 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, polystyrene, light grey,
similar to RAL 7035, incl. 8 attachment bushes M20,
seal range 8 - 13.5 mm, IP54, 2 attachment bushes M25,
seal range 9 - 18.5 mm, IP54, 1 attachment bush M32,
seal range 13 - 23 mm, IP54



Description	Order no.
RK 4/18 K-L without terminals, with NS 35	61591201
RK 4/18 K-18x4² with 18 screw terminals 4 mm², (type Weidmüller WDU 4)	61501801
RK 4/18 KSL-18x4² with 18 screwless terminals 4 mm², (type Weidmüller ZDU 4)	61001801

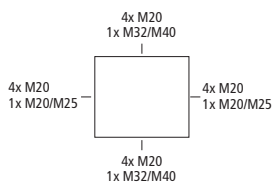
RKi 4/18 K

180 x 110 x 90 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, polycarbonate,
grey similar RAL 7035, incl. 8 attachment bushes M20,
seal range 8 - 13.5 mm, IP54, 2 attachment bushes M25,
seal range 9 - 18.5 mm, IP54, 1 attachment bush M32,
seal range 13 - 23 mm, IP54



Description	Order no.
RKi 4/18 K-L without terminals, with NS 35	63591201
RKi 4/18 KSL-18x4² with 18 screwless terminals 4 mm², (type Weidmüller ZDU 4)	63001801
RKi 4/18 K-18x4² with 18 screw terminals 4 mm², (type Weidmüller WDU 4)	63501801

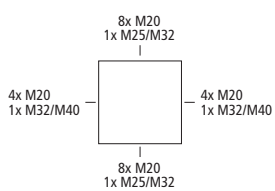
RK 4/18

182 x 180 x 90 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, polystyrene, light grey,
similar to RAL 7035, incl. 8 attachment bushes M20,
seal range 8 - 13.5 mm, IP54, 2 attachment bushes M25,
seal range 9 - 18.5 mm, IP54, 1 attachment bush M32,
seal range 13 - 23 mm, IP54



Description	Order no.
RK 4/18-L without terminals, with NS 35	61691201
RK 4/18-18x4² with 18 screw terminals 4 mm², (type Weidmüller WDU 4)	61501901
RK 4/18 SL-18x4² with 18 screwless terminals 4 mm², (type Weidmüller ZDU 4)	61001901

Terminal Block Enclosures

RK | RKi

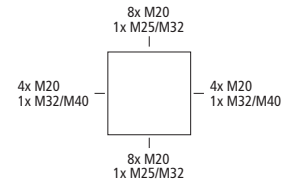
RKi 4/18

182 x 180 x 90 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, polycarbonate,
grey similar RAL 7035, incl. 8 attachment bushes M20,
seal range 8 - 13.5 mm, IP54, 2 attachment bushes M25,
seal range 9 - 18.5 mm, IP54, 1 attachment bush M32,
seal range 13 - 23 mm, IP54



Description	Order no.
RKi 4/18-L without terminals, with NS 35	63691201
RKi 4/18-18x4² with 18 screw terminals 4 mm², (type Weidmüller WDU 4)	63501901
RKi 4/18 SL-18x4² with 18 screwless terminals 4 mm², (type Weidmüller ZDU 4)	63001901

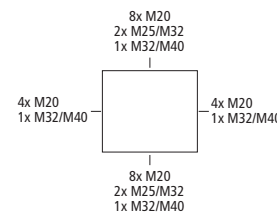
RK 4/25

254 x 180 x 90 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, polystyrene, light grey,
similar to RAL 7035, incl. 8 attachment bushes M20,
seal range 8 - 13.5 mm, IP54, 2 attachment bushes M25,
seal range 9 - 18.5 mm, IP54, 1 attachment bush M32,
seal range 13 - 23 mm, IP54



Description	Order no.
RK 4/25-L without terminals, with NS 35	62591601
RK 4/25-25x4² with 25 screw terminals 4 mm², (type Weidmüller WDU 4)	61502501
RK 4/25 SL-25x4² with 25 screwless terminals 4 mm², (type Weidmüller ZDU 4)	61002501

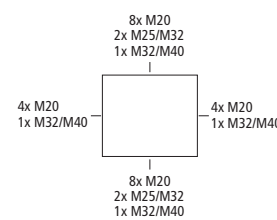
RKi 4/25

254 x 180 x 90 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, polycarbonate,
grey similar RAL 7035, incl. 8 attachment bushes M20,
seal range 8 - 13.5 mm, IP54, 2 attachment bushes M25,
seal range 9 - 18.5 mm, IP54, 1 attachment bush M32,
seal range 13 - 23 mm, IP54



Description	Order no.
RKi 4/25-L without terminals, with NS 35	63591601
RKi 4/25-25x4² with 25 screw terminals 4 mm², (type Weidmüller WDU 4)	63502501
RKi 4/25 SL-25x4² with 25 screwless terminals 4 mm², (type Weidmüller ZDU 4)	63002501

Terminal Block Enclosures

RK | RKi

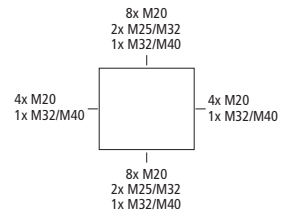
RK 4/34

254 x 180 x 90 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, polystyrene,
with standard rails NS 35, incl. 8 attachment bushes M20,
seal range 8 - 13.5 mm, IP54, 2 attachment bushes M25,
seal range 9 - 18.5 mm, IP54, 1 attachment bush M32,
seal range 13 - 23 mm, IP54



Description	Order no.
RK 4/34-L without terminals, with NS 35	62591701
RK 4/34-34x4² with 34 screw terminals 4 mm², (type Weidmüller WDU 4)	61503401
RK 4/34 SL-34x4² with 34 screwless terminals 4 mm², (type Weidmüller ZDU 4)	61003401

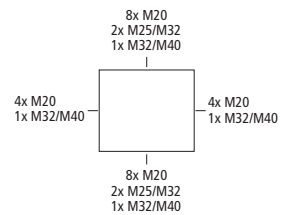
RKi 4/34

254 x 180 x 90 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, polycarbonate,
with standard rails NS 35, incl. 8 attachment bushes M20,
seal range 8 - 13.5 mm, IP54, 2 attachment bushes M25,
seal range 9 - 18.5 mm, IP54, 1 attachment bush M32,
seal range 13 - 23 mm, IP54



Description	Order no.
RKi 4/34-L without terminals, with NS 35	63591701
RKi 4/34-34x4² with 34 screw terminals 4 mm², (type Weidmüller WDU 4)	63503401
RKi 4/34 SL-34x4² with 34 screwless terminals 4 mm², (type Weidmüller ZDU 4)	63003401

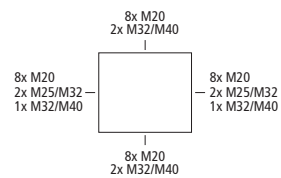
RK 4/50

360 x 254 x 111 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, polystyrene, light grey,
similar to RAL 7035, incl. 18 attachment bushes M20,
seal range 8 - 13.5 mm, IP54, 4 IP54 attachment bushes
M25, seal range 9 - 18.5 mm, 2 attachment bushes M32,
Seal range 11 - 23 mm, IP54, 1 attachment bush M40,
seal range 17 - 30 mm, IP54



Description	Order no.
RK 4/50-L without terminals, with NS 35	61695001
RK 4/50-50x4² with 50 screw terminals 4 mm², (type Weidmüller WDU 4)	61505001
RK 4/50 SL-50x4² with 50 screwless terminals 4 mm², (type Weidmüller ZDU 4)	61005001

Terminal Block Enclosures

RK | RKi

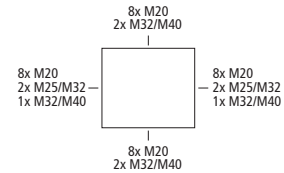
RKi 4/50

360 x 254 x 111 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, polycarbonate, grey similar RAL 7035, incl. 18 attachment bushes M20, seal range 8 - 13.5 mm, IP54, 4 IP54 attachment bushes M25, seal range 9 - 18.5 mm, 2 attachment bushes M32, seal range 11 - 23 mm, IP54, 1 attachment bush M40, seal range 17 - 30 mm, IP54



Description	Order no.
RKi 4/50-L without terminals, with NS 35	63695001
RKi 4/50-50x4² with 50 screw terminals 4 mm², (type Weidmüller WDU 4)	63505001
RKi 4/50 SL-50x4² with 50 screwless terminals 4 mm², (type Weidmüller ZDU 4)	63005001

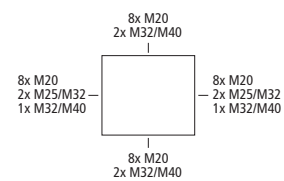
RK 4/100

360 x 254 x 111 mm



IP54 IP66 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, polystyrene, light grey, similar to RAL 7035, incl. 18 attachment bushes M20, seal range 8 - 13.5 mm, IP54, 4 IP54 attachment bushes M25, seal range 9 - 18.5 mm, 2 attachment bushes M32, seal range 13 - 23 mm, IP54, 1 attachment bush M40, seal range 17 - 30 mm, IP54



Description	Order no.
RK 4/100-L without terminals, with NS 35	62692201
RK 4/100-100x4² with 100 screw terminals 4 mm², (type Weidmüller WDU 4)	61510001
RK 4/100 SL-100x4² with 100 screwless terminals 4 mm², (type Weidmüller ZDU 4)	61010001

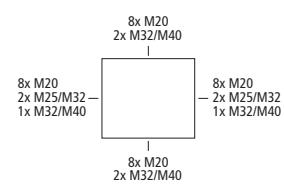
RKi 4/100

360 x 254 x 111 mm



IP54 IP66 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, polycarbonate, grey similar RAL 7035, incl. 18 attachment bushes M20, seal range 8 - 13.5 mm, IP54, 4 IP54 attachment bushes M25, seal range 9 - 18.5 mm, 2 attachment bushes M32, seal range 13 - 23 mm, IP54, 1 attachment bush M40, IP54, seal range 17 - 30 mm



Description	Order no.
RKi 4/100-L without terminals, with NS 35	63692201
RKi 4/100-100x4² with 100 screw terminals 4 mm², (type Weidmüller WDU 4)	63510001
RKi 4/100 SL-100x4² with 100 screwless terminals 4 mm², (type Weidmüller ZDU 4)	63010001

Terminal Block Enclosures

RKA | AKi-R

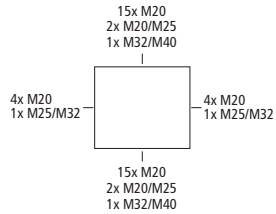
RKA 4/34

300 x 150 x 132 mm



IP65 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, polysterene, incl. 10 DMS nozzle M20, seal range 7 - 12 mm, 2 DMS seals M25, seal range 9 - 16 mm, 2 DMS nozzles M32, seal range 14 - 21 mm, 1 DMS seals M40, sealing range 19 - 28 mm



Description	Order no.
RKA 4/34-L without terminals, with NS 35	62990101
RKA 4/34-34x4² with 34 screw terminals 4 mm², (type Weidmüller WDU 4)	62503401
RKA 4/34 SL-34x4² with 34 screwless terminals 4 mm², (type Weidmüller ZDU 4)	62003401

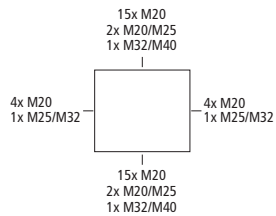
AKi-R 4/34

300 x 150 x 132 mm



IP65 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, polycarbonate, incl. 10 DMS nozzle M20, seal range 7 - 12 mm, 2 DMS seals M25, seal range 9 - 16 mm, 2 DMS nozzles M32, seal range 14 - 21 mm, 1 DMS seals M40, Sealing range 19 - 28 mm



Description	Order no.
AKi-R 4/34-L without terminals, with NS 35	74190101
AKi-R 4/34 with 34 screw terminals 4 mm², (type Weidmüller WDU 4)	74203401
AKi-R 4/34-SL with 34 screwless terminals 4 mm², (type Weidmüller ZDU 4)	74303401

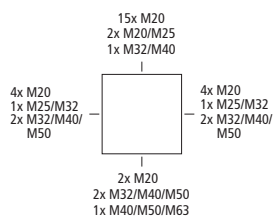
RKA 4/68

300 x 300 x 132 mm



IP65 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, polysterene, incl. 10 DMS nozzle M20, seal range 7 - 12 mm, 2 DMS seals M25, seal range 9 - 16 mm, 2 DMS nozzles M32, seal range 14 - 21 mm, 1 DMS seals M40, sealing range 19 - 28 mm, IP66, 2 twist nipples M50 incl. lock nut, IP54



Description	Order no.
RKA 4/68-L without terminals, with NS 35	62990201
RKA 4/68-68x4² with 68 screw terminals 4 mm², (type Weidmüller WDU 4)	62506801
RKA 4/68 SL-68x4² with 68 screwless terminals 4 mm², (type Weidmüller ZDU 4)	62006801

Terminal Block Enclosures

RKA | AKi-R

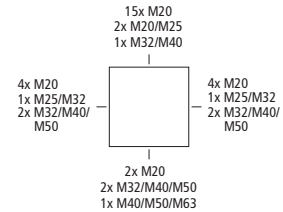
AKi-R 4/68

300 x 300 x 132 mm



IP65 | 4² | IK08 | 400V AC | halogen-free | iQ

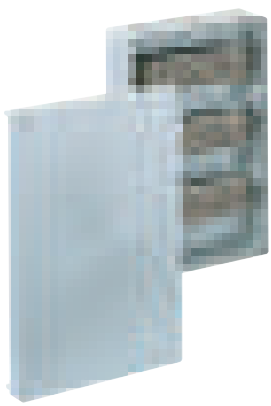
Terminal block enclosure, polycarbonate, incl. 10 DMS nozzle M20, seal range 7 - 12 mm, 2 DMS seals M25, seal range 9 - 16 mm, 2 DMS nozzles M32, seal range 14 - 21 mm, 1 DMS seals M40, sealing range 19 - 28 mm, IP66, 2 twist nipples M50 incl. lock nut, IP54



Description	Order no.
AKi-R 4/68-L without terminals, with NS 35	74190201
AKi-R 4/68 with 68 screw terminals 4 mm², (type Weidmüller WDU 4)	74206801
AKi-R 4/68-SL with 68 screwless terminals 4 mm², (type Weidmüller ZDU 4)	74306801

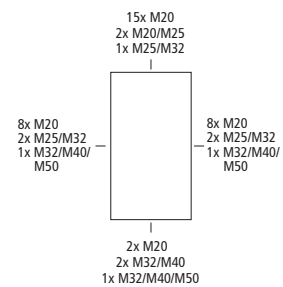
RKA 4/102

300 x 450 x 132 mm



IP65 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, polysterene, incl. 10 DMS nozzle M20, seal range 7 - 12 mm, 2 DMS seals M25, seal range 9 - 16 mm, 2 DMS nozzles M32, seal range 14 - 21 mm, 1 DMS seals M40, sealing range 19 - 28 mm, IP66, 2 twist nipples M50 incl. lock nut, IP54



Description	Order no.
RKA 4/102-L without terminals, with NS 35	62990301
RKA 4/102-102x4² with 102 screw terminals 4 mm², (type Weidmüller WDU 4)	62510201
RKA 4/102 SL-102x4² with 102 screwless terminals 4 mm², (type Weidmüller ZDU 4)	62010201

Terminal Block Enclosures

RKA | AKi-R

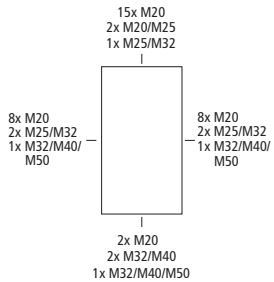
AKi-R 4/102

300 x 450 x 132 mm



IP65 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, polycarbonate, incl. 10 DMS nozzle M20, seal range 7 - 12 mm, 2 DMS seals M25, seal range 9 - 16 mm, 2 DMS nozzles M32, seal range 14 - 21 mm, 1 DMS seals M40, sealing range 19 - 28 mm, IP66, 2 twist nipples M50 incl. lock nut, IP54



Description	Order no.
AKi-R 4/102-L without terminals, with NS 35	74190301
AKi-R 4/102 with 102 screw terminals 4 mm², (type Weidmüller WDU 4)	74210201
AKi-R 4/102-SL with 102 screwless terminals 4 mm², (type Weidmüller ZDU 4)	74310201

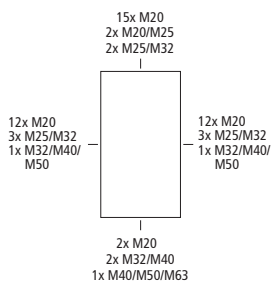
RKA 4/136

300 x 600 x 132 mm



IP65 | 4² | IK07 | 400V AC | halogen-free

Terminal block enclosure, polysterene, incl. 10 DMS nozzle M20, seal range 7 - 12 mm, 2 DMS seals M25, seal range 9 - 16 mm, 2 DMS nozzles M32, seal range 14 - 21 mm, 1 DMS seals M40, sealing range 19 - 28 mm, IP66, 2 twist nipples M50 incl. lock nut, IP54



Description	Order no.
RKA 4/136-L without terminals, with NS 35	62990401
RKA 4/136-136x4² with 136 screw terminals 4 mm², (type Weidmüller WDU 4)	62513601
RKA 4/136 SL-136x4² with 136 screwless terminals 4 mm², (type Weidmüller ZDU 4)	62013601

Terminal Block Enclosures

RKA | AKi-R

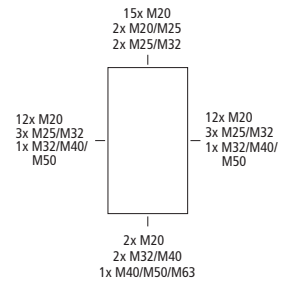
AKi-R 4/136

300 x 600 x 132 mm



IP65 | 4² | IK08 | 400V AC | halogen-free | iQ

Terminal block enclosure, polycarbonate, incl. 10 DMS nozzle M20, seal range 7 - 12 mm, 2 DMS seals M25, seal range 9 - 16 mm, 2 DMS nozzles M32, seal range 14 - 21 mm, 1 DMS seals M40, sealing range 19 - 28 mm, IP66, 2 twist nipples M50 incl. lock nut, IP54



Description	Order no.
AKi-R 4/136-L without terminals, with NS 35	74190401
AKi-R 4/136 with 136 screw terminals 4 mm², (type Weidmüller WDU 4)	74213601
AKi-R 4/136-SL with 136 screwless terminals 4 mm², (type Weidmüller ZDU 4)	74313601



Terminal Block Enclosures

ALR

ALR 88-4

75 x 80 x 57 mm



IP66 | 4² | IK09 | 400V AC | halogen-free | iQ

Terminal block enclosure in compact design - Industrial Quality - Aluminium, powder-coated painting silver grey RAL 7001, equipped with 5-pole terminal block 0.2-4 mm² (screw connection)

Description	Order no.
ALR 88-4²	16040501

ALR 1308-4

125 x 80 x 57 mm



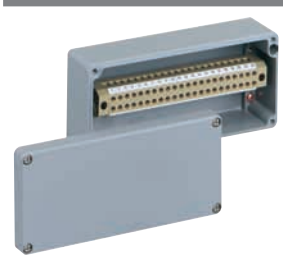
IP66 | 4² | IK09 | 400V AC | halogen-free | iQ

Terminal block enclosure in compact design - Industrial Quality - Aluminium, powder-coated painting silver grey RAL 7001, equipped with 12-pole terminal block 0.2-4 mm² (screw connection)

Description	Order no.
ALR 1308-4²	16040601

ALR 1808-4

175 x 80 x 57 mm



IP66 | 4² | IK09 | 400V AC | halogen-free | iQ

Terminal block enclosure in compact design - Industrial Quality - Aluminium, powder-coated painting silver grey RAL 7001, equipped with 22-pole terminal block 0.2-4 mm² (screw connection)

Description	Order no.
ALR 1808-4²	16040701

Terminal Block Enclosures

ALR

ALR 1010-4

100 x 100 x 81 mm



IP66 | 4² | IK09 | 400V AC | halogen-free | iQ

Terminal block enclosure in compact design - Industrial Quality - Aluminium, powder-coated painting silver grey RAL 7001, equipped with 10-pole terminal block 0.2-4 mm² (screw connection)

Description	Order no.
ALR 1010-4²	16040801

ALR 1212

122 x 120 x 81 mm



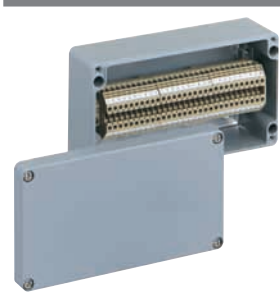
IP66 | 4² | IK09 | 400V AC | halogen-free | iQ

Terminal block enclosure in compact design - Industrial Quality - Aluminium, powder-coated painting silver grey RAL 7001

Description	Order no.
ALR 1212-L without terminals, with NS 35	16090901
ALR 1212-4² fitted with 14 screw terminals 4 mm²	16040901

ALR 2212

220 x 120 x 81 mm



IP66 | 4² | IK09 | 400V AC | halogen-free | iQ

Terminal block enclosure - Industrial Quality - Aluminium, powder-coated painting silver grey RAL 7001

Description	Order no.
ALR 2212-L without terminals, with NS 35	16091001
ALR 2212-4² fitted with 30 screw terminals 4 mm²	16041001

Terminal Block Enclosures

ALR

ALR 1616

160 x 160 x 91 mm



IP66 | 4² | IK09 | 400V AC | halogen-free | iQ

Terminal block enclosure - Industrial Quality -
Aluminium, powder-coated painting silver grey RAL 7001

Description	Order no.
ALR 1616-L without terminals, with NS 35	16091101
ALR 1616-4² fitted with 20 screw terminals 4 mm²	16041101

ALR 2616

260 x 160 x 91 mm



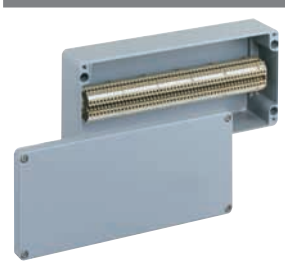
IP66 | 4² | IK09 | 400V AC | halogen-free | iQ

Terminal block enclosure - Industrial Quality -
Aluminium, powder-coated painting silver grey RAL 7001

Description	Order no.
ALR 2616-L without terminals, with NS 35	16091201
ALR 2616-4² fitted with 36 screw terminals 4 mm²	16041201

ALR 3616

360 x 160 x 91 mm



IP66 | 4² | IK09 | 400V AC | halogen-free | iQ

Terminal block enclosure - Industrial Quality -
Aluminium, powder-coated painting silver grey RAL 7001

Description	Order no.
ALR 3616-L without terminals, with NS 35	16091301
ALR 3616-4² fitted with 52 screw terminals 4 mm²	16041301

Terminal Block Enclosures

ALR

ALR 2320

230 x 200 x 111 mm



IP66 | 4² | IK09 | 400V AC | halogen-free | iQ

Terminal block enclosure - Industrial Quality -
Aluminium, powder-coated painting silver grey RAL 7001

Description	Order no.
ALR 2320-L without terminals, with NS 35	16091401
ALR 2320-4² fitted with 40 screw terminals 4 mm²	16041401

ALR 2823

280 x 230 x 111 mm



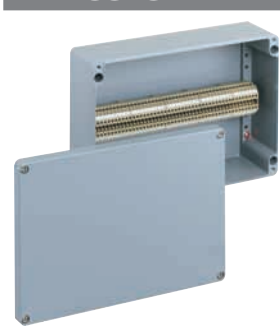
IP66 | 4² | IK09 | 400V AC | halogen-free | iQ

Terminal block enclosure - Industrial Quality -
Aluminium, powder-coated painting silver grey RAL 7001

Description	Order no.
ALR 2823-L without terminals, with NS 35	16091501
ALR 2823-4² fitted with 40 screw terminals 4 mm²	16041501

ALR 3323

330 x 230 x 111 mm



IP66 | 4² | IK09 | 400V AC | halogen-free | iQ

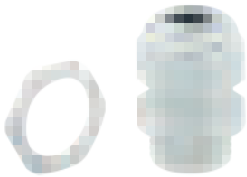
Terminal block enclosure - Industrial Quality -
Aluminium, powder-coated painting silver grey RAL 7001

Description	Order no.
ALR 3323-L without terminals, with NS 35	16091601
ALR 3323-4² fitted with 47 screw terminals 4 mm²	16041601

Terminal Block Enclosures

RK Accessories

Cable gland, grey



Cable gland IP68 with strain relief, polyamide, M_ x 1.5 mm, with lock nut

Description	Sealing area/mm	Thread lenght/mm	Order no.
KVR M12-MGM	2 - 6.5	8	22741201
KVR M16-MGM	4 - 10.0	8	22741601
KVR M20-MGM	6 - 12.0	9	22742001
KVR M20-GDB/MGM	7 - 14.0	9	22742101
KVR M25-MGM	9 - 16,0	11	22742501
KVR M32-MGM	11 - 21.0	11	22743201
KVR M40-MGM	16 - 28.0	11	22744001
KVR M50-MGM	21 - 34.5	13	22745001
KVR M63-MGM	30 - 44.5	17	22746301

Double membrane seals, grey



Double membrane seals, IP66, with two sealing membranes, closed, thermoplastic elastomer (TPE), grey, for wall thicknesses 1.5 - 4.5 mm

Description	Sealing area/mm	Order no.
DMS M16	5 - 9	26041601
DMS M20	7 - 12	26042001
DMS M25	9 - 16	26042501
DMS M32	14 - 21	26043201
DMS M40	19 - 28	26044001

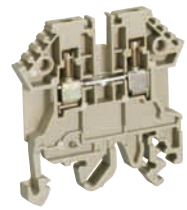
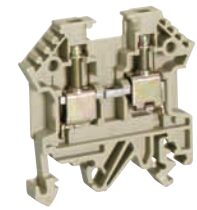
Attachment bushes

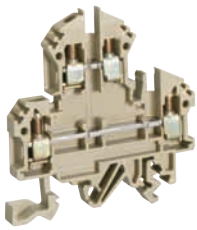
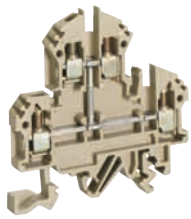
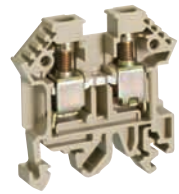
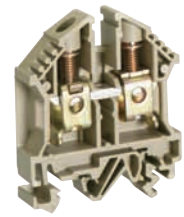
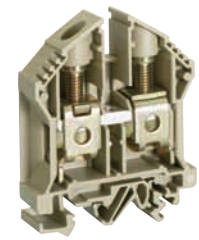


Attachment bushes, IP54, with open sealing membrane, no lock nuts required

Description	Sealing area/mm	Order no.
AST M16	6 - 10	23041601
AST M20	8 - 13.5	23042001
AST M25	9 - 18.5	23042501
AST M32	13 - 23	23043201
AST M40	17 - 30	23044001

Screwed connection,
Insulated enclosure of polyamide 6.6

	RK 2.5² Through terminal	RK 4²/15 Through terminal	RK 4² Through terminal
			
Standard rail	**TS 35**	**TS 15**	**TS 35**
Type			
Standard terminal beige: Order no.: Width:	RK 2.5² 670 200 01 5 mm	RK 4²/15 670 401 01 6 mm	RK 4² 670 400 01 6 mm
Standard terminal blue Order no.: Width:	N 2.5² 671 200 01 5 mm	N 4²/15 671 401 01 6 mm	N 4² 671 400 01 6 mm
Earthing conductor terminal green/yellow: Order no.: Width:	SL 2.5² 672 200 01 6 mm	SL 4²/15 672 401 01 7 mm	SL 4² 672 400 01 8 mm
Height: Stripping length - standard terminal / SL terminal:	47 mm 7 / 10 mm	35 mm 9 / 9 mm	47 mm 12 / 12 mm
Connection data			
Cross section mm² rigid / flexible AWG	0.2-4 / 0.2-2.5 22-14	0.2-4 / 0.2-4 22-14	0.2-6 / 0.2-4 22-10
Voltage / current IEC 947-7-1: Rated pulse voltage / degree of contamination:	800 V / 24 A 8 kV / 3	500 V / 32 A 6 kV / 3	800 V / 32 A 6 kV / 3
Accessories			
End plate: Order no.:	AP 0 665 100 01	AP 1 665 101 01	AP 0 665 100 01
Partition wall: Order no.:	TW 0 665 200 01	TW 1 665 201 01	TW 0 665 200 01
Cutting disc: Order no.:	TRS 1 665 301 01	TRS 1 665 301 01	TRS 0 665 300 01
End support: Order no.: Width:	ES 0 665 400 01 7.5 mm	ES 1 665 401 01 7.5 mm	ES 0 665 400 01 7.5 mm
Cross connector, 2-fold: Order no.:	Q 202 666 202 01	Q 102 666 102 01	Q 002 666 002 01
Cross connector, 3-fold: Order no.:	Q 203 666 203 01	Q 103 666 103 01	Q 003 666 003 01
Cross connector, 4-fold: Order no.:	Q 204 666 204 01	Q 104 666 104 01	Q 004 666 004 01
Cross connector, 10-fold: Order no.	Q 210 666 210 01	Q 110 666 110 01	Q 010 666 010 01

RKD 4² Double-deck terminal	**RKD 4² SV** Double-deck terminal Bridged	**RK 10²** Through terminal	**RK 16²** Through terminal	**RK 35²** Through terminal
				
TS 35	**TS 35**	**TS 35**	**TS 35**	**TS 35**
RKD 4² 670 405 01 6 mm	RKD 4² SV 670 406 01 6 mm	RK 10² 670 100 01 8 mm	RK 16² 670 160 01 12 mm	RK 35² 670 350 01 16 mm
ND 4² 671 405 01 6 mm	ND 4² SV 671 406 01 6 mm	N 10² 671 100 01 8 mm	N 16² 671 160 01 12 mm	N 35² 671 350 01 16 mm
- - -	- - -	SL 10² 672 100 01 10 mm	SL 16² 672 160 01 12 mm	SL 35² 672 350 01 16 mm
61 mm 9 mm	61 mm 9 mm	47 mm 12 / 12 mm	58 mm 15 / 12 mm	71 mm 20 / 20 mm
0.2-4 / 0.2-4 22-12	0.2-4 / 02.-4 22-12	0.2-10 / 0.2-10 22-8	2.5-25 / 2.5-16 12-4	2.5-50 / 2.5-35 12-2
500 V / 32 A 6 kV / 3	500 V / 32 A 6 kV / 3	800 V / 57 A 6 kV / 3	800 V / 76 A 8 kV / 3	800 V / 125 A 8 kV / 3
AP 5 665 105 01	AP 5 665 105 01	AP 0 665 100 01	AP 16 665 116 01	AP 35 665 135 01
- -	- -	TW 0 665 200 01	TW 16 665 216 01	TW 35 665 235 01
TRS 1 665 301 01	TRS 1 665 301 01	TRS 0 665 300 01	TRS 0 665 300 01	- -
ES 0 665 400 01	ES 0 665 400 01	ES 0 665 400 01	ES 16 665 416 01	ES 16 665 416 01
Q 102 666 102 01	Q 102 666 102 01	Q 402 666 402 01	Q 502 666 502 01	Q 702 666 702 01
Q 103 666 103 01	Q 103 666 103 01	Q 403 666 403 01	Q 503 666 503 01	Q 703 666 703 01
Q 104 666 104 01	Q 104 666 104 01	Q 404 666 404 01	Q 504 666 504 01	Q 704 666 704 01
Q 110 666 110 01	Q 110 666 110 01	Q 410 666 410 01	Q 510 666 510 01	Q 710 666 710 01


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Industrial quality stands for products designed for special requirements and use in demanding environments. Such categories include installations in wet rooms and outdoors as well as on combustible surfaces or in locations that are subject to fire hazards. Enclosures used in such environments must all have one thing in common

Resilience
Safety
Ruggedness
Longevity

Products with this symbol indicate at a glance boxes and enclosures for applications with particularly stringent requirements with respect to material that has been tested as flame resistant and self-extinguishing in accordance with VDE 0471/EN60695/UL94 and consequently offers added security.

The Abox-i, Abox-i SL, AKi, TK-PC, TG-PC, GEOS, WKE, ZVi, SVi and ZKi series, made from high-quality technical plastics, satisfy the strictest material requirements.

Common features of all products featuring the IQ symbol:

- Operating temperature from **-35°C to 80°C**
- **Resistant** petrol, petroleum, fats, diesel fuel, turpentine and to a limited extent, acids and alcohol
- Protection rating up to **IP68**
- **UV- and weather-resistant**
- **Flame-resistant** and **self-extinguishing 960°C** as per VDE 0471 / EN 60695 / UL94
- **Impact-resistant and shatterproof** under mechanical stress up to IK09
- Free of halogens, heavy metals, PVC and silicone





Rated voltage U_n

The manufacturer's specified maximum nominal AC voltage (effective value) or DC voltage for which the main circuits of the switchgear assembly are designed.

Rated operating voltage U_e

The manufacturer's specified voltage value which, combined with the rated current, determines the usage.

Rated insulation voltage U_i

Withstand voltage (effective value), which is specified by the manufacturer for a device or a part thereof and which specifies the defined (long-term) endurance of its associated insulation.

Rated surge voltage U_{imp}

The value of an impulse voltage specified by the manufacturer, which specifies the defined endurance of the insulation with respect to transient overvoltages.

Rated current I_n

The manufacturer's stated current value, which takes into account the ratings of the equipment and their location and use and which can be fulfilled without exceeding the specified temperature limits of the various parts of the switchgear assembly under specified conditions.

Short-circuit current I_c

Overcurrent that occurs in the case of a short circuit due to an error or an incorrect connection in an electrical circuit.

Prospective short-circuit current I_{cp}

Current that flows in a circuit due to a short circuit caused by a conductor of negligible impedance in the immediate vicinity of the terminals of the switchgear assembly.

Rated surge current resistance I_{pk}

The largest instantaneous value of the short-circuit current specified by the manufacturer, which will be sustained under the specified conditions.

Rated short-term current resistance I_{cw}

The effective value of the short-time current specified by the manufacturer, indicated as current and time, which can be fulfilled under specified conditions without damage.

Rated conditional short-circuit current I_{cc}

The value of the prospective short-circuit current specified by the manufacturer, which can be withstood by a circuit protected by a short-circuit protection device (SCPD[1)]) during the total break time (duration of current flow) of the device under specified conditions.

Rated load factor RDF[2)]

The manufacturer's specified percentage of the rated current, with which the outflow of a switchgear assembly can be loaded continuously and simultaneously taking into account the mutual thermal influences.

[1)] SCPD = **S**hort **C**ircuit **P**rotection **D**evice
[2)] RDF = **R**ated **D**iversity **F**actor

1. Mounting of junction boxes on wood and other combustible materials



According to the **VdS Directive 2023**, electrical connections and conductor connections may only be installed, in the case of mounting on flammable supports, with terminals in suitable electrical installation enclosures and boxes, as outlined by **DIN VDE 0606 and DIN EN 60670**. This is because the enclosures are closed towards the mounting surface and also because of the strict safety requirements of the standard with respect to fire resistance.

Examples: Entire wooden buildings, buildings with wooden construction elements, wooden construction materials or other flammable materials, cavity walls constructed from flammable materials, but also synthetic heat- and sound-insulation materials.

All Spelsberg installation system products meet these requirements.

2. Halogen-free installation materials

Because of the reduction in toxic materials released in the case of fire, DIN VDE 0100-718 provides for some deviations (simplifications) from the prescribed installation methods, however, with respect to the use of halogen-free conductors. These deviations are of a highly specialised nature and are therefore not described in detail here. However, the Building Regulations of the various Federal States and other regulations for installations in public areas (rescue routes, lifts) increasingly require the use of halogen-free installation systems. In such situations, the use of high-grade, halogen-free materials is definitely advisable. The reason for this is the improved level of protection of people and materials in the case of fire, since halogen-free materials produce less smoke in the case of fire, the proportion of toxic combustion gases is reduced to a minimum and no corrosive gases are released, which can react with extinguishing agents to form hydrochloric acid. Material damage to buildings and their contents is thereby reduced.



Spelsberg offers completely halogen-free Spelsberg installation systems for these areas.

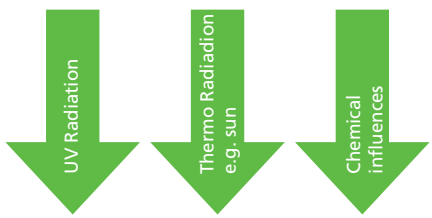
3. Outdoor installation – Damp and wet areas and rooms

3.1 Basics

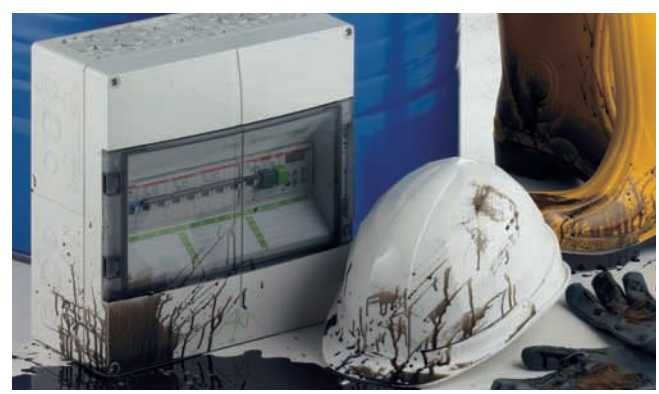
In general when selecting components, the manufacturer's instructions as to the product properties simply act as a guide for the user. These properties should always be viewed in the context of the relevant installation requirements such as the installation regulations according to DIN VDE 0100-ff.

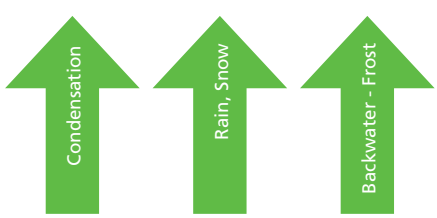
Depending on the local circumstances, additional protective measures may have to be fulfilled by the user. The individual factors are described in greater detail below.

There are many influencing factors for outdoor installations!









3.2 Protection against UV radiation

UV radiation can cause severe structural damage or even destruction in a wide variety of plastics. Products made from the material polystyrene (PS) must therefore not be used outdoors. Spelsberg developed the IQ series products for this scenario. A material is used for these products that has a high resistance to UV radiation. In a weathering test according to DIN 53 387 (replaced by DIN EN ISO 4892-2), this material produced optimum results in a 1000-hour test. This material also passed a weathering test according to UL 746 C, without any limitations.

3.3 Protection against high temperatures

Installed electrical appliances generate power loss during operation. The enclosures manufactured by Spelsberg are tested during the approval test for the maximum power loss in the enclosure. Detailed tables on this topic are provided in the catalogue, taking account of the ambient temperature and the installation type.

Switchgear assemblies are designed for ambient temperatures of between -25°C and +35°C (24-hour average). A temporary increase in temperature to 40°C is not a problem.
Even if, for example, iQ products from Spelsberg are suitable for temperatures of between -40°C and +80°C, the manufacturer's instructions and the requirements of the relevant product safety standards must be checked for installed devices such as line protection, fault-current circuit breakers or fuses when designing the housing.Solar radiation or other heat sources can cause additional increases in the internal temperature which are not permitted and must therefore be avoided. Reliable operation of electrical equipment no longer be guaranteed under certain circumstances.

DIN VDE 0100-520 (VDE 0100-520):
522.1.2 cable and conductor systems including accessories may only be installed or moved under ambient temperatures which are within the limit values specified by the manufacturer or in the relevant product standard.

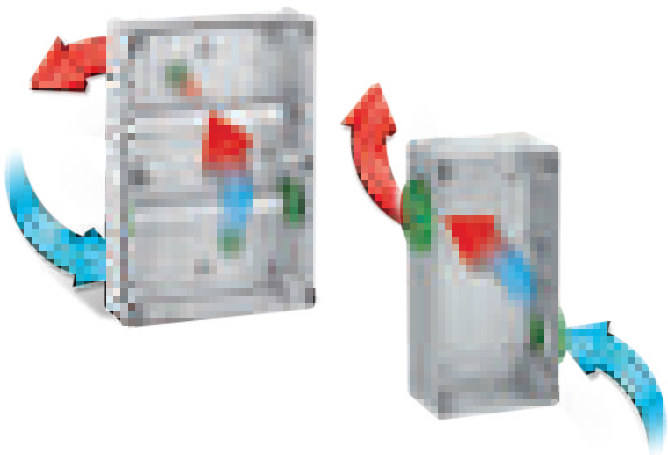
3.4 Protection against chemical influences

For installations in areas with increased levels of hazardous substances in the environment, the suitability may be correspondingly reduced. Information is available in the table „Material characteristics". **iQ products are resistant to mineral oil, vegetable fats and animal fats.**

3.5 Protection against condensation

The more tightly sealed the equipment, for example junction boxes or distributor housings, the greater the likelihood of condensation forming. This is especially the case at locations where highly fluctuating temperatures are to be expected. These effects are intensified by the power loss generated in the enclosures.

Owing to the differences in temperature, a difference also arises in the pressure conditions, which causes the enclosure to draw in air when the temperature changes. The next time the temperature increases, the humidity in this air condenses on the cold surface of the housing, for example on the lid. This process is only reversible to a limited extent, so the water accumulates in the housing. Since this effect occurs regularly, even daily to an extent, a considerable volume of water may accumulate internally. If this housing has an increased protection rating, it no longer discharges this water with the result that its seal actually has a negative impact. Damage will result.



Under **DIN VDE 0100-520** precautions must be taken with respect to drainage of water if water accumulates or condensation can occur within cable and conductor systems.

Spelsberg junction boxes in the various product groups have break-out condensation openings on the rear housing or mounting surfaces. These should be opened in such a way that when installed they are on the underside of the housing so that any condensation can drain off.

This only applies under the condition that no increased demands are imposed with respect to protection against accidental contact or foreign bodies (> IP2X or dust protection).

If requirements for contact protection or foreign body protection are also imposed on the housing, for example IP3X, we recommend use of els ventilation seals. These seals come in the size M20, are fitted in the corresponding cable inlet openings on the underside and the side surfaces and offer splash water protection up to IPX4 when properly installed. We recommend an installation that offers a so-called chimney effect.

AK Air and BEL Air ventilation elements

The Air ventilation elements prevent condensation, whilst maintaining the high IP65 protection rating. Any condensate occurring is transported out of the enclosure immediately via air exchange. The continuous and high rate of air exchange allows the interior air to mix constantly with the environmental air and transports the moisture outwards. Air exchange also takes place in environments with almost constant air humidity and temperature, as the air in the interior of the housing heats up, e.g. due to the components.

Recommendation: At least one complete air exchange is provided per day via the BEL Air. With one set, this is achieved with a housing volume of up to 35 dm³.

All housing parts, such as the seals, are permanently relieved of pressure through the constant pressure equalisation. The high air exchange rate guarantees a permanent exchange of the moist air with the surroundings. No appreciable pressure differences are required for this. However, with the pressure equalisation elements it is exactly these appreciable pressure differences that are required, at least temporarily, in order to implement an air exchange. The Air ventilation elements therefore have a very large, open filter surface that guarantees a high air exchange without influencing the air flow. The constant pressure equalisation prevents pressure differences thus ensuring that no mechanical forces can be exerted on the housing and seals.

Section 8.2.2 **DIN EN 61439-1** concerns the protection against contact with live parts and the prevention of penetration of solid foreign objects and water. In addition, closed switchgear assemblies must be protected from condensate inside the housing without changing the type of protection.

3.6 Protection against rain / snow (precipitation)

The protection rating tests carried out under DIN EN 60529 are used as comparative tests and for classification of properties. The tests are limited to a few minutes and cannot emulate exposure to rain / snow or cleaning with water jets. In addition, the local conditions may differ so greatly that a general exposure test cannot be defined. The installation regulations for the respective installation situation must be taken into account for this reason.

DIN VDE 0100-520, 522.3.1 Cable and conductor systems must be selected and installed such that damage cannot be caused by condensation or ingress of water.



Installation only in protected outdoor areas!

Please note that in the case of installations under solar fields, the joints between modules must not be above the housings, or the housings must also be covered by a protective shelter.

3.7 Protection against retained water (frost)

Water frequently accumulates on surfaces and in recesses in installations that are not protected against precipitation. If this collected water cannot drain off unhindered, it will accumulate. In the event of low temperatures, this water can freeze and cause unpermitted mechanical strains on the enclosure. This can cause damage to the enclosure. **Therefore, before starting the installation make sure that the enclosures are protected by roofing.**

This roof construction may

- already be present in existing structures
- be set up by the user
- be supplied in the form of accessory products from the Spelsberg range.

3.8 Protection against plants and/or mould growth

The plastics used in electrical installation are organic materials. The risk of harm from plants, algae or mould must therefore be considered. **DIN VDE 0100-520**, 522.9.1 If experience or empirical evidence shows that plants and / or mould growth can cause damage, the cable and conductor system must be selected accordingly or special protection measures must be provided.

Comment: A laying method that allows corresponding removal of such vegetation must be selected (see Section 529).

Conclusion:

Taking account of the aforementioned parameters, a protected installation is absolutely mandatory for outdoor use and is also described extensively in the installation standards. This is the only way to ensure safe operation of the protective devices.

Supplementary information on outdoor installation – UV-resistance:

The information on the type of protection and UV-resistance is often considered the only characteristics for outdoor installations. However, other factors such as absolute temperature, frequency of temperature change, humidity and chemical influences in particular play an important role with outdoor installations. In addition to impairments through UV-effects, in outdoor installations damage is expected to arise predominantly as a result of chemical influences. So, the outside areas in the vicinity of filling stations, chemical facilities, landfill sites, compressors, sewerage treatment plants etc. should be subjected to particularly critical investigations beforehand.

4. Installing cables in concrete

The commonly-used NYM sheathed cables may be installed in concrete, with the exception of concrete which is stamped or vibrated during pouring. According to VDE 0276, high-voltage NYY cables may, however, be used without restriction in concrete. However, in comparison with NYM, a considerably larger minimum bending radius must be complied with.

Spelsberg recommends laying the cables within protective conduits. The enclosures include appropriate-holding fixtures.



5. Protection classes of electrical equipment

This classification is not for the purpose of describing the safety level of the equipment but is simply a statement of the measures with which this safety level can be achieved.

Protection Class I equipment is that in which protection against electric shock is not just provided by the basic insulation. Additional protection is provided by the fact that parts are connected to the earth lead of the fixed installation so that in case of failure of the basic insulation no voltage can remain.

Protection Class II equipment is that in which protection against electric shock is not just provided by the basic insulation but also by additional safety measures, such as double insulation or reinforced insulation. There is no possibility of connecting an earth lead.

In the enclosures of **protection class II**, it is not allowed to lead conductive parts (e.g. fixing screws) through the double or reinforced insulation, through which a potential can be transferred.

Enclosures of **protection class II** do not have a connecting possibility for an earthing conductor.

Protection Class III equipment is that in which protection against electric shock is based on a protective low voltage (SELV[1]) and in which voltages that are higher than the protective low voltage cannot be produced.

All Spelsberg empty enclosures made from plastic comply with **Class II** protection requirements. Metal enclosures, or metal-coated housings are intended for connection of an earth lead and comply with **Class I** protection requirements.



Protection class I

(only symbolises the earthing, protection class I itself does not have a symbol)



Protection class II



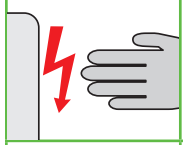
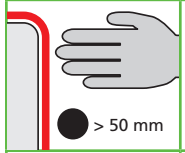
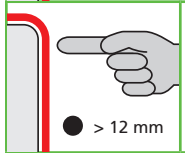
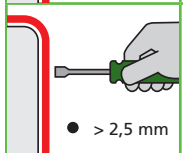
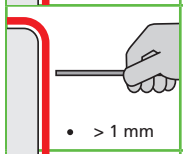
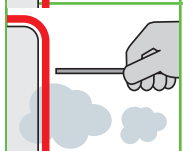
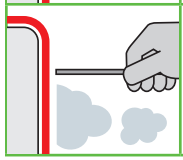
Protection class III

According to DIN EN 61140 (VDE 0140-1) equipment is classified into protection classes according to its construction.

1) SELV = (Safety Extra Low Voltage)

6. Protection types according to DIN EN 60529 (VDE 0470-1)

The appropriate degree of protection is demonstrated in our in-house test laboratory. The tests are performed according to DIN EN 60670-1, DIN EN 61439-1 and DIN EN 62208 (depending on type). **The first digit of the IP Code** for the level of protection against contact with dangerous parts and the ingress of solid bodies.

	IP	Protection level	Definition
	**0x**	No contact protection, no protection against solid foreign bodies	
	**1x**	Protection against large area contact (with the hand), protection against foreign bodies > 50 mm Ø	The object probe, a sphere 50 mm in diameter, must not fully penetrate
	**2x**	Protection against contact with the fingers, protection against foreign bodies >12 mm Ø	The object probe, a sphere 12.5 mm in diameter, must not fully penetrate
	**3x**	Protection against contact with tools, wires etc. >2.5 mm Ø, protection against foreign bodies >2.5 mm Ø	The object probe, a sphere 2.5 mm in diameter, must not penetrate at all
	**4x**	Protection against contact with tools, wires etc. >1 mm Ø, protection against foreign bodies >1 mm Ø	The object probe, a sphere 1.0 mm in diameter, must not penetrate at all
	**5x**	Contact protection, protection against dust deposits on the inside	The ingress of dust is not totally prevented, but dust must not penetrate in a quantity to interfere with satisfactory operation of the devices
	**6x**	Full contact protection, protection against ingress of dust	No penetration of dust

Spelsberg-products with NEMA protection class

Els-products	Nema
TK PC-o	4X, 12
TK PC-m	4X, 12K
TG PC-o	12*

* on request TG PC-o in Nema 4X, 12 design

Comparison table between IP code and NEMA types

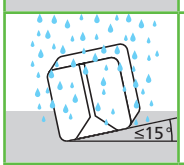
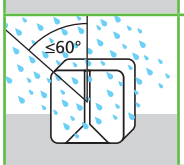
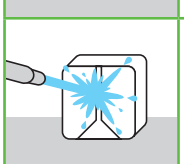
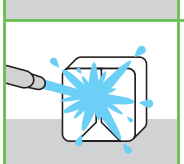
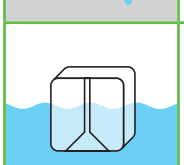
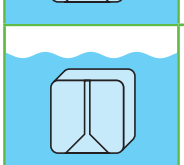
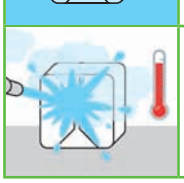
IEC 60529	Nema 250													IEC 60529
Contact / Dust	1	2	3	3R	3S	4	4X	5	6	6P	12	12K	13	Water
										■				x8
									■	■				x7
6x						■	■	■	■	■				x6
5x				■	■	■	■	■	■	■	■		■	x5
4x				■	■	■	■	■	■	■	■	■	■	x4
3x				■	■	■	■	■	■	■	■	■	■	x3
2x	■		■	■	■	■	■	■	■	■	■	■	■	x2
1x	■		■	■	■	■	■	■	■	■	■	■	■	x1
0x	■	■	■	■	■	■	■	■	■	■	■	■	■	x0
IP	21	22	55	24	55	66	66	53	67	68	54	54	54	

Interpretationrule

The second digit of the IP code stands for the level of protection against the harmful ingress of water.





	IP	Protection level	Definition
	x0	no protection	
	x1	Protection against vertically falling dripping water	Vertically falling drops shall have no harmful effects
	x2	Protection against vertically falling water drops when the enclosure is tilted up to 15°	Vertically falling drops must not have any harmful effects when the enclosure is tilted up to 15° on either side of the vertical
	x3	Protection against falling spray water if angled up to 60° from the vertical	Water sprayed at an angle of up to 60° on either side of the vertical shall have no harmful effects
	x4	Protection against splash water from all directions	Water splashed on the enclosure from any direction shall have no harmful effects
	x5	Protection against jet water from all directions	Water directed at the enclosure from any direction in a jet shall have no harmful effects
	x6	Protection against heavy jet water	Water directed at the enclosure from every direction in a powerful jet shall have no harmful effects
	x7	Protection against temporary immersion in water	Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is temporarily immersed in water
	x8	Protection against effects of long-term immersion in water	Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is continuously immersed in water
	x9	Protection against heavy jet water (high pressure) with high temperature	Water directed at the enclosure from every direction in a powerful jet shall have no harmful effects

7. Protection against mechanical stress, IK code

According to DIN EN 50102 (VDE 0470-100) «Protection types from enclosures for electrical operating media (equipment) against external mechanical damage (IK code)», the degree of protection provided by an enclosure against mechanical damage is indicated by an IK code. The IK codes allocated to the individual stress energy values are given in the adjacent table.

The data on the IK values of the individual els products is given in the tables of the technical information in each product group chapter.

IK-Code	stress energy [J]
IK00	---
IK01	0,15
IK02	0,2
IK03	0,35
IK04	0,5
IK05	0,7
IK06	1
IK07	2
IK08	5
IK09	10
IK10	20

8. PE/N disconnection terminal

The **DIN VDE 0100-718** requires that the distributors of power supply are designed in a way that the insulation resistance of all conductors can easily be measured against earth of each individual outgoing circuit.
For electrical circuits with conductor cross sections below 10 mm², this measurement must be possible without disconnecting the neutral wire, e.g. by installation of neutral wire disconnect terminals.

Additionally, **DIN EN 61439-1** (VDE 0660-600-1) requires that neutral and neutral wire terminals must be arranged near the belonging phase conductors. Due to the extended connection space there is enough space available for the installation of commercial disconnect terminal blocks.

Overview of cable entries and the associated sealing ranges

					
Gland size	Cable gland IP68		Double-membrane seal IP66	Stepped nipple IP55	Attachment bush IP54
	Sealing range [mm]	Rated torque [Nm]	Sealing range [mm]	Sealing range [mm]	Sealing range [mm]
M12	2 – 6,5	2	---	---	---
M16	4 – 10	2,5	5 – 9	---	6 – 10
M20	6 – 12	4	7 – 12	5 – 16	8 – 13,5
M20	7 – 14	4	---	---	---
M25	9 – 16	6	9 – 16	5 – 21	9 – 18,5
M32	11 – 21	7	14 – 21	13 – 26,5	13 – 23
M32/4	---	---	4 x 3,5 – 6	---	---
M40	16 – 28	7,5	19 – 28	13 – 24	17 – 30
M40/4	---	---	4 x 6 – 9"	---	---
M50	21 – 34,5	8	---	---	---
M63	32 – 44,5	9	---	---	---

Outside diameter of average cable cross-sections

Cable cross section mm²	NYM mm Ø	NYY NYCWY" mm Ø	„NYCY mm Ø
1 x 4	8	9	-
1 x 6	8,5	10	-
1 x 10	9,5	10,5	-
1 x 16	11	12	-
1 x 25	-	14	-
1 x 32	-	15	-
1 x 50	-	16,5	-
1 x 70	-	18	-
1 x 95	-	20	-
1 x 120	-	21	-
1 x 150	-	23	-
1 x 185	-	25	-
1 x 240	-	28	-
1 x 300	-	30	-
2 x 1,5	10	12	13
2 x 2,5	11	13	14
2 x 4	12	15	16
2 x 6	14	16	17
2 x 10	17	18	18
2 x 16	20	20	21
2 x 25	24	-	-
2 x 35	27	-	-
3 x 1,5	10,5	12,5	13
3 x 2,5	11	13	14
3 x 4	13	16	16
3 x 6	15	17	17
3 x 10	18	19	18
3 x 16	20	21	21
3 x 25	26	25	-
3 x 35	28	-	-
3 x 25/16	-	26,5	27
3 x 35/35	-	28	27
3 x 50/25	-	32	32
3 x 70/35	-	32-35	36
3 x 95/50	-	37-41	40
3 x 120/70	-	42	43
3 x 150/70	-	46	47
3 x 185/95	-	52	48-54
3 x 240/120	-	57-62	60
3 x 300/150	63-68	-	

Cable cross section mm²	NYM mm Ø	NYY NYCWY" mm Ø	„NYCY mm Ø
4 x 1,5	11	13,5	14
4 x 2,5	12,5	14,5	15
4 x 4	14,5	17,5	17
4 x 6	16,5	18	18
4 x 10	18,5	20	20
4 x 16	23,5	23	23
4 x 25	28,5	28	28
4 x 35	32	26-30	29
4 x 50	-	30-33	34
4 x 70	-	34-40	37
4 x 95	-	38-44	42
4 x 120	-	42-58	47
4 x 150	-	46-52	52
4 x 185	-	53-58	60
4 x 240	-	59-71	70
4 x 25/16	-	-	30
4 x 35/16	-	-	30
4 x 50/25	-	-	36,5
4 x 70/35	-	-	40
4 x 95/50	-	-	44,5
4 x 120/70	-	-	48,5
4 x 150/70	-	-	53
5 x 1,5	12	15	15
5 x 2,5	13,5	16	17
5 x 4	15,5	16,5	18
5 x 6	18	19	20
5 x 10	20	21	-
5 x 16	26	24	-
5 x 25	31,5	-	-
7 x 1,5	13	16	-
7 x 2,5	14,5	16,5	-
19 x 1,5	-	22	-
24 x 1,5	-	25	-

	Red Range / HP Junction boxes	**Abox** Junction boxes	**Abox-i** Junction boxes	**WK** Junction boxes	**TG / TK-PC** Empty enclosures	**TG-ABS / TK-PS** Empty enclosures	**RK / RKA** Terminal block housings	**RKi** Terminal Block Housings	**AK Compact** Small distribution boards 3-24 modules / **AK** Empty enclosures	**AK Air** Small distribution boards / **AKi** Empty enclosures	**STV / STG** Socket combinations	**ZKi** Meter housings	**HW** Cavity wall installation system	**IBT / IBTronic** Concrete installation system	**GEOS** Industrial and Outdoor Enclosures
Protection against direct contact (basic protection) according to DIN VDE 0100-410	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Rooms with bathtubes or showers according to DIN VDE 0100-701	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Covered swimming pools and outdoor swimming pools according to DIN VDE 0100-702			●				●			●	●	●			●
Agricultural and horticultural estates according to DIN VDE 0100-705		●	●	●	●		●	●	●	●	●	●			●
Electrical equipment at camping and caravan sites and similar areas according to DIN VDE 0100-708	●	●	●		●	●	●	●	●	●	●	●			●
Electrical equipment for pleasure craft or houseboat marinas and similar areas according to DIN VDE 0100-709 Electrical equipment for caravans and motor caravans according to DIN VDE 0100-721			●		●			●		●	●	●	●		●
Photovoltaic systems according to DIN VDE 0100-712					●		●	●		●		●			●
Electrical equipment in furniture according to DIN VDE 0100-713													●		
● Damp and wet environments and rooms ▲ Protected outdoor installations ■ Unprotected outdoor installations according to DIN VDE 0100-737	●	●	● ▲ ■ [1)]	●	● ▲	●	●	● ▲	●	● ▲	● ▲	● ▲			● ▲ ■ [1]
Temporary electrical equipment, for example at fairgrounds, amusement parks and circuses according to DIN VDE 0100-740	●	●	●		●	●	●	●	●	●	●	●			●

[1)] only applies for Abox XT series (casting resin technique)

Additional information for outdoor installations, UV resistance:

Statements regarding the protection rating and UV resistance are often seen as the only criteria for outdoor installation. However, other factors such as temperature, frequency of temperature change, air humidity and particularly chemical influences also play a significant role for outdoor installations.

In addition to the effects of UV, chemical influences can be expected to be the main source of damage for outdoor installations. From the outset, outdoor areas of filling stations, chemical works, waste disposal sites, compressors, sewage works etc, should be examined particularly carefully.

Protection against direct contact (basic protection) under standard conditions according to DIN VDE 0100-410

Important protection requirements:
Live parts (AC voltages higher than 50 V and DC voltages higher than 120 V) must be enclosed or mounted behind covers which at least conform to protection rating IP2X. Horizontal upper surfaces of covers or enclosures that are easily accessible must at least conform to protection rating IP4X.
Covers and enclosures must be securely fixed and have sufficient strength and durability to maintain the required protection class and sufficient distance from the live components under the conditions and external influences to be expected under normal operation. The covers must only be able to be removed using tools.



All Spelsberg products meet these requirements.

Example: Living rooms, hotel rooms, attics, heated and ventilated cellars

Rooms with bathtub or shower per DIN VDE 0100-701

Important protection requirements:
The following switchgear, controllers and installation devices are permitted in these areas:

Area 0 - None.

Area 1
- Junction boxes and terminal boxes for the supply of electrical consumers that are permitted in zones 0 and 1 per 701.55.
- Installation devices, including sockets for power circuits that are protected through low voltage by means of SELV[1] or PELV[2] with a nominal voltage that does not exceed 25 VAC or 60 VDC. The current source must be installed outside area 0 or 1

Area 2
- Installation devices, with the exception of sockets.
- Installation devices, including sockets for power circuits that are protected through low voltage by means of SELV[1] or PELV[2]. The current source must be installed outside area 0 or 1.
- Shaver points per DIN EN 61558-2-5 (VDE 0570-2-5).
- Installation devices, including sockets for signalling and communications equipment assuming that such equipment is protected through low voltage by means of SELV[1] or PELV[2].

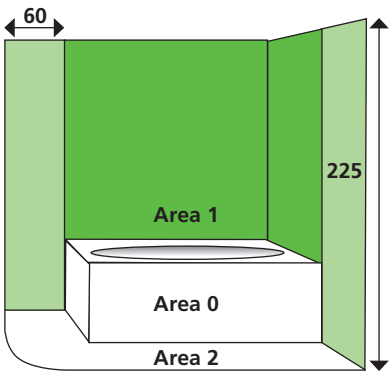
Electrical equipment must have the following type of protection as a minimum:

In area 0: IPX7;
In area 1: IPX4;
In area 2: IPX4.

The requirements do not apply to shaver points per DIN EN 61558-2-5 (VDE 0570-2-5), that are installed in area 2 and that are unlikely to be hit by direct spray whilst showering. Electrical equipment that is exposed to water jets, e.g. for cleaning purposes in public baths, must comply with protection type IPX5 as a minimum when installed in areas 1 and 2.

Particularly suitable: Abox-i, AK, AKi and GTi housing systems.

1) SELV = Safety Extra Low Voltage
2) PELV = Protective Extra Low Voltage



Swimming pool basins and other basins according to DIN VDE 0100-702

Important protection requirements:

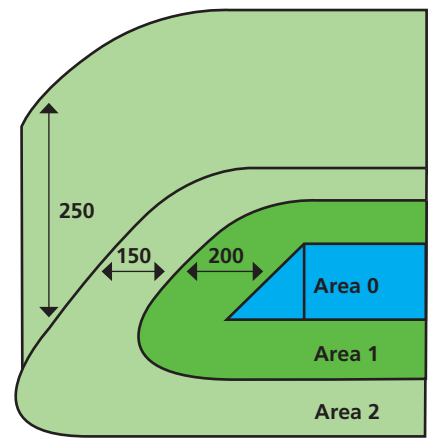
- When using SELV[1], protection from direct contact must be ensured, regardless of the voltage level, though:
  - Coverings or enclosures of protection type IP2X or IPXXB (protected against access by fingers) as a minimum, or
  - Insulation that can withstand a test voltage of 500 VAC for a minimum of one minute.
- It is not permitted to install junction boxes in area 0. In area 1, only junction boxes for electrical circuits with protection through low voltage by means of SELV[1] are permitted.

Particularly suitable:
Abox-i, the STV range as well as the AK, AKi, GTi, TK-PC, TG-PC and GEOS housing systems.

1) SELV = **S**afety **E**xtra **L**ow **V**oltage

- Electrical equipment must comply with the following types of protection as a minimum:

Area	Outdoors, for cleaning work with water jet	Outdoors, without water jet	Indoors, for cleaning work with water jet	Indoors, without water jet
0	IPX5/IPX8	IPX8	IPX5/IPX8	IPX8
1	IPX5	IPX4	IPX5	IPX4
2	IPX5	IPX4	IPX5	IPX2



Agricultural and horticultural estates according to DIN VDE 0100-705

Important protection requirements:
The following shut-off equipment should be provided in circuits, regardless of which systems, depending on the type of earth connection:

In end circuits with sockets, a fault-current circuit breaker (RCD[2]) with a trip current = 30 mA

In all other circuits, excluding those that supply distributors, fault-current circuit breakers (RCD[2]) with a trip current = 300 mA.

Fault-current circuit breakers (RCD[2]) with a trip current = 300 mA must be set up for fire protection. The fault-current circuit breakers (RCD[2]) must disconnect all live conductors. In cases where improved maintenance of supply is required, these fault-current circuit breakers (RCD[2]) must comply with design type S or disconnect with a time delay.

In areas where there is a risk of fire, conductors for low-voltage circuits must either be supplied with covers or sheathing with protection rating IPXXD or IP4X or be supplied with sheathing made from insulating material in addition to their basic protection insulation.

Particularly suitable: STV, Abox-i, the AK Air, AKi-, GTi-, TK-PC, TG-PC and GEOS housing system.

2) RCD = **R**esidual **C**urrent **D**evice

Note:
For installations in areas with increased levels of air contamination, the suitability may be correspondingly limited.

The following products have passed the DLG Focus Test „Resistance to ammonia“:

- **Abox – i**
- **TK – PC**
- **TG – PC**
- **GEOS**
- **AK Air**

Small distribution boards
(14-70 distribution units)



Example:
Stables, henhouses, pig-fattening units, incubation rooms and hatcheries, rooms for fodder preparation, hay-lofts, storage areas for straw, fertilizer and cereals

Damp and wet areas and rooms and systems installed outdoors per DIN VDE 0100-737

Important protection requirements:
In damp and wet areas and rooms, the electrical equipment must be protected from dripping water (protection type IPX1) as a minimum.

- In areas and rooms where water will be jetted and where electrical equipment will not normally be directly jetted for cleaning purposes, the equipment must be protected from splashed water (protection type IPX4) as a minimum.
  In areas and rooms where water will be jetted, electrical equipment that is directly exposed to the water stream must have a type of water protection appropriate to the type of water jet exposure or must have an additional protective measure that does not impair the operation of the equipment protected by it.

  Note: The scope of protection afforded by protection type IPX5 does not permit the cleaning of the equipment with pressurised water, e.g. spraying with a water hose or with high pressure cleaners.

- Metal parts exposed to corrosive vapours or mists must be protected against corrosion, e.g. through protective coatings or by using corrosion-proof materials.



Examples:
Commercial kitchens, unheated and unventilated cellar, laundry rooms, cold rooms, a wine cellar, greenhouses, laundry

Systems installed outdoors

Important protection requirements:
In protected outdoor systems, the equipment must be protected from dripping water (protection type IPX1) as a minimum.
In unprotected outdoor systems, the equipment must be protected from sprayed water (protection type IPX3) as a minimum.

The requirements for protection through automatic shutoff of the power supply for

- sockets in outdoor installations and
- sockets intended for the occasional supply of outdoor portable equipment, are contained in DIN VDE 0100-470 (VDE 0100 part 470):1996-02

Particularly suitable:
Abox-i, AK-, AKi, GTi, STV/STG, TG-PC, TK-PC and GEOS enclosure system. In unprotected outdoor areas: Abox XT

In addition, ventilation and/or drainage is essential!



Examples of unprotected outdoor installations:

Streets, paths and plazas, courtyards, passages and gardens, on construction sites, railway platforms, ramps and roofs, on cranes, construction machinery, filling stations and walls of buildings and external walls

Examples of protected outdoor installations:

Systems in covered railway platforms, in entrance gates and covered filling stations, on houses with sufficient roof projection, with additional weather protection

Electrical systems on caravan pitches, camping pitches and similar areas per DIN VDE 0100-708

Important protection requirements:

- The use of equipment with protection class 0 is not permitted.
- Equipment on a caravan pitch must have a protection type of IPX4 as a minimum in order to protect it from splashed water.

Note: If the electrical equipment will be sprayed during the washing process with high pressure cleaners etc., protection type IPX5 must be selected for the equipment itself or the use of an additional protective housing should be considered.

- Equipment that will be erected on a caravan/tent pitch must have or be provided with a protection type of IP4X as a minimum in order to protect it from penetration of very small objects.
- Equipment that will be erected on a caravan pitch must be protected against mechanical stresses.

The protection is achieved through one or more of the following measures: The position or location of the equipment must be selected such that damage due to any reasonably foreseeable event is avoided; provision of local or general mechanical protection; electrical equipment must be erected in compliance with a minimum protection against external mechanical stresses per IK07.

Particularly suitable: Abox-i, RKi, AK Air, AKi, GTi, GEOS enclosure systems and the STV range.



Electrical systems for caravans and motorhomes per DIN VDE 0100-721

Important protection requirements:

- The nominal AC power supply for the caravan system must not exceed 230 V in the case of single-phase power or 400 V in the case of 3-phase power. The nominal DC power supply for the caravan system must not exceed 48V.
- Where accessories are sited in a position where moisture may be present, the accessory must be constructed or enclosed such that a protection class of no less than IP44 is achieved.



Electrical systems for water sport vehicles or houseboats, marinas and similar areas per DIN VDE0100-709

Important protection requirements:

- In marinas, equipment erected at or above a landing stage, launching point, pier or pontoon must be selected in accordance with the external influences that may occur, as follows:
  Splashed water (AD4): IPX4
  Water jet (AD5): IPX5
  Waves (AD6): IPX6
- Equipment that will be erected at or above a landing stage, launching point, pier or pontoon must be selected with a protection class of at least IP4X in order to prevent penetration by very small foreign objects (AE3).
- Equipment that will be erected at or above a landing stage, launching point, pier or pontoon must be suitable for exposure to corrosive atmospheres or contaminated substances ($AF2_1$). $AF3_1$ should be used if exposure to hydrocarbons is possible.
- Equipment that will be erected at or above a landing stage, launching point, pier or pontoon must be protected against mechanical stresses (medium mechanical stresses AG2). The protection must be achieved through one or more of the following requirements:

- The position or location of the equipment must be selected such that damage due to any reasonably foreseeable event is avoided
- Provision of local or general mechanical protection
- Equipment erected in compliance with a minimum protection against external mechanical stresses per IK07

Particularly suitable after the feed point:
Abox-i, Abox XT, AK Air, AKi, GTi,
TK-PC, TG-PC, GEOS, STV and the STG-series.

1) Abbreviation for the classification of external influences per DIN VDE 0100-510, table ZA.1

Primarily electrical systems erected, for example at fairgrounds, amusement parks and circuses per DIN VDE 0100-740

Important protection requirements:

- The nominal supply voltage shall not exceed 230/400 VAC or 440 VDC.
- Regardless of the number of current sources for power supply, outer conductors and neutral conductors for the various current sources shall not be connected to one another after the feed point. The instructions from the DSO[2] shall be complied with.
- All final circuits for lights, sockets up to 32 A rated current and portable equipment that is connected via flexible cable or wiring with a current load capacity up to 32 A, must be additionally protected with residual current devices (RCD[3]) with a rated fault current = 30 mA.
- Each separated electrical system and each distribution circuit that supplies an outdoor system, must be equipped with its own, easily accessible and correctly identifiable disconnection device.
- Switchgear and controllers shall only be installed in boxes that can be opened exclusively with keys or tools. Exceptions to this are parts that are intended to be operated by electrical lay-persons.
- Electrical equipment must comply with protection type IP44 as a minimum.
- Each electrical system must have its own easily-accessible device for disconnection and switching and to provide over-current protection.
- Enclosures that contain rectifiers and transformers must be reasonably ventilated and the openings must not be covered during operation.

Particularly suitable: Red Range, Abox, Abox-i, RK, RKA, AK, AKi, GTi, GEOS and the STV range.

[2] DSO = Distribution System Operator
[3] RCD = Residual Current Device

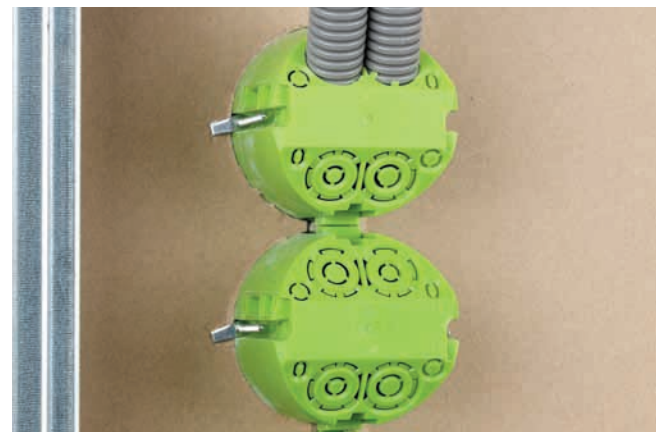


Electrical systems in furniture and similar furnishings DIN VDE 0100-724

Important protection requirements:

- Electrical installation equipment for flush-mounting must be inserted in flush mounted wall-boxes. Flush-mounted wall-boxes must be installed in a way that they are protected from damages.
- **NOTE:** This can be done by means of installation in inaccessible cavities, in recesses or through additional mechanical protection, for example.
- VDE 0100-520 applies with further amendments:
- The use of flexible cables is required if it is connected by plugs and sockets or installation connectors and for lines within furniture that could be exposed to movements.
- Rigid lines are to be used for the connection of pieces of furniture to the electrical systems if they are connected with permanent cable and conductor systems.
- Cables must be protected against damages in an appropriate way. Damages of cables must be prevented by avoiding squeezing or laying them over sharp edges.

Particularly suitable: The cavity wall socket range **HW**



Photovoltaic systems per DIN VDE 0100-712

Important protection requirements:

The peripherals for photovoltaic systems are generally installed outdoors. For this reason, the following important protection requirements apply:

- External influences that are to be expected such as wind, ice formation, temperature and solar radiation must be taken into account.
- The heat arising from direct solar radiation in photovoltaic systems must be reliably dissipated.
- All terminal boxes (PV generator terminal boxes and PV sub-array terminal boxes) must be equipped with a warning that active components in the terminal boxes may still be live after being separated from the PV inverter.
- The requirements for switching off the PV system for maintenance work are contained in VDE 0100-712, section 53.

Particularly suitable:
RK-PV, AK Air, AKi, GTi, TK-PC, TG-PC and GEOS

In addition, ventilation and/or drainage is essential!!



Tests and test methods according to IEC-/EN-Standard

The mentioned tests are based on the following standards:

- **DIN EN 60670-1 (VDE 0606-1),**
- **DIN EN 61439-1 (VDE 0660-600-1),**
- **DIN EN 62208 (VDE 0660-511)**

with all associated amendments and extensions.

DIN EN 60670-1, VDE 0606-1
This standard applies for sockets, enclosures and enclosure parts for electrical installation equipment with a rated voltage of less than 1000 VAC and 1500 VDC, which are intended for household and similar fixed electrical installations both indoors and outdoors. (DIN EN 60670-1, 1 Application Area)

DIN EN 61439-1, VDE 0660-600-1
This standard defines terms and specifies the operating conditions, construction requirements, technical characteristics and requirements for certification of low-voltage switch gear assemblies whose rated voltage is below 1000 VAC and 1500 VDC and which are movable or fixed. (DIN EN 61439-1, 1 Application Area)

DIN EN 62208, VDE 0660-511
This standard applies for empty enclosures, as supplied by the manufacturer before any equipment is installed by the manufacturer of the switchgear assembly. (DIN EN 62208, 1 Application Area)

Note:

Our in-house testing laboratory is certified according to

- UL (Underwriters Laboratories)
- VDE

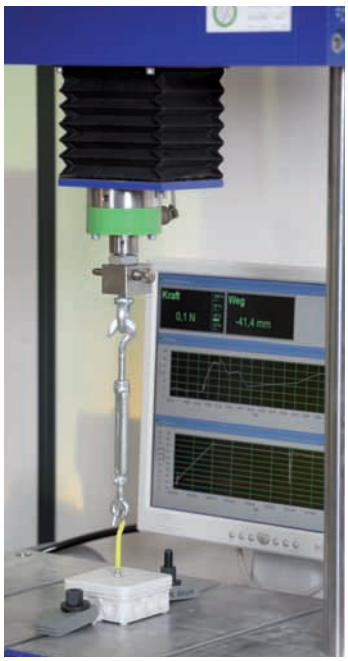
The tests described below are carried out, documented, analysed and evaluated there.

Proof of mechanical structure

DIN EN 60670-1
Lids, covers or cover plates or parts thereof

DIN EN 61439-1
Design verification of switchgear assemblies

DIN EN 62208
Type testing of empty enclosures



Proof of non-removable lids
DIN EN 60670-1:
The forces are applied perpendicular to the mounting surface, at the middle of the lid, gradually increasing for one minute

Proof of removable lids
DIN EN 60670-1:
The forces are applied ten times, gradually increasing, to the device to remove the lid. The equipment under test shall be free of damage afterwards

Proof of resistance to ingress of solid foreign bodies

DIN EN 60670-1:
DIN EN 62208:

The equipment under test is set up as in normal use and any existing cable inlets are fitted with cables. Protection is achieved if the probe cannot penetrate into the tested equipment (IP4X).

For protection level IP5X, no part of the inner surface may be covered by dust from the outside. For protection level IP6X, no dust may penetrate the into the tested equipment. (See IP code)

Proof of resistance against harmful ingress of water

DIN EN 60670-1:
DIN EN 61439-1:
DIN EN 62208:

The equipment under test is set up as in normal use and any existing cable inlets are fitted with cables. The equipment under test has amounts of water applied in accordance with its protection rating (see IP code). The ingress of water is detected by lining the interior of the equipment under test with absorbent paper. The indicator paper is examined immediately after the test.





Proof of the strength of materials and parts

DIN EN 60670-1:
Mechanical strength of boxes and enclosures

DIN EN 61439-1:
Corrosion resistance of switchgear assemblies

DIN EN 62208:
Corrosion resistance of empty enclosures



Proof of resistance against heat

DIN EN 60670-1:
A steel ball with a 5-mm diameter is pressed down on the surface of the box or enclosure with a force of 20 ± 2 N. This formation is set up in a heating cabinet and left there for an hour at a temperature of 125 ± 2°C. After the time has elapsed, the equipment under test must be cooled to room temperature within 10 seconds by immersing it in a water tank. Proof is furnished if the diameter of the impression left behind by the sphere is not larger than 2 mm.

Proof of durability of plastics against excessive heat and fire

DIN EN 60670-1:

DIN EN 61439-1:

DIN EN 62208:

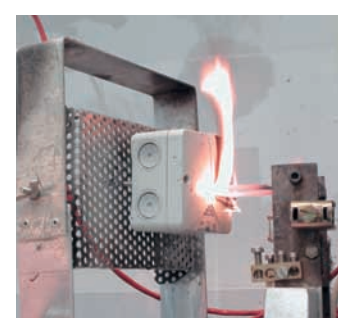
The resistance is determined by the glow wire test. The equipment under test is brought into contact with the hot filament for 30 seconds. The temperature amounts to:

- 960 ± 15 °C for parts containing live components,
- 850 ± 15 °C for cavity wall parts,
- 650 ± 15 °C for all others.

The test is passed if the enclosure does not burn or glow or if the flames and the glow extinguish independently 30 seconds after removal of the glow wire. The tissue paper spread below the test set must not be ignited by falling parts.



Start of test



End of test

Proof of electrical stability

DIN EN 60670-1:
Insulation resistance and electric strength of boxes and enclosures

DIN EN 61439-1:
Protection against electric shock and continuity of earth leads in switchgear assemblies

DIN EN 62208:
Proof of insulation resistance of empty enclosures



Proof of protection against electric shock

DIN EN 61439-1:
DIN EN 62208:

The test must demonstrate that all conductive parts of the device are effectively connected to the external earth lead. A resistance meter must be used here, which can supply at least 10 A. The test must result in a circuit resistance of $<0{,}1\,\Omega$.



Proof of electric strength

DIN EN 60670-1:

The test voltage is applied between two metal foils as for proof of insulation resistance. The test starts with about half the specified voltage and then increases rapidly to full voltage. The test is passed if no breakdown or flashover occurs.

Rated insulation voltage [V]	Test voltage [V]	Test voltage protection class II [V]
130	1250	1875
> 130 and < 250	2000	3000
> 250 and < 450	2500	3750
> 450 and < 750	3000	4500
> 750	3500	5250

DIN EN 61439-1:

The test voltage is applied
- between the connected poles of the main circuit and the earthed enclosure
- between the unconnected poles of the main circuit
- between the control and auxiliary circuit and the main circuit as well as the earthed enclosure.

In order to furnish proof, the overcurrent relay must not trigger and there should be no breakdown.

Rated insulation voltage (phase-to-phase) [V]	Insulation test voltage (AC) [V]	Insulation test voltage (DC) [V]
$U_i < 60$	100	1415
$60 < U_i < 300$	150	2120
$300 < U_i < 690$	1890	2670
$690 < U_i < 800$	2000	1830
$800 < U_i < 1000$	2200	3110
$1000 < U_i < 1500$	---	3820

Rated insulation voltage (phase-to-phase) [V]	Insulation test voltage (AC) [V]
$U_i < 12$	250
$12 < U_i < 60$	500
$60 < U_i$	$2 \cdot U_i + 1000$ min. 1500

Proof of clearances and creepage distances and distances through casting compound

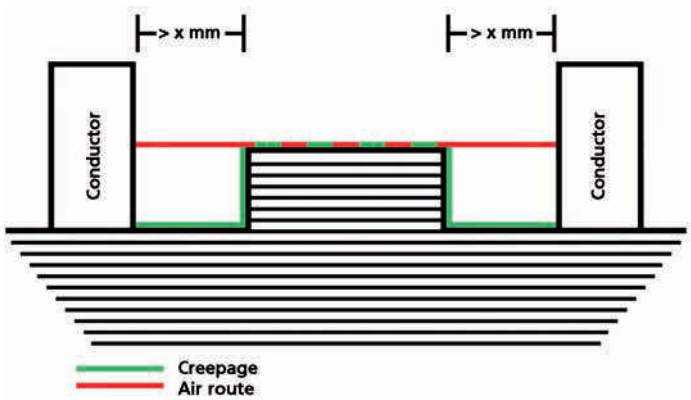
DIN EN 60670-22:

DIN EN 61439-1:

The intervals may not be less than described in table 21 and are measured between live parts of different polarity, live parts and metal caps or sockets without insulation and live parts and the base mounting surface.

Rated insulation voltage [V]	Creepage distances, clearances and distances through casting compound [mm]
< 130	1,5
> 130 and < 250	3
> 250 and < 450	4
> 450 and < 750	6
> 750	8

The clearances and creepage distances are evaluated as follows:



The distance x must be between 0.25 mm and 2.5 mm depending on the degree of contamination (see the table below), otherwise it may not be used to extend the creepage. In this case, the creepage distance would be equal to the clearance, based on the example in the figure above (DIN EN 61439-1, Appendix F).

Degree of contamination	Smallest width x of grooves [mm]
1	0,25
2	1
3	1,5
4	2,5

Tests and test methods UL – Underwriters Laboratories

The tests referred to are based on the following standards

- **UL 94**
- **UL 50**
- **UL 746C**

with all associated amendments and extensions.

UL 94
"Tests for Flammability of Plastic Materials for Parts in Devices and Applications"
This regulation describes the test for evaluating and classifying the flammability of plastics.

UL 50
"Standard for electrical equipment intended to be installed and used in non-hazardous locations"
This regulation sets standards for electrical appliances that are not intended for use in areas subject to explosion hazards.

UL 746C
"Standard for safety for polymeric materials – use in electrical equipment evaluations"
This regulation sets standards for materials made of polymer, for use in electrical equipment.

Test of proof against mechanical stress

UL 746C

In order to prove protection against mechanical stress, impact stress must be applied to the equipment under test. Equipment intended for outdoor use is cooled for three hours in a cold chamber at -35 ± 2°C and then mounted on a rigid frame appropriate to its planned use. In the cold state, a single blow is applied with a steel ball of 50.8 mm (2 inches) in diameter and weighing 0.535 kg (1.18 pounds) to the surface being tested.

In order to furnish proof, the equipment under test must be free of any damage that may interfere with its proper use. Furthermore, the intended protection rating must not be changed negatively.



The splinters are ice residue from the cooling process at -35°C.

Tests for Flammability of Plastic Materials for Parts in Devices and Applications

UL 94

The test is conducted with an open flame. Depending on the classification, the flame has a power of 50 watts (20 mm high flame) or 500 watts (125 mm high flame). The ignition source acts on the test object for 30 s in the case of the horizontal burning test (HB), twice for 10 s with the vertical burn test (V) and five times for 5 s with the 5V test and is then removed again. The burning time and also the fragmentation of burning parts in the case of V-tests are assessed. A cotton ball placed under the test set must not ignite.



Classifications:
A material sample (thickness <3 mm) is placed horizontally above a 50 W flame 20 mm high.

Classification	Conditions
HB	Self-extinguishing
HB75	Burning < 75 mm/min.
HB45	Burning < 40 mm/min.

A material sample is placed vertically above a 50 W flame with a height of 20 mm.



Classification	Conditions
V-2	Self-extinguishing up to 30 s following removal of the flame, burning drops permitted
V-1	Self-extinguishing up to 30 s following removal of the flame, no burning drops permitted
V-0	Self-extinguishing up to 10 s following removal of the flame, no burning drops permitted

A material sample is placed vertically above a 500 W flame with a height of 125 mm ± 10 mm.



Classification	Conditions
5VB	Self-extinguishing, no burning drops, burn holes are permitted
5VA	Self-extinguishing, no burning drops, burn holes are not permitted

Note:
As an alternative to materials with the material classification 5VA , the UL 50 regulation also permits material that has the classification HB and has passed the flame test according to UL 746C, Selection 17 „Flammability 127 mm (5 inch) flame“. The material thus tested is comparable to material with the classification 5VA according to UL 50.

The development, testing and production per national regulations, European standards and special approvals document the high safety standard of els brand products.

Quality management system per DIN EN ISO 9001
„Register number: QM_UM 00905 DMSZ
from the VDE testing and certification institute“

DIN VDE 60670
Boxes and enclosures for electrical accessories for household and similar fixed electrical installations

Part 1: General requirements
Part 21: Special requirements for boxes and enclosures with hanging fasteners
Part 22: Special requirements for junction boxes
Part 23: Special requirements for underfloor boxes
Part 24: Special requirements on enclosures for the installation of protective equipment and similar energy-consuming devices

DIN EN 60999 (VDE 0609)
Connection materials (electrical copper conductors) safety requirements for screw terminal points and screw-less terminal points

Part 1: General requirements and special requirements for clamping points for conductors with a cross-section of 0.2 mm² up to and including 35 mm²

DIN EN 60998 (VDE 0613)
Connection materials for low voltage circuits for households and similar purposes
Part 1: Allgemeine Anforderungen
Part 2-1: Special requirements for connection materials as independent equipment with screw terminals
Part 2-2: Special requirements for connection materials as independent equipment with screw-less clamping points

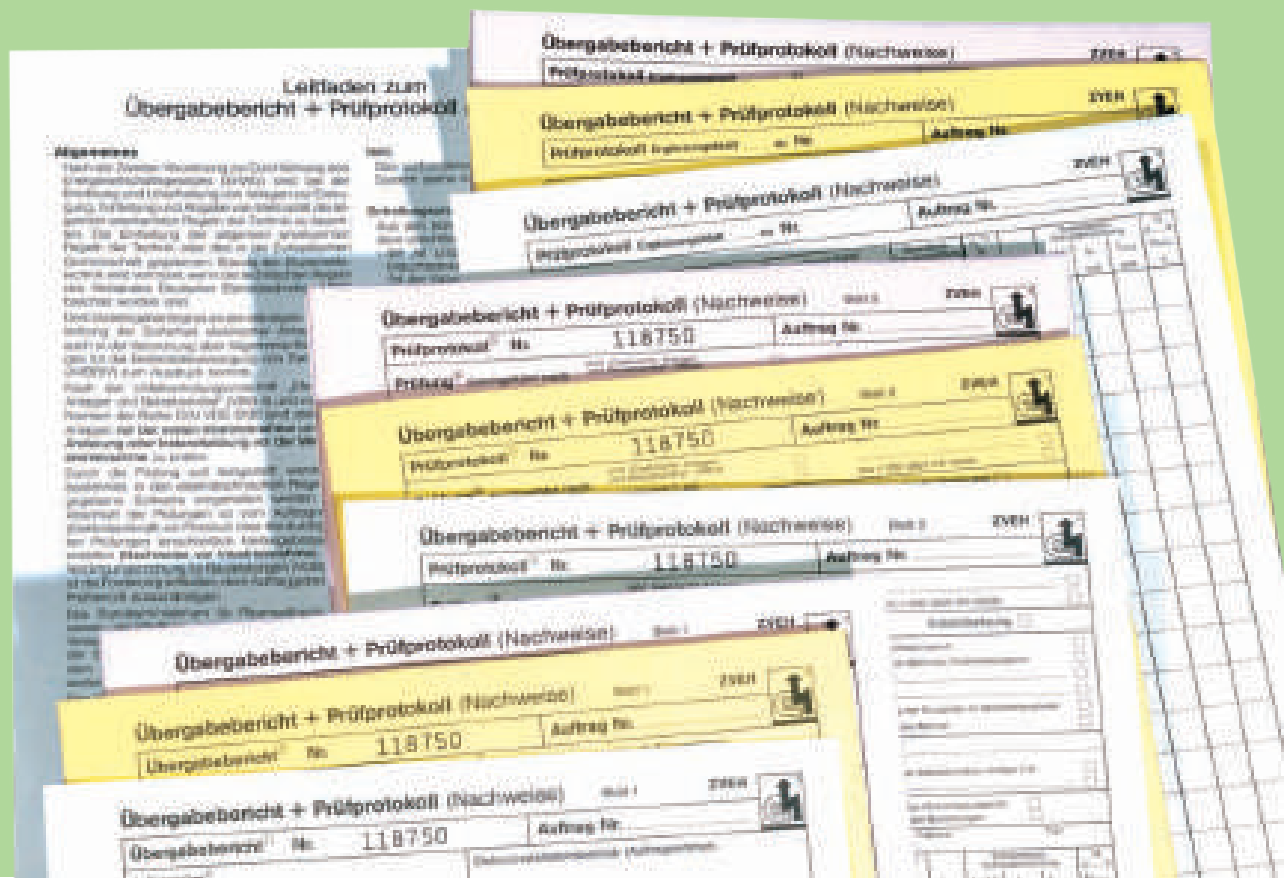
DIN EN 60947-7-1 (VDE 0611 part 1)
Low voltage switchgear
Part 7-1: Auxiliary devices – terminal blocks – for copper conductors

DIN VDE 0603
Meter support positions AC 400 V
Part 1: General requirements
Part 2-1: Meter support positions for direct measurement up to 63 A
Part 2-2: Meter support positions for semi-direct measurements (Transducer measurement) up to 1 000 A
Part 3-2: Fastening and contacting component (BKE) for electronic house service meters (eHZ) for the application in meter support positions
Part 3-1: Main cable junction terminal (HLAK)
Part 3-3: Screwless terminal for meter (ZSK)

DIN EN 62208 (VDE 0660-511)
Empty enclosures for low-voltage switchgear combinations, general requirements

DIN EN 61439 (VDE 0660-600)
Low-voltage switchgear combinations
Part 1: General predefinitions
Part 2: Energy switchgear assemblies (PSC)
Part 3: Installation distributor for operation by laypeople (DBO)

DIN IEC/TS 61439-7 (VDE V 0660-600-7)
Switchgear assemblies for certain applications e.g. marinas, campsites, marketplaces, charging stations for electric vehicles



Extract from the determination of inspection intervals from the DGUV regulation 3 (formerly BGV A3):

Electrical systems and stationary equipment:
Inspection interval 4 years

Portable electrical equipment:
Guide value 6 months,
3 months on construction sites

Fault current, differential current and fault voltage circuit breakers:
6 months in stationary systems,
every working day in non-stationary systems

Acceptance by the end customer and handover of fully functional system
An acceptance procedure and handover to the end customer is carried out at the conclusion of the commissioning. The order is completed with the issue of the associated final documentation, test logs and handover reports. It is advisable to generate a handover report and a test log. There is a template from the ZVEH available for this.

Inspection intervals
The operator shall ensure that the electrical system and equipment is checked to ensure that it is in a proper condition:

1. Prior to initial commissioning and after any change or repair work, before the recommissioning by an electrician or under the guidance and supervision of an electrician.
2. At defined intervals. The intervals are to be set such that defects that would normally be expected to arise are detected in good time.

Order no.	Description	DG	Page
07080001	ZPR Z wall profile	360	373
07300101	GKE 1 Cable entry	360	53
07300301	GZE 3 Strain relief	360	53
07300401	GZE 4 Strain relief	360	53
07303201	GKE 32 Cable entry	360	53
07304301	GKE 43 Cable entry	360	53
07307501	GZS 75 Auxiliary clamp for strain relief	360	53
10040301	TG ABS 88-6-o Empty enclosure	800	342
10040401	TG ABS 1208-6-o Empty enclosure	800	344
10040501	TG ABS 1212-6-o Empty enclosure	800	346
10040601	TG ABS 1608-6-o Empty enclosure	800	348
10040701	TG ABS 1612-9-o Empty enclosure	800	350
10040801	TG ABS 2012-8-o Empty enclosure	800	351
10040901	TG ABS 2015-9-o Empty enclosure	800	353
10041201	TG ABS 2516-9-o Empty enclosure	800	354
10041301	TG ABS 3023-9-o Empty enclosure	800	356
10090301	TG ABS 88-9-o Empty enclosure	800	343
10090401	TG ABS 1208-9-o Empty enclosure	800	345
10090501	TG ABS 1212-9-o Empty enclosure	800	347
10090601	TG ABS 1608-9-o Empty enclosure	800	349
10090801	TG ABS 2012-9-o Empty enclosure	800	352
10091201	TG ABS 2516-12-o Empty enclosure	800	355
10091301	TG ABS 3023-11-o Empty enclosure	800	357
10100301	TG ABS 88-6-to Empty enclosure	800	342
10100401	TG ABS 1208-6-to Empty enclosure	800	344
10100501	TG ABS 1212-6-to Empty enclosure	800	346
10100601	TG ABS 1608-6-to Empty enclosure	800	348
10100701	TG ABS 1612-9-to Empty enclosure	800	350
10100801	TG ABS 2012-8-to Empty enclosure	800	351
10100901	TG ABS 2015-9-to Empty enclosure	800	353
10101201	TG ABS 2516-9-to Empty enclosure	800	354
10101301	TG ABS 3023-9-to Empty enclosure	800	356
10150301	TG ABS 88-9-to Empty enclosure	800	343
10150401	TG ABS 1208-9-to Empty enclosure	800	345
10150501	TG ABS 1212-9-to Empty enclosure	800	347
10150601	TG ABS 1608-9-to Empty enclosure	800	349
10150801	TG ABS 2012-9-to Empty enclosure	800	352
10151201	TG ABS 2516-12-to Empty enclosure	800	355
10151301	TG ABS 3023-11-to Empty enclosure	800	357
10440601	TK PS 1811-16-m Empty enclosure	600	321
10440701	TK PS 1818-16-m Empty enclosure	600	325
10440801	TK PS 2518-16-m Empty enclosure	600	327
10441101	TK PS 2518-13f-m Empty enclosure	600	326
10441301	TK PS 1818-13f-m Empty enclosure	600	324
10441401	TK PS 1811-13f-m Empty enclosure	600	320
10441501	TK PS 1813-13f-m Empty enclosure	600	322
10441601	TK PS 1813-16-m Empty enclosure	600	323
10540101	TK PS 77-6-m Empty enclosure	600	312
10540201	TK PS 97-6-m Empty enclosure	600	313
10540301	TK PS 99-6-m Empty enclosure	600	314
10540401	TK PS 1111-7-m Empty enclosure	600	316
10540501	TK PS 1313-7-m Empty enclosure	600	318
10540601	TK PS 1811-9-m Empty enclosure	600	321
10540701	TK PS 1818-9-m Empty enclosure	600	325
10540801	TK PS 2518-9-m Empty enclosure	600	327
10540901	TK PS 1309-6-m Empty enclosure	600	317
10541001	TK PS 1809-6-m Empty enclosure	600	319
10541101	TK PS 2518-6f-m Empty enclosure	600	326
10541201	TK PS 3625-11-m Empty enclosure	600	328
10541301	TK PS 1818-6f-m Empty enclosure	600	324
10541401	TK PS 1811-6f-m Empty enclosure	600	320
10541501	TK PS 1813-6f-m Empty enclosure	600	322
10541601	TK PS 1813-9-m Empty enclosure	600	323
10590101	TK PS 77-8-m Empty enclosure	600	312
10590201	TK PS 97-8-m Empty enclosure	600	313
10590301	TK PS 99-8-m Empty enclosure	600	314
10590401	TK PS 1111-9-m Empty enclosure	600	316
10590501	TK PS 1313-10-m Empty enclosure	600	318
10590601	TK PS 1811-11-m Empty enclosure	600	321
10590701	TK PS 1818-11-m Empty enclosure	600	325
10590801	TK PS 2518-11-m Empty enclosure	600	327
10590901	TK PS 1309-8-m Empty enclosure	600	317
10591001	TK PS 1809-8-m Empty enclosure	600	319
10591101	TK PS 2518-8f-m Empty enclosure	600	326
10591201	TK PS 3625-16-m Empty enclosure	600	328
10591301	TK PS 1818-8f-m Empty enclosure	600	324
10591401	TK PS 1811-8f-m Empty enclosure	600	320
10591501	TK PS 1813-8f-m Empty enclosure	600	322
10591601	TK PS 1813-11-m Empty enclosure	600	323
10600101	TK PS 77-6-tm Empty enclosure	600	312
10600201	TK PS 97-6-tm Empty enclosure	600	313
10600301	TK PS 99-6-tm Empty enclosure	600	314
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92026501	HW 065 H Branch socket	100	86
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92036501	HW 065 WD Branch socket	100	85
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General Terms and Conditions

1. For all deliveries
– including deliveries from our agents' stocks – the following terms shall be applied:

1.1 the ''Warranty regulations of manufacturers of installation devices and installation systems''

1.2 "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry for Commercial Transactions between Businesses" in the version as amended by Zentralverband der Elektrotechnik und Elektronikindustrie (ZVEI) e.V.", the German Electrical and Electronic Manufacturers' Association

1.3 in addition, the following paragraphs 2 to 12. We will happily send you the above mentioned norms, delivery terms and clauses, if required. The documents can also be downloaded from our web site (www.spelsberg.de). We here-with reject the conditions of purchase of our customer unless they are explicitly acknowledged by us. Our terms will be acknowledged will be considered the sole binding legal foundation when delivery is taken of objects supplied by. Order confirmations will only be sent if requested expressly.

2. Small orders
for less than 100 euro will not be granted any discount but invoiced gross for net.

3. Sea- proof packing
Will be supplementary invoiced only in case of packing in containers.

4. Delivery freight prepaid
(freight paid, packing included) will be carried out within the territory of Germany for a net order value of more than 1,000 euro. Haulage payable at destination shall be borne by the receiver of the goods.

5. Dispatch
will always be carried out at receiver's risk, even in case of agreed delivery freight prepaid.

6. Suitability and nature of goods
Any indication and information concerning suitability, nature and application our of goods shall not discharge our customer from their own controls and tests. The customer processing our goods shall be assume liability for dispositions prescribed by law, public agencies and electric supply companies.

7. Claims
shall only be acknowledged within 8 days of the receipt of the consignment. On receipt of the goods, the person delivering the goods must confirm any visible damage to goods in transit on the relevant delivery notes.

8. Return of goods
shall be rejected unless we have given our prior acceptance. In case of non-compliance the company /person returning the goods shall assume liability for any costs and disadvantages.

9. Our payment terms
are within 10 days less 3 % cash discount or net within 30 days. If the customer is in arrears of payment, we are entitled to claim interest in the amount of the current base interest. Should the customer's solvency be doubted, in particular in case of payment in arrears, we are entitled, subject to all other claims, to demand payment in advance or guarantees or revoke already granted credit terms.

10. Place of performance
for delivery, payment and other contractual performances of both parties is Schalksmühle. Place of jurisdiction is Lüdenscheid. German law governs the relationship between the contracting parties.

11. Data protection
We are entitled to use data arising from the business relationship with our customers, regardless their origin, within the meaning of the BDSG (the German Federal Data rotection Act).

General Terms and Conditions

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