



safe.inspiring.green.

CATALOGUE
Electric installation

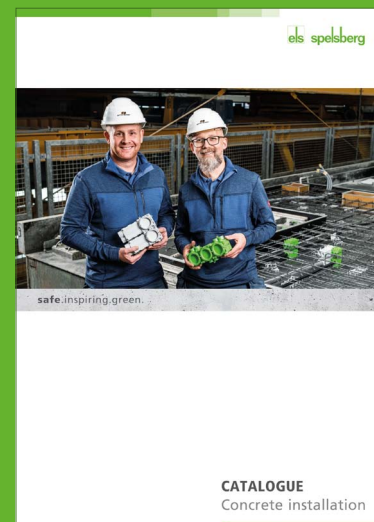
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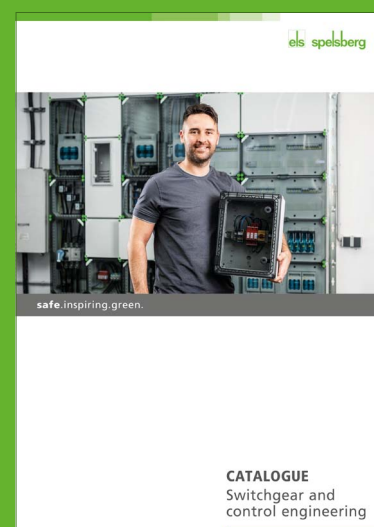
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Additional product catalogues are available free of charge at:

www.spelsberg.com/service/info-request



Concrete installation



Switchgear and control engineering

Illustrations are not binding. This applies in particular to the design, size, and colour of equipment. We reserve the right to amend prices, technology and design. Mistakes in this catalogue are due to printing errors and no right to reductions or similar may be derived from them.



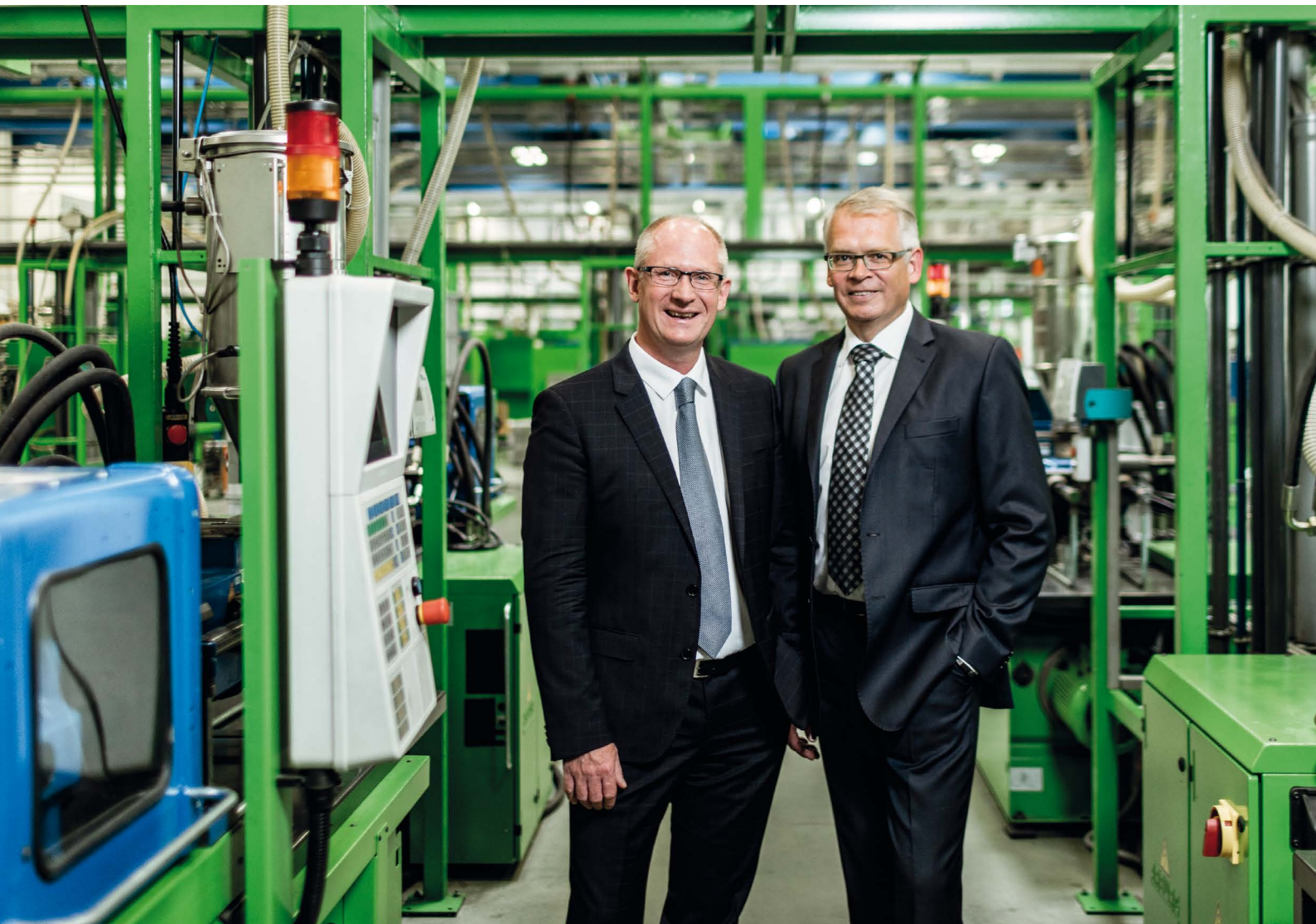
Innovation meets tradition – Spelsberg throughout the years

When you trust in Spelsberg, you trust in the best. Here you will find enclosure expertise combined with more than a century of experience.

Spelsberg is a market leader in the electrical industry, with 117 years of experience in the area of electrical installation and enclosure technology. The high innovative capacity of this family-run business has resulted in numerous patents and provides solutions that are quick and easy to install, and that are impressive thanks to their long service life and ease of maintenance.

The developers not only have an eye on the latest status of standards, but also on new markets and trends within energy and building technology. The result is products and systems that are always ahead of the game, and that impress due to their clever details and fair price. We are continuously setting new standards, particularly with respect to safety. In the past it was new products such as the fire-resistant WKE junction boxes with preserved functionality or the Red Range of halogen-free junction boxes with which Spelsberg forged new

paths as an innovative pioneer, driving the development of installation technology one step further into the future. Following a survey of craft businesses, 90% of all processors know and use Spelsberg products, and are satisfied with them. Spelsberg sells its product all over the world via its own subsidiaries and distribution partners, manufacturing its products in a consistent manner in Germany and employing a total of approximately 600 employees at its various sites and in its subsidiaries.



Till Fastabend
Managing Partner

Holger Spelsberg
Managing Partner

At present, Spelsberg offers more than 5000 widely available products, including junction boxes, small distributors, terminal block enclosures, meter enclosures and industrial enclosures. Customers also appreciate Spelsberg as an expert consultant for demanding questions involving the enclosure. Spelsberg bundles all of the required expertise under one roof and conducts all of the various stages itself, from the prototype development to the individual customization, right through to the electronic development and assembly of customer-specific turnkey systems.



Spelsberg has over 100 patents registered. In Germany, Europe and worldwide.



Spelsberg is represented in more than 50 countries through own subsidiaries and distribution partners.



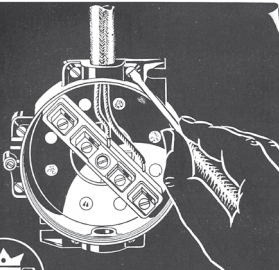
Können Sie und die Etc. schießen?

Bei der Montage von Feuchtraumdosen war's bisher so ähnlich; die umständliche **seitliche** Betätigung einer Stopfbuchse mit Zange und roher Kraft ist auch Ihnen wohl nie sympathisch gewesen!

Die **IMPERATOR-Kammerdichtung** bedienen Sie von **vorn** spielend leicht mit dem Schraubenzieher. Als Fachmann wissen Sie am besten, welche Erleichterungen sich dadurch bei der Montage ergeben müssen.

KADO, die neue Kabeldose besitzt diese Kammerdichtung!

Kaiser & Spelsberg, Schalksmühle in Westf.
geben Aufklärung und liefern gern durch Ihren Großhändler.



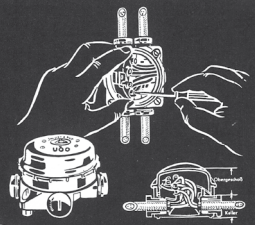
Schraubfix-Kabelabzweigdosen
für Kabel von 8,5 – 14 mm

Bequemer installieren:
Die Schraubfix-Ziehungen werden von vorn mit dem Schraubenzieher betätigt.

Schneller installieren:
In wenigen Sekunden ist das Kabel durchgesteckt und mit einigen Schraubenumdrehungen einwandfrei abgedichtet. Ausgießen überflüssig!

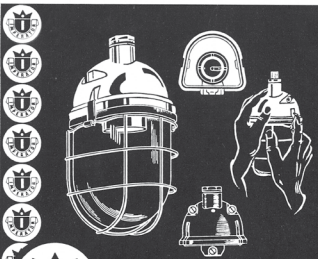
Billiger installieren:
Die Schraubfix-Dose ist billiger als die Dose mit Stopfbuchsenverschraubungen.

Diese drei Vorzüge sollten auch Sie sich zunutze machen!



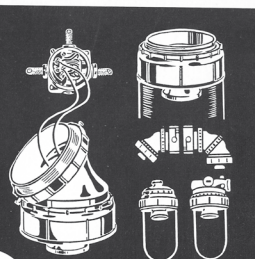
UDO-Universaldosen

- 2 Dosenmodelle für 16 Stützanschlüssen nur durch Auswechseln von Nippeln und Stopfen.
- Mehr Platz in der Dose durch »zweistöckige« Konstruktion.
- Bequeme Abzweigung infolge des losen Klemmhebel, der nach der Montage vom Deckel gehalten wird.



Leuchtkörper

- Einwandfreie Abdichtung in Sekunden durch den Schnopfkapselverschluss.
- Kein Durchbrennen des Bodens, denn das Glas umschließt die Glühlampe von allen Seiten.
- Die keramische Fassung sichert gefahrloses Auswechseln der Glühlampe mit vollem Berührungsschutz.
- Fester Sitz auch auf unebenen Flächen mittels Drei-Punkt-Befestigung



UDO-Wandelarmaturen

- Vielfältige Kombinationsmöglichkeiten von Dosen und Leuchten durch einheitliche Bauteile.
- Leuchten als vollwertige Abzweigdosen.
- Fehlende Armaturen sind kein Hindernis an der Baustelle: Ein Dosenunterteil genügt für die Grundmontage. Der Leuchtenanschluß ist dann später in drei Minuten erledigt.



Sie machen Das Rennen

auch in Ihrem Beruf, wenn Sie eben verstehen Zeit zu gewinnen. —

In 20 Sekunden eine Feuchtraumleitung einführen und einwandfrei abdichten — Sie zweifeln zunächst, und doch ist das bequem möglich.

Zwar nicht mit der üblichen Stopfbuchsenverschraubung, jedoch bei Verwendung der neuen **IMPERATOR-Kammerdichtung**.

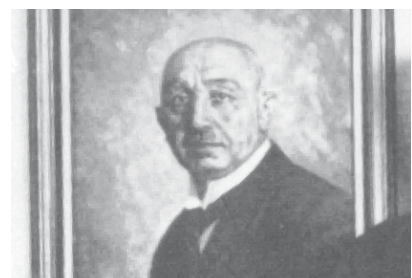
Überlegen Sie einmal, was Sie dabei an Montagezeit sparen!

KADO, die neue Kabeldose besitzt diese Kammerdichtung!

Kaiser & Spelsberg, Schalksmühle in Westf.
geben Aufklärung und liefern gern durch Ihren Großhändler.

From day one, it has been our mission to make everyday life easier for our customers. Above all, in the area of safety we continue to set new standards. New products have included fireproofed WKE junction boxes with functional integrity, and halogen-free junction boxes in the Red Range, with which Spelsberg, as a driver of innovation, has demonstrated new approaches and taken installation technology one step further.

Our founder Ernst Spelsberg would be proud that four generations later his values continue to be applied and that our staff still enthusiastically maintain the pioneering spirit of the early years.

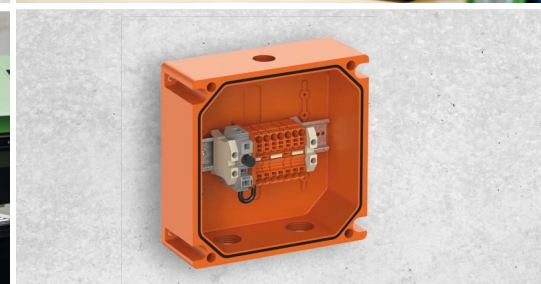


Founding father **Ernst Spelsberg**



Gave his name **Günther Spelsberg**

Our eyes are firmly on the future



Today, Spelsberg is not simply regarded as a supplier of more than 5,000 catalogue products, but also as a developer of connection-ready overall systems and as an expert advisor where challenging issues around enclosures arise.

Spelsberg itself brings together under one roof all the know-how required for this and undertakes all steps from prototype construction, through individual customisation to electrotechnical development and equipping of bespoke complete systems.

Because even the tests that accompany development are performed in-house, it is possible right from the design phase to perform iterative testing and adaptations until all characteristics conform to the standards. Methods such as Building Information Modeling (BIM) are already supported by us with correspondingly prepared product data.



IK level impact testing



Enclosure customisation



Tool making

Made in Germany



Schalksmühle - the town in which as early as 1904 the first insulating tubes were developed and manufactured, is also where Spelsberg still has its home. The company continued to grow and constantly expanded its production facilities, until it reached its capacity limits in the centre of the town.

This prompted the move in the 1990s to an industrial area, where completely new administration and production facilities were built. All areas of expertise and departments work closely together here in an interdisciplinary and integrated manner. Not only does this drive innovation, it also results in short response times.

This makes it easy to stay one step ahead of the industry. At **Buttstädt** more than 100 people are employed in producing the best-selling products from Spelsberg, such as AK series distribution boards, the Red Range and the popular Abox series. The modern equipment, including more than 50 injection moulding machines with a clamping force of up to 900 tons, ensures efficient processes and optimum results.

Factory Buttstädt (Thuringia)



Small distribution board production



Silos for raw materials



Automation Abox junction boxes

Approximately five million items of the i12 junction boxes alone are manufactured in Buttstädt each year, and more than a million Abox junction boxes also find their way from Thuringia to all parts of the globe.

Buttstädt has never been just a production facility, however. The plant is also an important cornerstone of Spelsberg for the training of mechatronics engineers, process engineers, and experts in warehouse logistics .

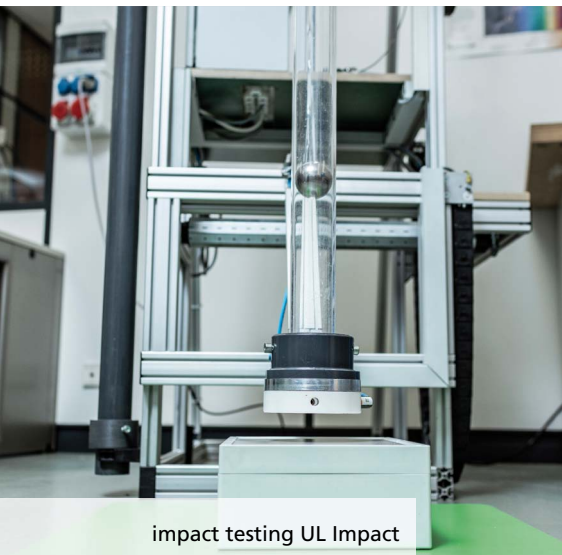


Certified in Schalksmühle

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 testings for the international use of series products and special solutions to be executed in-house.



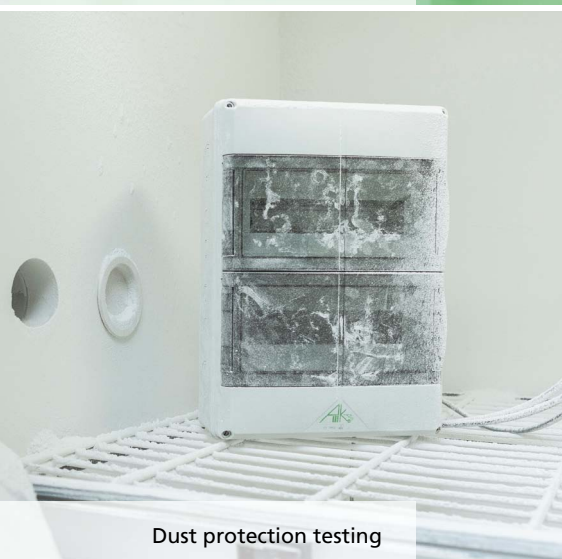
impact testing UL Impact



impact testing IK Level



Climate test



Dust protection testing



Water protection testing



Cover pull-off testing

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.

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

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ENQUIRIES TO THE
FOLLOWING E-MAIL
ADDRESS:
anfragen@spelsberg.de



Piktograms

| | | |
|---|---|--|
| IP68 | IP68 | Class of protection (IP-Code) acc. to DIN EN 60529 (VDE 0470-1) as per respective product standard |
|  |  | Maximum number of modules |
| E30 | E30 | Electrical functional integrity acc. to DIN 4102-12 "E" stands for functional integrity, "30-90" stands for the duration in minutes. |
| 10 ² | 10 ² | 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) |
| IK09 | IK09 | 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 |
| 1000V DC | 1000V DC | Maximum voltage DC (DC voltage) as per product standard (system voltage in the PV sector) |
| 690V AC | 690V AC | Nominal AC voltage (AC voltage). Highest permissible voltage on the junction as per product standard |
| 15A | 15A | 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 |



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.



Products with the **c UL us** approval mark have been independently certified by UL (Underwriters Laboratories Inc.). Representative samples of this product have been assessed by UL and comply with the applicable national standards of USA and Canada.



Products with the **UL EU** approval mark have been independently certified by UL (Underwriters Laboratories Inc.). Representative samples of this product have been assessed by UL and comply with the applicable European (EN) or global (IEC) standards.



DNV

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



DLG focus test: Ammonia resistance (stable air)



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



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



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



Vattenfall approval



Industrial quality

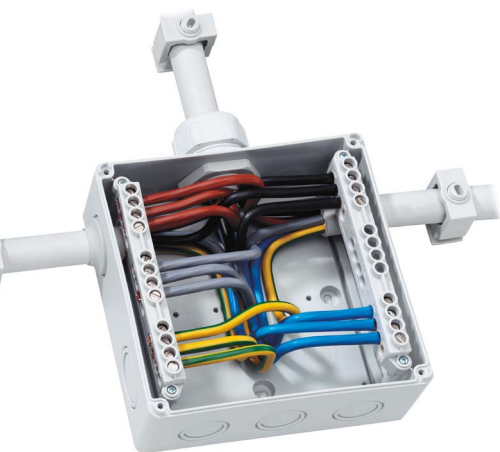


Standard
quality



Industrial
quality

Junction Boxes















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 connection boxes with functional integrity to E90. We have the right solution for every application.

Junction Boxes

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|  Junction boxes Up to IP55, classical wet-room installation | Red Range | 58 |
|  Junction boxes Without terminals, with stepped nipples | HP | 69 |
|  Junction boxes For fire hazardous facilities | WK | 72 |
|  Junction box Accessories | | 78 |
| Technical Information | Junction boxes | 80 |

Junction Boxes

Abox 025 to 700



For protected installations (with and without terminals from 1,5 to 70 mm²)

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



Junction Boxes

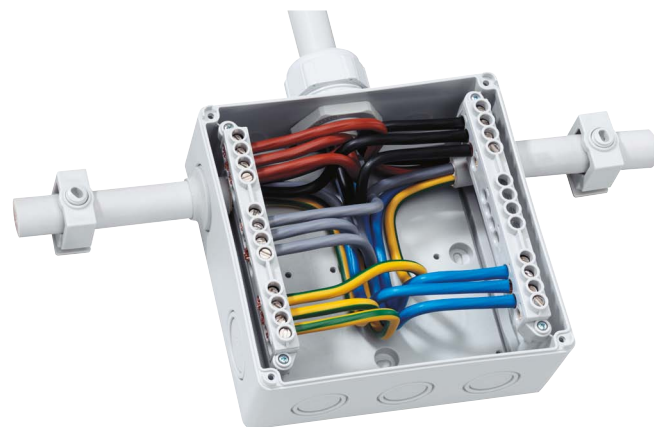
Abox-i 025 to 2400



G. SPELSBERG
VERBINDUNGSDOSE DER SERIE
ABOX-I MIT ZUBEHÖR
✓ Ammoniakbeständigkeit
DLG-Prüfbericht 6398

Weatherproof (with and without terminals from 1,5 to 240 mm²)

- 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



Junction Boxes

Abox m 025 and 040 | Abox-i m 025 and 040



30 new variations

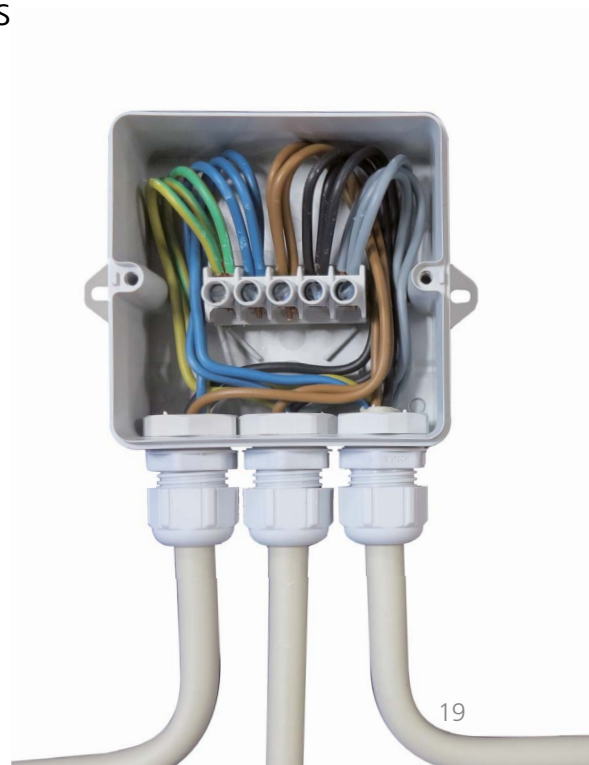
- Toothing for easier positioning
- Abox m 040 with 3 x M20 knockouts on one side
- Abox m 025 and Abox m 040:
2K cover with integrated cover seal and insulating plugs

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





Different colours for individual applications



Junction Boxes

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

Abox m 025

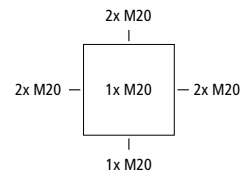
82 x 82 x 52 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 2.5 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20, (1 Rear, 7 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M20 sealing area 8 - 13,5 mm, 1 sealing plugs M20



| Description | Order no. |
|---|-----------|
| Abox m 025-L grey, without terminals | 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 grey, with red cover, without terminals, for identifying circuits for safety lighting | 80770701 |

Abox m 025 AB

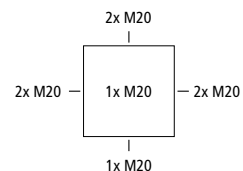
82 x 82 x 52 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 2.5 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20, (1 Rear, 7 Side), External fastening points, for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M20 sealing area 8 - 13,5 mm, 1 sealing plugs M20



| Description | Order no. |
|--|-----------|
| Abox m 025 AB-L grey, without terminals | 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 grey, with red cover, without terminals, for identifying circuits for safety lighting | 80870701 |

Junction Boxes

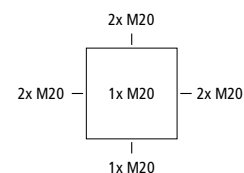
Abox | Abox-i | Abox m | Abox-i m

Abox-i m 025

82 x 82 x 52 mm







Junction Box, with protection class IP66, Nominal cross-section 2.5 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Push-out membranes, M20, (1 Rear, 7 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



Accessories supplied:

4 Double-membrane seal IP66 M20 sealing area 7 - 12 mm

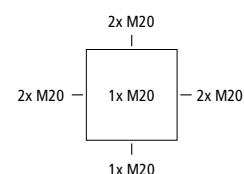
| Description | Order no. |
|---|--|
| Abox-i m 025-L grey, without terminals |  49690201 |
| Abox-i m 025-2,5² grey, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²) |  49640201 |
| Abox-i m 025-L/sw black, without terminals |  49890201 |
| Abox-i m 025-L/w white |  48990201 |

Abox-i m 025 AB

82 x 82 x 52 mm







Junction Box, with protection class IP66, Nominal cross-section 2.5 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Push-out membranes, M20, (1 Rear, 7 Side), External fastening points, for installations in the industrial arena and protected outside areas



Accessories supplied:

4 Double-membrane seal IP66 M20 sealing area 7 - 12 mm

| Description | Order no. |
|--|--|
| Abox-i m 025 AB-L grey, without terminals |  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 terminals |  49990301 |
| Abox-i m 025 AB SB-L grey, with red cover, without terminals, for identifying circuits for safety lighting |  49970201 |

Junction Boxes

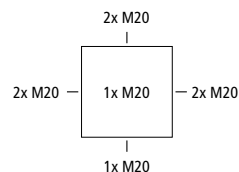
Abox | Abox-i | Abox m | Abox-i m

Abox 025

80 x 80 x 52 mm



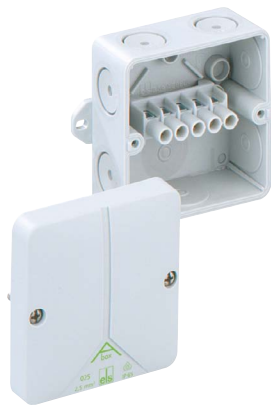
Junction Box, with protection class IP65, Nominal cross-section 2.5 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing, flexible insertion membranes, M20, Sealing area 2 - 16 mm, (1 Rear, 7 Side), Internal fastening points, for standard indoor installations



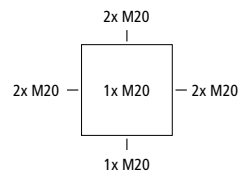
| Description | Order no. |
|---|-----------|
| Abox 025-L grey, without terminals | 80290701 |
| Abox 025-2,5² grey, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²) | 80240701 |
| Abox 025-L/w white, without terminals | 80260701 |
| Abox 025-2,5²/w white, with screw terminal, 5-pole - 2.5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

Abox 025 AB

80 x 80 x 52 mm



Junction Box, with protection class IP65, Nominal cross-section 2.5 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing, flexible insertion membranes, M20, Sealing area 2 - 16 mm, (1 Rear, 7 Side), External fastening points, for standard indoor installations



| Description | Order no. |
|---|-----------|
| Abox 025 AB-L grey, without terminals | 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 terminals | 80360701 |
| Abox 025 AB-Pot grey, with 1 x PE terminal block 4² on standard rail 15mm | 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

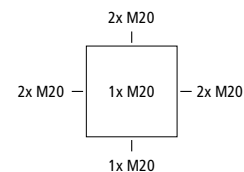
Abox | Abox-i | Abox m | Abox-i m

Abox-i 025

80 x 80 x 52 mm



Junction Box, with protection class IP65, Nominal cross-section 2.5 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Self-sealing, flexible insertion membranes, M20, Sealing area 2 - 16 mm, (1 Rear, 7 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



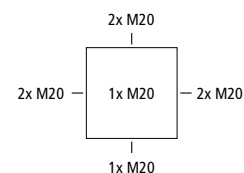
| Description | Order no. |
|---|------------|
| Abox-i 025-L grey, without terminals | ■ 49090201 |
| Abox-i 025-2,5² grey, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²) | ■ 49040201 |
| Abox-i 025-L/sw black, without terminals | ■ 49190201 |
| Abox-i 025-2,5²/sw black, with screw terminal, 5-pole - 2.5 mm² (4 x 1.5² / 4 x 2.5²) | ■ 49140201 |

Abox-i 025 AB

80 x 80 x 52 mm



Junction Box, with protection class IP65, Nominal cross-section 2.5 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Self-sealing, flexible insertion membranes, M20, Sealing area 2 - 16 mm, (1 Rear, 7 Side), External fastening points, for installations in the industrial arena and protected outside areas



| Description | Order no. |
|--|------------|
| Abox-i 025 AB-L grey, without terminals | ■ 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 AB-L/sw black, without terminals | ■ 49190301 |

Junction Boxes

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

Abox m 040

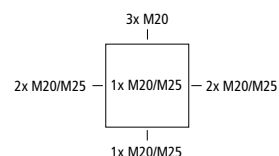
94 x 94 x 57 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 4 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M25, (1 Rear, 8 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

3 attachment bushes IP54 M20 sealing area 8 - 13.5 mm,
3 attachment bushes IP54 M25 sealing area 9 - 18.5 mm



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

Abox m 040 AB

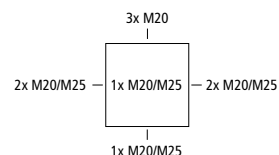
94 x 94 x 57 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 4 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M25, (1 Rear, 8 Side), External fastening points, for standard indoor installations

Accessories supplied:

3 attachment bushes IP54 M20 sealing area 8 - 13.5 mm,
3 attachment bushes IP54 M25 sealing area 9 - 18.5 mm



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

Junction Boxes

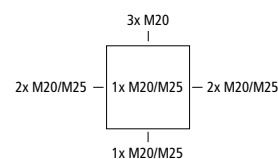
Abox | Abox-i | Abox m | Abox-i m

Abox-i m 040

94 x 94 x 57 mm



Junction Box, with protection class IP66, Nominal cross-section 4 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Push-out membranes, M20/M25, (1 Rear, 8 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



Accessories supplied:

4 Double-membrane seal IP66 M25 sealing area 9 - 16 mm

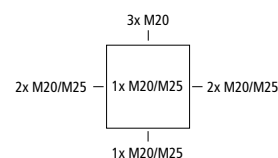
| Description | Order no. |
|--|------------|
| Abox-i m 040-L grey, without terminals | ■ 50190401 |
| Abox-i m 040-4² grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 4 x 4²) | ■ 50140401 |
| Abox-i m 040-L/sw black, without terminals | ■ 50290401 |

Abox-i m 040 AB

94 x 94 x 57 mm



Junction Box, with protection class IP66, Nominal cross-section 4 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Push-out membranes, M20/M25, (1 Rear, 8 Side), External fastening points, for installations in the industrial arena and protected outside areas



Accessories supplied:

4 Double-membrane seal IP66 M25 sealing area 9 - 16 mm

| Description | Order no. |
|---|------------|
| Abox-i m 040 AB-L grey, without terminals | ■ 50390401 |
| Abox-i m 040 AB-L/sw black, without terminals | ■ 50390501 |

Junction Boxes

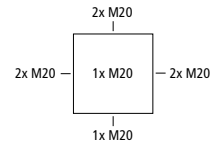
Abox | Abox-i | Abox m | Abox-i m

Abox 040

93 x 93 x 55 mm



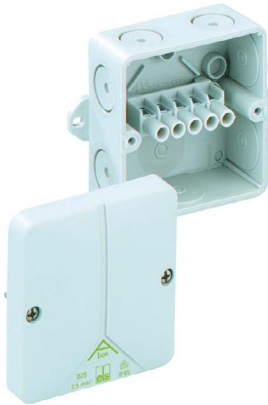
Junction Box, with protection class IP65, Nominal cross-section 4 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing, flexible insertion membranes, M20, Sealing area 2 - 16 mm, (1 Rear, 7 Side), Internal fastening points, for standard indoor installations



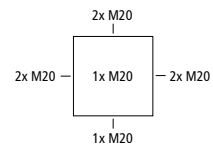
| Description | Order no. |
|---|-----------|
| Abox 040-L grey, without terminals | 80490701 |
| Abox 040-4² grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 4 x 4²) | 80440701 |
| Abox 040-L/w white, without terminals | 80460701 |
| Abox 040-4²/w white, with screw terminal, 5-pole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

Abox 040 AB

93 x 93 x 55 mm



Junction Box, with protection class IP65, Nominal cross-section 4 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing, flexible insertion membranes, M20, Sealing area 2 - 16 mm, (1 Rear, 7 Side), External fastening points, for standard indoor installations



| Description | Order no. |
|---|-----------|
| Abox 040 AB-L grey, without terminals | 80590701 |
| Abox 040 AB-4² grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 4 x 4²) | 80540701 |

Junction Boxes

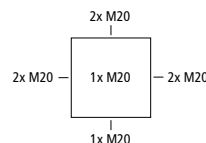
Abox | Abox-i | Abox m | Abox-i m

Abox-i 040

93 x 93 x 55 mm



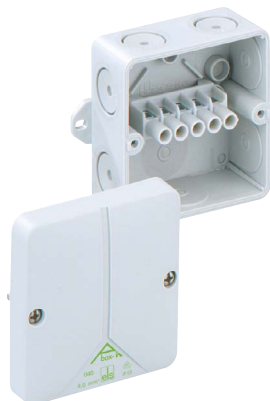
Junction Box, with protection class IP65, Nominal cross-section 4 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Self-sealing, flexible insertion membranes, M20, Sealing area 2 - 16 mm, (1 Rear, 7 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



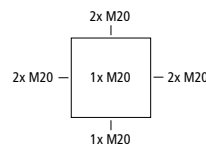
| Description | Order no. |
|---|-----------|
| Abox-i 040-L grey, without terminals | 49090401 |
| Abox-i 040-4² grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 4 x 4²) | 49040401 |
| Abox-i 040 SB-L grey, with red cover, without terminals, for identifying circuits for safety lighting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

Abox-i 040 AB

93 x 93 x 55 mm



Junction Box, with protection class IP65, Nominal cross-section 4 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Self-sealing, flexible insertion membranes, M20, Sealing area 2 - 16 mm, (1 Rear, 7 Side), External fastening points, for installations in the industrial arena and protected outside areas



| Description | Order no. |
|--|-----------|
| Abox-i 040 AB-L grey, without terminals | 49490401 |
| Abox-i 040 SB AB-L grey, with red cover, without terminals, for identifying circuits for safety lighting | 49470701 |
| Abox-i 040 AB-L/sw black, without terminals | 49190501 |

Junction Boxes

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

Abox 060

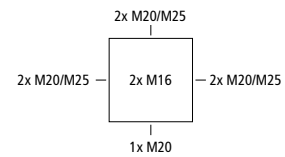
110 x 110 x 67 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 6 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M25, (2 Rear, 7 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M25 sealing area 9 - 18,5 mm, 1 sealing plugs M25



| Description | Order no. |
|---|-----------|
| Abox 060-L grey, without terminals | 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 grey, with red cover, without terminals, for identifying circuits for safety lighting | 80670701 |

Abox 100

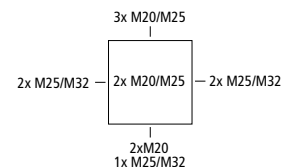
140 x 140 x 79 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 10 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M25/M32, (2 Rear, 10 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M32 sealing area 13 - 23 mm, 1 sealing plugs M32



| Description | Order no. |
|--|-----------|
| Abox 100-L grey, without terminals | 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

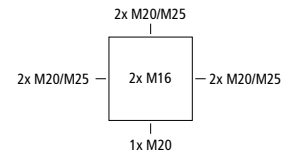
Abox | Abox-i | Abox m | Abox-i m

Abox-i 060

110 x 110 x 67 mm



Junction Box, with protection class IP65, Nominal cross-section 6 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Push-out membranes, M20/M25, (2 Rear, 7 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



Accessories supplied:

4 Double-membrane seal IP66 M25 sealing area 9 - 16 mm

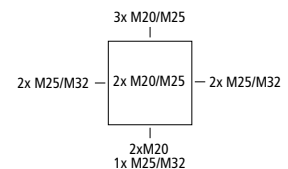
| Description | Order no. |
|---|------------|
| Abox-i 060-L grey, without terminals | ■ 49090601 |
| Abox-i 060-6² grey, with high-set screw terminal, 5-pole - 6 mm² (4 x 2.5² / 4 x 4² / 3 x 6²) | ■ 49040601 |
| Abox-i 060-L/sw black, without terminals | ■ 49190601 |
| Abox-i 060-6²/sw black, with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



Junction Box, with protection class IP65, Nominal cross-section 10 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Push-out membranes, M20/M25/M32, (2 Rear, 10 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



Accessories supplied:

4 Double-membrane seal IP66 M32 sealing area 14 - 21 mm

| Description | Order no. |
|--|------------|
| Abox-i 100-L grey, without terminals | ■ 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 terminals | ■ 49191001 |
| Abox-i 100-10²/sw black, with high-set screw terminal, 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

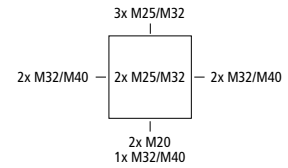
180 x 180 x 91 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 16 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M25/M32/M40, (2 Rear, 10 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M40 sealing area 17 - 30 mm, 1 sealing plugs M40, 1 Sealing kit



Description

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

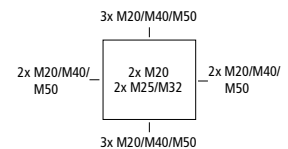
250 x 200 x 115 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 25 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M25/M32/M40/M50, (4 Rear, 10 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M40 sealing area 17 - 30 mm, 1 sealing plugs M40, 1 Sealing kit



Description

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

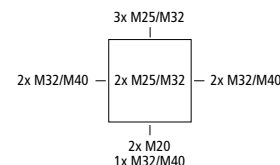
Abox | Abox-i | Abox m | Abox-i m

Abox-i 160

180 x 180 x 91 mm



Junction Box, with protection class IP65, Nominal cross-section 16 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Push-out membranes, M20/M25/M32/M40, (2 Rear, 10 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



Accessories supplied:
1 Sealing kit

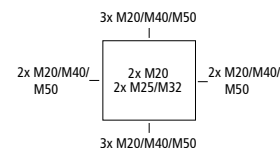
| Description | Order no. |
|---|-----------|
| Abox-i 160-L grey, without terminals | 49091601 |
| Abox-i 160-16² grey, with high-set screw terminal, 5-pole - 16 mm² (4 x 6² / 4 x 10² / 4 x 16²) | 49041601 |
| Abox-i 160-L/sw black, without terminals | 49191601 |
| Abox-i 160-16²/sw black, with high-set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

Abox-i 250

250 x 200 x 115 mm



Junction Box, with protection class IP65, Nominal cross-section 25 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Push-out membranes, M20/M25/M32/M40/M50, (4 Rear, 10 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



Accessories supplied:
1 Sealing kit

| 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

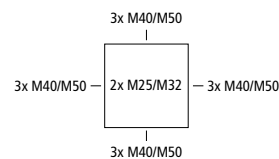
250 x 250 x 115 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 35 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M25/M32/M40/M50, (2 Rear, 12 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M40 sealing area 17 - 30 mm, 1 sealing plugs M40, 1 Sealing kit



| Description | Order no. |
|---|-----------|
| Abox 350-L grey, without terminals | 83591001 |
| Abox 350-35² grey, with high-set screw terminal, 5-pole - 35 mm ² (4 x 10 ² / 4 x 16 ² / 4 x 25 ² / 4 x 35 ²) | 83541001 |

Abox 700

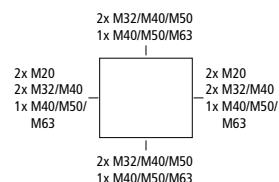
300 x 450 x 132 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 70 mm², U_i=690V AC, Push-out membranes, M20/M32/M40/M50/M63, (16 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

3 twist nipples with locknuts IP54 M63 sealing area 24 - 43 mm



| Description | Order no. |
|--|-----------|
| Abox 700-L grey, without terminals | 87091001 |
| Abox 700-70²/4 grey, with screw terminal 4-pole - 70² (16-70²) | 87041001 |
| Abox 700-70²/5 NEW grey, with screw terminal, 5-pole - 70² (16-70²) | 87041101 |
| Recommended accessories: | Order no. |
| Abox 700 KLS-70² Terminal block 1-pole - 70 mm ² | 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

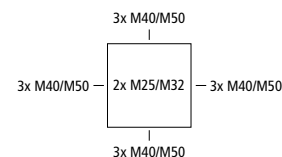
Abox | Abox-i | Abox m | Abox-i m

Abox-i 350

250 x 250 x 115 mm



Junction Box, with protection class IP65, Nominal cross-section 35 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), DNV (Class: Ships and Offshore Installations), Push-out membranes, M25/M32/M40/M50, (2 Rear, 12 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



Accessories supplied:

1 Sealing kit

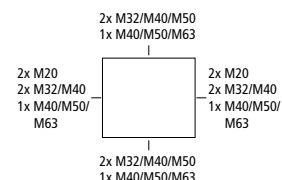
| Description | Order no. |
|--|-----------|
| Abox-i 350-L grey, without terminals | 49093501 |
| Abox-i 350-35² grey, with high-set screw terminal, 5-pole - 35 mm ² (4 x 10² / 4 x 16² / 4 x 25² / 4 x 35²) | 49043501 |
| Abox-i 350-L/sw black, without terminals | 49193501 |
| Abox-i 350-35²/sw black, with high-set screw terminal, 5-pole - 35 mm ² (4 x 10² / 4 x 16² / 4 x 25² / 4 x 35²) | 49143501 |

Abox-i 700

440 x 320 x 179 mm



Junction Box, with protection class IP65, Nominal cross-section 70 mm², U_i=690V AC, Push-out membranes, M16/M20/M25/M32/M40/M50, (24 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



| Description | Order no. |
|--|-----------|
| Abox-i 700-70²/4 grey, with screw terminal 4-pole - 70² (16-70²) | 49047001 |
| Abox-i 700-70²/5 NEW grey, with screw terminal, 5-pole - 70² (16-70²) | 49047101 |
| Recommended accessories: | Order no. |
| Abox 700 KLS-70² Terminal block 1-pole - 70 mm ² | 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

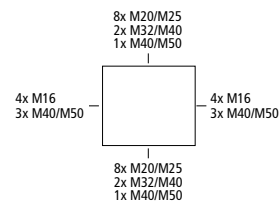
Abox | Abox-i | Abox m | Abox-i m

Abox-i 1500

440 x 320 x 179 mm



Junction Box, with protection class IP65, Nominal cross-section 150 mm², U_i=690V AC, Push-out membranes, M16/M20/M25/M32/M40/M50, (24 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



| Description | Order no. |
|---|------------------|
| Abox-i 1500-150²/4 grey, with special screw terminal for conductor entry on top, 4-pole - 150² (16 to 150 mm², CU/AL) | 49048501 |
| Abox-i 1500-150²/5 NEW grey, with special screw terminal for conductor entry on top, 5-pole - 150² (16 to 150 mm², CU/AL) | 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 V2A, Set = 4 off | 07030001 |

Junction Boxes

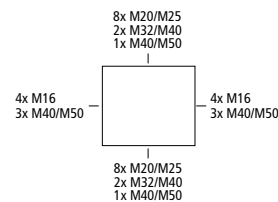
Abox | Abox-i | Abox m | Abox-i m

Abox-i 1500 DK

440 x 320 x 179 mm



Junction Box, with protection class IP65, Nominal cross-section 150 mm², $U_i=690V$ AC, Push-out membranes, M16/M20/M25/M32/M40/M50, (24 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



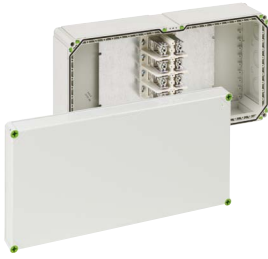
| Description | Order no. |
|---|-----------|
| Abox-i 1500 DK-150²/4 grey, with terminal block, 4-pole - 150² (50 to 150 mm²) | 49058501 |
| Abox-i 1500 DK-150²/5 NEW grey, with terminal block, 5-pole - 150² (50 to 150 mm²) | 49058601 |
| Recommended accessories: | Order no. |
| URS RK1-150mm² Terminal 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 V2A, Set = 4 off | 07030001 |

Junction Boxes

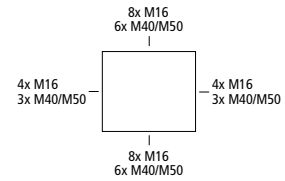
Abox | Abox-i | Abox m | Abox-i m

Abox-i 2400

640 x 320 x 179 mm



Junction Box, with protection class IP65, Nominal cross-section 240 mm², $U_i=690V$ AC, Push-out membranes, M16/M40/M50, (30 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



| Description | Order no. |
|---|------------------|
| Abox-i 2400-240²/4 grey, with special screw terminal for conductor entry on top, 4-pole - 240² (25 to 240 mm², CU/AL) | 49049401 |
| Abox-i 2400 240²/5 NEW grey, with special screw terminal for conductor entry on top, 5-pole - 240² (25 to 240 mm², CU/AL) | 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 V2A, Set = 4 off | 07030001 |

Junction Boxes

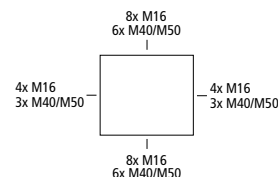
Abox | Abox-i | Abox m | Abox-i m

Abox-i 2400 DK

640 x 320 x 179 mm



Junction Box, with protection class IP65, Nominal cross-section 240 mm², U_i=690V AC, Push-out membranes, M16/M40/M50, (30 Side), Internal fastening points, for installations in the industrial arena and protected outside areas



| Description | Order no. |
|---|-----------|
| Abox-i 2400 DK-240²/4 grey, with terminal block, 4-pole - 240 ² (70 to 240 mm ²) | 49059401 |
| Abox-i 2400 DK-240²/5 NEW grey, with terminal block, 5-pole - 240 ² (70 to 240 mm ²) | 49059101 |
| Recommended accessories: | Order no. |
| URS RK1-240mm² Terminal 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 V2A, Set = 4 off | 07030001 |

Junction Boxes

Abox SL*



For protected installation with screwless terminals from 0.2 to 16 (25) mm²

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

■ Standard installation in wet rooms

■ **New:** Abox SLK 2,5² and 4²

■ 6 sizes

■ Installation on flammable surfaces

■ Installation in agricultural and horticultural premises



IP65

16²

IK07



400V
AC/DC



Junction Boxes

Abox-i SL*



G. SPELSBERG
VERBINDUNGSDOSE DER SERIE
ABOX-I MIT ZUBEHÖR

✓ Ammoniakbeständigkeit

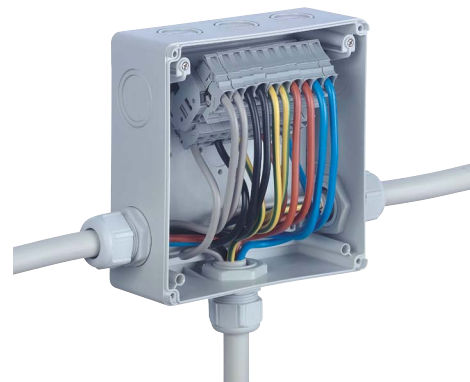
DLG-Prüfbericht 6398

Weather-resistant with screwless terminals from 0.2 to 16 (25) mm²

- **Installation in areas with increased requirements for vibration and shock resistance**
- Quick installation thanks to screwless terminal technology

- **New:** Abox-i SLK 2,5² and 4²
- Maintenance-free
- Vibration- and shock-proof

*SL = Screwless terminal technology



Junction Boxes

Abox SL | Abox-i SL

Abox SLK 2,5²

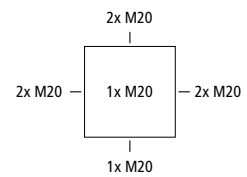
82 x 82 x 52 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 2.5 mm², U_i=450V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20, (1 Rear, 7 Side), Internal fastening points, with screwless terminals for standard indoor installations

Accessories supplied:

4 attachment bushes IP54 M20 sealing area 8 - 13.5 mm,
1 sealing plug M20



Description

Abox SLK-2,5² **NEW**

grey, with 3 floor-fixed, screwless 3-wire terminal blocks, Wago 221-413 - 2.5 mm², cross-sections that can be clamped per pin: 3 x 0.2 to 2.5 mm² rigid Cu and 3 x 0.14 to 2.5 mm² flexible Cu

Order no.

80780701

Abox SLK 4²

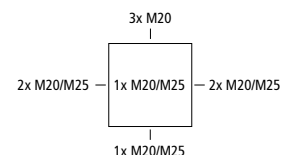
94 x 94 x 57 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 4 mm², U_i=450V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M25, (1 Rear, 8 Side), Internal fastening points, with screwless terminals for standard indoor installations

Accessories supplied:

3 attachment bushes IP54 M20 sealing area 8 - 13.5 mm,
3 attachment bushes IP54 M25 sealing area 9 - 18.5 mm



Description

Abox SLK 4² **NEW**

grey, with 5 floor-fixed, screwless 3-wire terminal blocks, Wago 221-413 - 4 mm², cross-sections that can be clamped per pin: 3 x 0.2 to 4 mm² rigid Cu and 3 x 0.14 to 4 mm² flexible Cu

Order no.

81180701

Junction Boxes

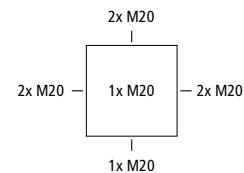
Abox SL | Abox-i SL

Abox-i SLK 2,5²

82 x 82 x 52 mm



Junction Box, with protection class IP66, Nominal cross-section 2.5 mm², $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), Push-out membranes, M20, (1 Rear, 7 Side), Internal fastening points, with screwless terminals for installations in the industrial arena and protected outside areas



Description

Abox-i SLK-2,5² **NEW**

grey, with 3 floor-fixed, screwless 3-wire terminal blocks, Wago 221-413 - 2.5 mm², cross-sections that can be clamped per pin: 3 x 0.2 to 2.5 mm² rigid Cu and 3 x 0.14 to 2.5 mm² flexible Cu

Order no.

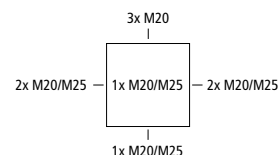
49680201

Abox-i SLK 4²

94 x 94 x 57 mm



Junction Box, with protection class IP66, Nominal cross-section 4 mm², $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), Push-out membranes, M20/M25, (1 Rear, 8 Side), Internal fastening points, with screwless terminals for installations in the industrial arena and protected outside areas



Accessories supplied:

4 Double membrane seals IP66 M25 sealing area 9 - 16 mm,

Description

Abox-i SLK-4² **NEW**

grey, with 5 floor-fixed, screwless 3-wire terminal blocks, Wago 221-413 - 4 mm², cross-sections that can be clamped per pin: 3 x 0.2 to 4 mm² rigid Cu and 3 x 0.14 to 4 mm² flexible Cu

Order no.

50180401

Junction Boxes

Abox SL | Abox-i SL

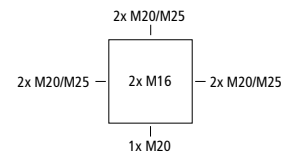
Abox SL-2,5/4²

110 x 110 x 67 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 4 mm², $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M25, (2 Rear, 7 Side), Internal fastening points, with screwless terminals for standard indoor installations

Accessories supplied:
4 Attachment bushes IP54 M25 sealing area 9 - 18,5 mm,
1 sealing plugs M25



Description

Abox SL-2,5/4²
grey, with 5 high-set, screwless 3-wire terminals Wago 221-413, max. nominal cross-section according to 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

Order no.

80680701



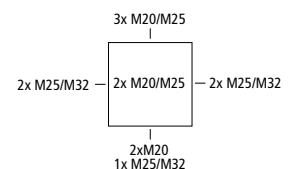
Abox SL-6²

140 x 140 x 79 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 6 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M25/M32, (2 Rear, 10 Side), Internal fastening points, with screwless terminals for standard indoor installations

Accessories supplied:
4 Attachment bushes IP54 M32 sealing area 13 - 23 mm,
1 sealing plugs M32



Description

Abox SL-6²
grey, with high-set, screwless terminal Wago 2006-1201, 5-pole, max. nominal cross-section according to DIN EN 60998: 6 mm², 41 A current load capacity, cross-sections able to be clamped per pin: 4 x 0.5 to 10 mm² rigid and flexible

Order no.

81081001

Junction Boxes

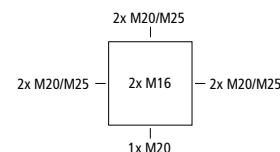
Abox SL | Abox-i SL

Abox-i SL-2,5/4²

110 x 110 x 67 mm



Junction Box, with protection class IP65, Nominal cross-section 4 mm², U_i=450V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), Push-out membranes, M20/M25, (2 Rear, 7 Side), Internal fastening points, with screwless terminals for installations in the industrial arena and protected outside areas



Accessories supplied:

4 Double-membrane seal IP66 M25 sealing area 9 - 16 mm

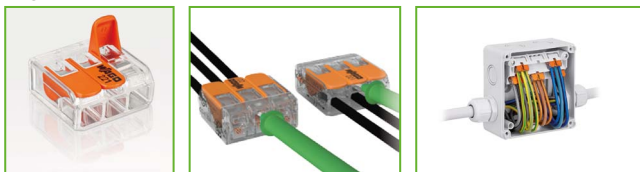
Description

Abox-i SL-2,5/4²

grey, with 5 high-set, screwless 3-wire terminals Wago 221-413, max. nominal cross-section according to 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

Order no.

49080601

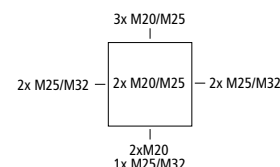


Abox-i SL-6²

140 x 140 x 79 mm



Junction Box, with protection class IP65, Nominal cross-section 6 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), Push-out membranes, M20/M25/M32, (2 Rear, 10 Side), Internal fastening points, with screwless terminals for installations in the industrial arena and protected outside areas



Accessories supplied:

4 Double-membrane seal IP66 M32 sealing area 14 - 21 mm

Description

Abox-i SL-6²

grey, with high-set, screwless terminal Wago 2006-1201, 5-pole, max. nominal cross-section according to DIN EN 60998: 6 mm², 41 A current load capacity, cross-sections able to be clamped per pin: 4 x 0.5 to 10 mm² rigid and flexible

Order no.

49081001

Junction Boxes

Abox SL | Abox-i SL

Abox SL-10²

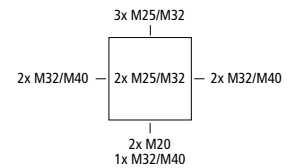
180 x 180 x 91 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 10 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M25/M32/M40, (2 Rear, 10 Side), Internal fastening points, with screwless terminals for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M40 sealing area 17 - 30 mm,
1 sealing plugs M40, 1 Sealing kit



Description

Abox SL-10²

grey, with high-set, screwless terminal Wago 2010-1201, 5-pole, max. nominal cross-section according to DIN EN 60998: 10 mm², 57 A current load capacity, cross-sections able to be clamped per pin: 4 x 0.5 to 16 mm² rigid and flexible

Order no.

81681001

Abox SL-16²

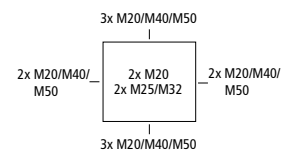
250 x 200 x 115 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 16 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M25/M32/M40/M50, (4 Rear, 10 Side), Internal fastening points, with screwless terminals for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M40 sealing area 17 - 30 mm,
1 sealing plugs M40, 1 Sealing kit



Description

Abox SL-16²

grey, with high-set, screwless terminal Wago 2016-1201, 5-pole, max. nominal cross-section according to DIN EN 60998: 16 mm², 76 A current load capacity, cross-sections able to be clamped per pin: 4 x 0.5 to 16 mm² rigid, 4 x 0.5 to 25 mm² flexible

Order no.

83581001

Junction Boxes

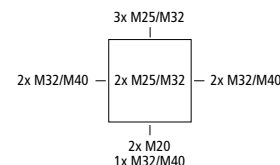
Abox SL | Abox-i SL

Abox-i SL-10²

180 x 180 x 91 mm



Junction Box, with protection class IP65, Nominal cross-section 10 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), Push-out membranes, M20/M25/M32/M40, (2 Rear, 10 Side), Internal fastening points, with screwless terminals for installations in the industrial arena and protected outside areas



Accessories supplied:
1 Sealing kit

Description

Abox-i SL-10²

grey, with high-set, screwless terminal Wago 2010-1201, 5-pole, max. nominal cross-section according to DIN EN 60998: 10 mm², 57 A current load capacity, cross-sections able to be clamped per pin: 4 x 0.5 to 16 mm² rigid and flexible

Order no.

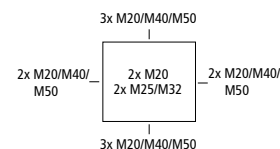
49081601

Abox-i SL-16²

250 x 200 x 115 mm



Junction Box, with protection class IP65, Nominal cross-section 16 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), DLG (Ammonia resistance), Push-out membranes, M20/M25/M32/M40/M50, (4 Rear, 10 Side), Internal fastening points, with screwless terminals for installations in the industrial arena and protected outside areas



Accessories supplied:
1 Sealing kit

Description

Abox-i SL-16²

grey, with high-set, screwless terminal Wago 2016-1201, 5-pole, max. nominal cross-section according to DIN EN 60998: 16 mm², 76 A current load capacity, cross-sections able to be clamped per pin: 4 x 0.5 to 16 mm² rigid, 4 x 0.5 to 25 mm² flexible

Order no.

49083501

Junction Boxes

Abox XT



Watertight for outdoor installation (with screwless terminals from 1.5 to 10 mm²)

- Effortless retrofitting as the 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 from 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
- Ground without traffic loads

In extreme cases, the Abox XT series can even resist standing water.



Junction Boxes

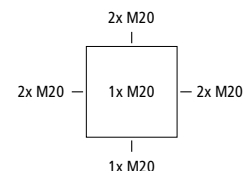
Abox XT

Abox XT 025-2,5²

82 x 82 x 52 mm



Junction Box, with protection class IP68, Nominal cross-section 2.5 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22) & DIN VDE V 0606-22-100), Push-out membranes, M20, (1 Rear, 7 Side), Internal fastening points, with screw terminals for encapsulation, for assembly in flooded areas and in the ground without traffic loads,



Accessories supplied:

- 4 Double membrane seals IP66 M20 sealing area 7 - 12 mm,
- 2 sealing plugs M20, 1 attachment bush M20,
- 1 cast resin bag GHB1 with filling funnel

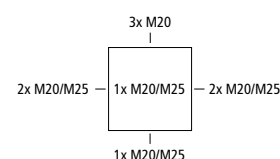
| Description | Order no. |
|--|-----------|
| Abox XT 025-2,5² grey, with screw terminal, 5-pole - 2.5 mm ² (4 x 1.5 ² / 4 x 2.5 ²) | 49240201 |
| Recommended accessories: | Order no. |
| GHB 1 Cast-resin bag 250 ml, halogen-free | 49250201 |

Abox XT 040-4²

94 x 94 x 55 mm



Junction Box, with protection class IP68, Nominal cross-section 4 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22) & DIN VDE V 0606-22-100), Push-out membranes, M20/M25, (1 Rear, 8 Side), Internal fastening points, with screw terminals for encapsulation, for assembly in flooded areas and in the ground without traffic loads,



Accessories supplied:

- 4 Double membrane seals IP66 M25 sealing area 9 - 16 mm,
- 2 sealing plugs M20, 1 attachment bush M20,
- 1 cast resin bag GHB2 with filling funnel

| Description | Order no. |
|---|-----------|
| Abox XT 040-4² grey, with screw terminal, 5-pole - 2.5/4 mm ² (4 x 1.5 ² / 4 x 2.5 ² / 4 x 4 ²) | 49240401 |
| Recommended accessories: | Order no. |
| GHB 2 Cast-resin bag 350 ml, halogen-free | 49250401 |

Junction Boxes

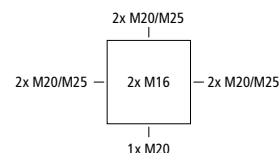
Abox XT

Abox XT 060-6²

110 x 110 x 67 mm



Junction Box, with protection class IP68, Nominal cross-section 6 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22) & DIN VDE V 0606-22-100), Push-out membranes, M20/M25, (2 Rear, 7 Side), Internal fastening points, with screw terminals for encapsulation, for assembly in flooded areas and in the ground without traffic loads,



Accessories supplied:

4 Double membrane seals IP66 M25 sealing area 9 - 16 mm,
2 sealing plugs M20, 1 attachment bush M20,
1 cast resin bag GHB3 with filling funnel

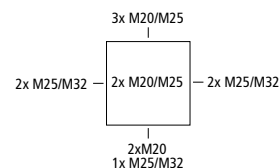
| Description | Order no. |
|--|-----------|
| Abox XT 060-6² grey, with high-set screw terminal, 5-pole - 6 mm ² (4 x 2.5 ² / 4 x 4 ² / 3 x 6 ²) | 49240601 |
| Recommended accessories: | Order no. |
| GHB 3 Cast-resin bag 600 ml, halogen-free | 49250601 |

Abox XT 100-10²

140 x 140 x 79 mm



Junction Box, with protection class IP68, Nominal cross-section 10 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22) & DIN VDE V 0606-22-100), Push-out membranes, M20/M25/M32, (2 Rear, 10 Side), Internal fastening points, with screw terminals for encapsulation, for assembly in flooded areas and in the ground without traffic loads,



Accessories supplied:

4 Double membrane seals IP66 M32 sealing area 14 - 21 mm,
2 sealing plugs M20, 1 attachment bush M20,
1 cast resin bag GHB4 with filling funnel

| Description | Order no. |
|---|-----------|
| Abox XT 100-10² grey, with high-set screw terminal, 5-pole - 10 mm ² (4 x 4 ² / 4 x 6 ² / 4 x 10 ²) | 49241001 |
| Recommended accessories: | Order no. |
| GHB 4 Cast-resin bag 1200 ml, halogen-free | 49251001 |

Junction Boxes

Abox XT SL



Watertight for outdoor installation

(with screwless Wago terminals, Type 221, from 1.5 to 6 mm²)

- Effortless retrofitting as the 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
- Ground without traffic loads

In extreme cases, the Abox XT series can even resist standing water.



Junction Boxes

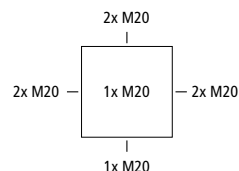
Abox XT SL

Abox XT SL 2,5²

82 x 82 x 52 mm



Junction Box, with protection class IP68, Nominal cross-section 2.5 mm², U_i=450V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22) & DIN VDE V 0606-22-100), Push-out membranes, M20, (1 Rear, 7 Side), Internal fastening points, with screwless terminals for encapsulation, for assembly in flooded areas and in the ground without traffic loads



Accessories supplied:

4 Double membrane seals IP66 M20 sealing area 7 - 12 mm,
2 sealing plugs M20, 1 attachment bush M20,
1 cast resin bag GHB1 with filling funnel

Description

Abox XT SL 2,5² **NEW**

grey, with 5 high-set, screwless 3-wire terminals, Wago 221-413 type, max. nominal cross-section according to DIN EN 60998: 2.5 mm², cross-sections able to be clamped per pin: 3 x 0.2 to 2.5 mm² rigid and 3 x 0.14 to 2.5 mm² flexible

Order no.

49280201

Recommended accessories:

GHB 1 Cast-resin bag
250 ml, halogen-free

Order no.

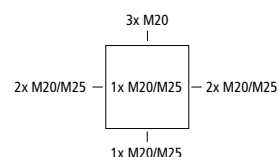
49250201

Abox XT SL 4²

94 x 94 x 55 mm



Junction Box, with protection class IP68, Nominal cross-section 4 mm², U_i=450V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22) & DIN VDE V 0606-22-100), Push-out membranes, M20/M25, (1 Rear, 8 Side), Internal fastening points, with screwless terminals for encapsulation, for assembly in flooded areas and in the ground without traffic loads



Accessories supplied:

4 Double membrane seals IP66 M25 sealing area 9 - 16 mm,
2 sealing plugs M20, 1 attachment bush M20,
1 cast resin bag GHB2 with filling funnel

Description

Abox XT SL 4² **NEW**

grey, with 5 high-set, screwless 3-wire terminals, Wago 221-413 type, max. nominal cross-section according to DIN EN 60998: 4 mm², 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

Order no.

49280401

Recommended accessories:

GHB 2 Cast-resin bag
350 ml, halogen-free

Order no.

49250401

Junction Boxes

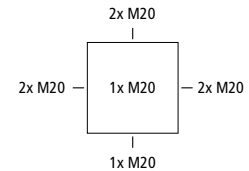
Abox XT SL

Abox XT SL 2,5/4²

110 x 110 x 67 mm



Junction Box, with protection class IP68, Nominal cross-section 4 mm², U_i=450V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22) & DIN VDE V 0606-22-100), Push-out membranes, M20/M25, (2 Rear, 7 Side), Internal fastening points, with screwless terminals for encapsulation, for assembly in flooded areas and in the ground without traffic loads



Accessories supplied:

- 4 Double membrane seals IP66 M25 sealing area 9 - 16 mm,
- 2 sealing plugs M20, 1 attachment bush M20,
- 1 cast resin bag GHB3 with filling funnel

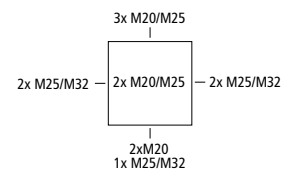
| Description | Order no. |
|---|-----------|
| Abox XT SL 2,5/4² NEW grey, with 5 high-set, screwless 3-wire terminals, Wago 221-413 type, max. nominal cross-section according to DIN EN 60998: 4 mm ² , cross-sections able to be clamped per pin: 3 x 0.2 to 4 mm ² rigid and 3 x 0.14 to 4.0 mm ² flexible | 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



Junction Box, with protection class IP68, Nominal cross-section 6 mm², U_i=450V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22) & DIN VDE V 0606-22-100), Push-out membranes, M20/M25/M32, (2 Rear, 10 Side), Internal fastening points, with screwless terminals for encapsulation, for assembly in flooded areas and in the ground without traffic loads



Accessories supplied:

- 4 Double membrane seals IP66 M32 sealing area 14 - 21 mm,
- 2 sealing plugs M20, 1 attachment bush M20,
- 1 cast resin bag GHB4 with filling funnel

| Description | Order no. |
|---|-----------|
| Abox XT SL 6² NEW grey, with 5 high-set, screwless 3-wire terminals, Wago 221-613 type, max. nominal cross-section according to DIN EN 60998: 6 mm ² , cross-sections able to be clamped per pin: 3 x 0.2 to 6 mm ² rigid/flexible | 49280601 |
| Recommended accessories: | Order no. |
| GHB 4 Cast-resin bag 1200 ml, halogen-free | 49251001 |

Junction Boxes

Abox HA

Abox HA 250

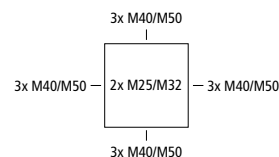
250 x 250 x 115 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 25 mm², U_i=690V AC, Push-out membranes, M20/M25/M32/M40/M50, (4 Rear, 10 Side), Internal fastening points, with main line junction terminal for standard installations indoors

Accessories supplied:

3 attachment bushes IP54 M40 sealing area 17 - 30 mm,
1 sealing plug M40, 3 twist plugs with locknuts IP54 M50
sealing area 13 - 35 mm



Description

Abox HA 250

grey, with screw terminal 4-pole - 25 mm²

Order no.

48042501

Abox HA 350

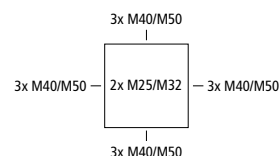
250 x 250 x 115 mm



Junction Box, with protection class IP54/IP65, Nominal cross-section 35 mm², U_i=690V AC, Push-out membranes, M25/M32/M40/M50, (2 Rear, 12 Side), Internal fastening points, with main line junction terminal for standard installations indoors

Accessories supplied:

3 attachment bushes IP54 M40 sealing area 17 - 30 mm,
1 sealing plug M40, 3 twist plugs with locknuts IP54 M50
sealing area 13 - 35 mm



Description

Abox HA 350

grey, with screw terminal 4-pole - 35 mm²

Order no.

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

Abox 025/040 KLS-2,5²/4²

5-pole - 2.5/4 mm²

Order no.

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

Terminal bracket



Terminal holder for WAGO terminals, series 221-41X

Description

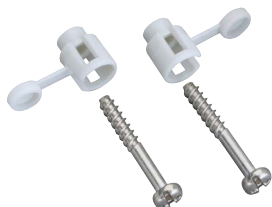
Abox 025/040 KLH-SL 0.2/4² **NEW**

suitable for all junction boxes Abox / Abox -i 025/040 and Abox m / Abox-i m 025/040

Order no.

84000201

Abox sealing set



Sealing set

Description

Abox PST

for junction boxes Abox/Abox-i 025 to 100, (from Abox/Abox-i 160, contained as standard in the delivery)

Order no.

89001001

Cable glands without strain relief



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

Description

GKE 32

Side of enclosure 320 mm, for 2 x 75 mm Ø cables

Order no.

07303201

GKE 43

Side of enclosure 440 mm, for 3 x 75 mm Ø cables

07304301

GKE 1

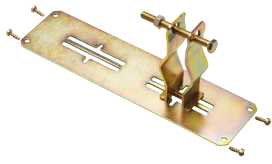
For replacement requirement: Rubber cable infeed

07300101

Junction Boxes

Accessories for Abox | Abox-i

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 |

Standard rail NS 35 for TK, ALS and Abox series



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

| Description | Order no. |
|---|-----------|
| NS 35-81 for TK 1111, TK 1309, TK 1313, TK 1809, TK 1811, ALS 1414/, ALS 1515, ALS 2011 and Abox/Abox-i 060, length 81 mm | 19808101 |
| NS 35-106 for TK 1309, TK 1313, ALS 1414, ALS 1515 and Abox/Abox-i 100, length 106 mm | 19810601 |
| NS35-144/2 for Abox/Abox-i 160 and Abox/Abox-i 250, length 144 mm | 89401601 |
| NS35-216/2 für Abox/Abox-i 250, Abox/Abox-i 350, Länge 218,5 mm | 89403501 |

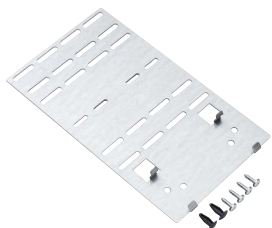
Assembly plate insulating material for Abox series



Assembly plate in melamine-clad insulating material, 2.5 mm thick, grey inc. fixing screws

| Description | Dimensions/mm | Order no. |
|--|-----------------|-----------|
| Abox 060 MPI Abox/Abox-i 060 | 83 x 83 x 2,5 | 89500601 |
| Abox 100 MPI Abox/Abox-i 100 | 109 x 109 x 2,5 | 89501001 |
| Abox 160 MPI Abox/Abox-i 160 | 149 x 149 x 2,5 | 89501601 |
| Abox 250 MPI for Abox / Abox-i 250 | 167 x 217 x 2,5 | 89502501 |
| Abox 350 MPI Abox/Abox-i 350 | 217 x 217 x 2,5 | 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 |

Junction Boxes

Accessories for Abox | Abox-i

Attachment bushes, grey



Attachment bushes, IP54, with open sealing membrane, thermoplastic elastomer (TPE), for wall thicknesses of 1.5 - 4.0 mm, grey

| 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), for wall thicknesses 1.5 - 4.5 mm, grey

| 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, with locknut



Cable gland, IP68, with strain relief, polyamide, M_x x 1.5 mm, with locknut, grey

| 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, with locknut



Cable gland, IP68, with strain relief, polyamide, M_x x 1.5 mm, with locknut, black

| 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 |

Junction Boxes

Accessories for Abox | Abox-i

Sealing plug, grey



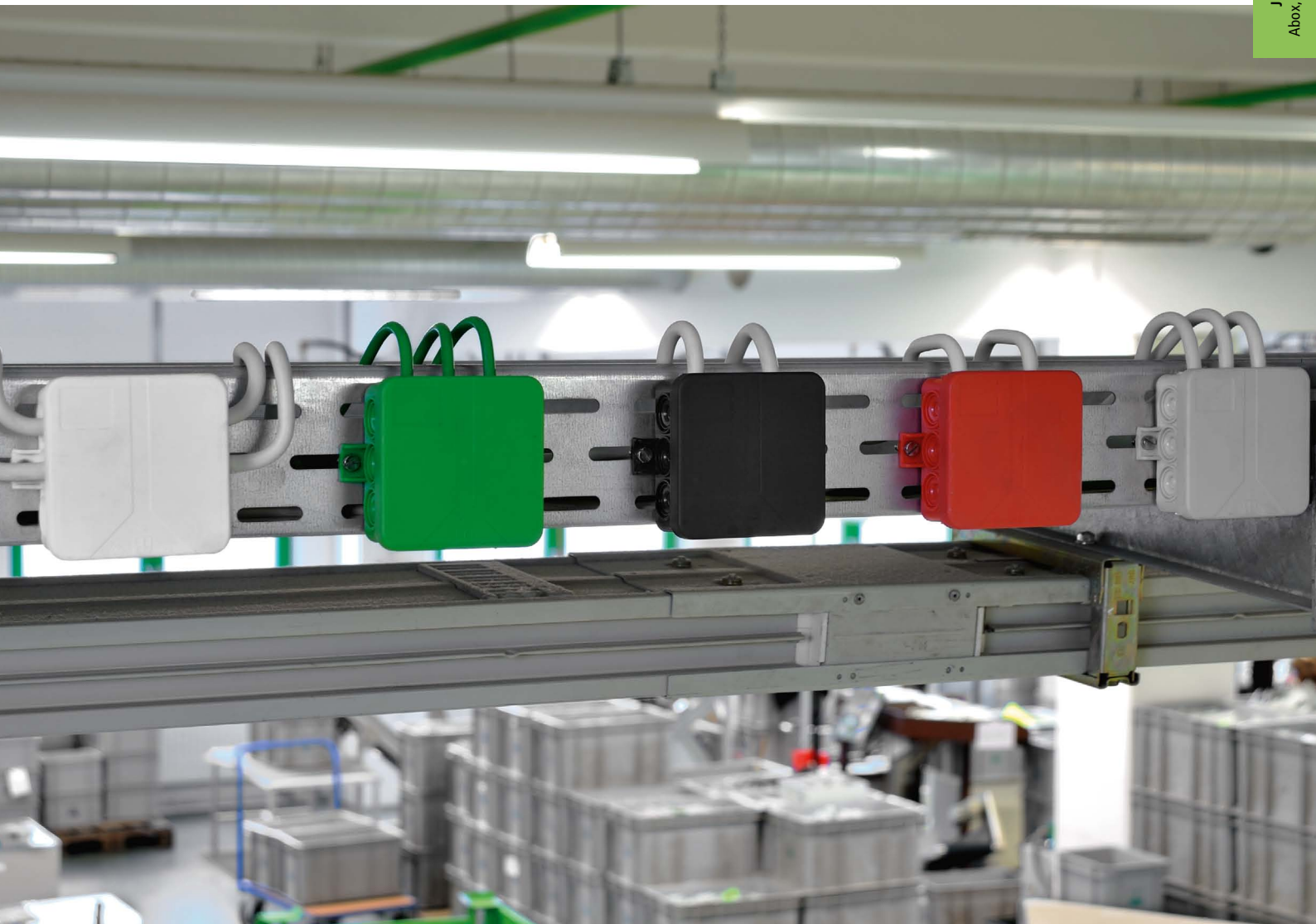
Sealing plugs, IP54, with closed sealing membrane, thermoplastic elastomer (TPE), grey, for wall thickness 1.5 - 4.0 mm, for sealing of metric housing apertures that are not required

| 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 |



Junction Boxes

Red Range



Classic wet room installation (with and without terminals up to 2.5 mm²)

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



IP55

2,5²

IK07



400V
AC



Junction Boxes

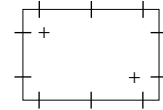
Red Range

Mini 25

89 x 43 x 38 mm



Junction Box, with protection class IP55, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing insertion membranes, Sealing area 8,2 - 12,5 mm, (2 Rear, 10 Side), Internal fastening points, for standard indoor installations



Accessories supplied:

Punching tool and sealing plug

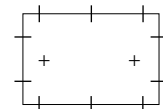
| Description | Order no. |
|--|-----------|
| Mini 25-L grey, without terminals | 31090801 |
| Mini 25-2,5² grey, with 5 interlockable screw terminals 2.5 mm² (5 x 1² / 5 x 1.5² / 3 x 2.5²) | 31040801 |
| Mini 25-L/w white, without terminals | 31060801 |
| Mini 25-L/sw black, without terminals | 31010801 |
| Mini 25-L/gn green, without terminals | 31050801 |
| Mini 25 SB-L red, without terminals | 31070801 |

2K-Mini

89 x 43 x 38 mm



Junction Box, with protection class IP55, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing, flexible insertion membranes, Sealing area 2 - 14 mm, (1 Rear, 10 Side), Internal fastening points, for standard indoor installations



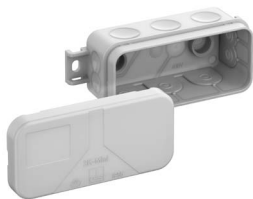
| Description | Order no. |
|--|-----------|
| 2K-Mini-L NEW grey, without terminals | 34490801 |
| 2K-Mini-L/w NEW white, without terminals | 34460801 |
| 2K-Mini-L/sw NEW black, without terminals | 34420801 |
| 2K-Mini SB-L NEW red, without terminals, for identifying circuits for safety lighting | 34470801 |

Junction Boxes

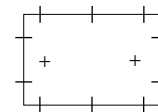
Red Range




2K-Mini AB

89 x 43 x 38 mm



Junction Box, with protection class IP55, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing, flexible insertion membranes, Sealing area 2 - 14 mm, (1 Rear, 10 Side), External fastening points, for standard indoor installations



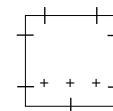
| Description | Order no. |
|--|--|
| 2K-Mini AB-L NEW grey, without terminals |  34590801 |
| 2K-Mini AB-L/w NEW white, without terminals |  34560801 |
| 2K-Mini AB SB-L NEW red, without terminals, for identifying circuits for safety lighting |  34570801 |

Sd 7




75 x 75 x 37 mm



Junction Box, with protection class IP55, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing insertion membranes, Sealing area 8,2 - 12,5 mm, (3 Rear, 7 Side), Internal fastening points, for standard indoor installations



Accessories supplied:
Punching tool and sealing plug

| Description | Order no. |
|---|--|
| Sd 7-L grey, without terminals |  33290701 |
| Sd 7-2,5² grey, with 5 interlockable screw terminals 2.5 mm² (5 x 1² / 5 x 1.5² / 3 x 2.5²) |  33240701 |
| Sd 7 SB-L red, without terminals, for identifying circuits for safety lighting |  33270701 |

Junction Boxes

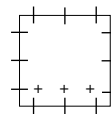
Red Range

i 12

85 x 85 x 37 mm



Junction Box, with protection class IP55, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing insertion membranes, Sealing area 8,2 - 12,5 mm, (3 Rear, 12 Side), Internal fastening points, for standard indoor installations



Accessories supplied:

Punching tool and sealing plug

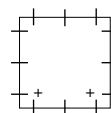
| Description | Order no. |
|--|-----------|
| i 12-L grey, without terminals | 33291201 |
| i 12 -2,5²/w white, with 5 interlockable screw terminals 2.5 mm² (5 x1² / 5 x 1.5² / 3 x 2.5²) | 33211201 |
| i 12-2,5² grey, with 5 interlockable screw terminals 2.5 mm² (5 x1² / 5 x 1.5² / 3 x 2.5²) | 33241201 |
| i 12-L/w white, without terminals | 33261201 |
| i 12 SB-L red, without terminals, for identifying circuits for safety lighting | 33271201 |
| i 12-L/gn green, without terminals | 33251201 |
| i 12 -L/sw black, without terminals | 33221201 |

2K-12

85 x 85 x 37 mm



Junction Box, with protection class IP55, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing, flexible insertion membranes, Sealing area 2 - 14 mm, (2 Rear, 12 Side), Internal fastening points, for standard indoor installations



| Description | Order no. |
|--|-----------|
| 2K-12-L grey, without terminals | 34491201 |
| 2K-12-L/sw black, without terminals | 34421201 |
| 2K-12-L/br brown, without terminals | 34401201 |
| 2K-12-L/w grey, without terminals | 34461201 |
| 2K-12 SB-L red, without terminals, for identifying emergency lighting circuits | 34471201 |

Junction Boxes

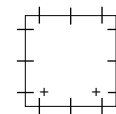
Red Range

2K-12 AB

85 x 85 x 37 mm



Junction Box, with protection class IP55, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing, flexible insertion membranes, Sealing area 2 - 14 mm, (2 Rear, 12 Side), External fastening points, for standard indoor installations



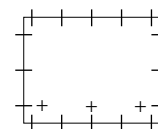
| Description | Order no. |
|---|------------|
| 2K-12 AB-L grey, without terminals | ■ 34591201 |
| 2K-12 AB-L/w white, without terminals | □ 34561201 |
| 2K-12 AB SB-L red, without terminals, for identifying emergency lighting circuits | ■ 34571201 |

i 16

130 x 85 x 37 mm



Junction Box, with protection class IP55, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing insertion membranes, Sealing area 8,2 - 12,5 mm, (3 Rear, 16 Side), Internal fastening points, for standard indoor installations



Accessories supplied:

Punching tool and sealing plug

| Description | Order no. |
|---|------------|
| i 16-L grey, without terminals | ■ 33391601 |
| i 16-2,5² grey, with 5 interlockable screw terminals 2.5 mm² (5 x 1² / 5 x 1.5² / 3 x 2.5²) | ■ 33341601 |

Junction Boxes

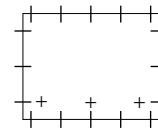
Red Range

2K-16

130 x 85 x 37 mm



Junction Box, with protection class IP55, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing, flexible insertion membranes, Sealing area 2 - 14 mm, (3 Rear, 16 Side), Internal fastening points, for standard indoor installations



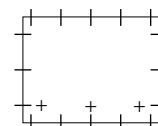
| Description | Order no. |
|--|--|
| 2K-16-L grey, without terminals | <input checked="" type="checkbox"/> 34691601 |
| 2K-16-L/w white, without terminals | <input type="checkbox"/> 34661601 |

2K-16 AB

130 x 85 x 37 mm



Junction Box, with protection class IP55, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Self-sealing, flexible insertion membranes, Sealing area 2 - 14 mm, (3 Rear, 16 Side), External fastening points, for standard indoor installations



| Description | Order no. |
|---|--|
| 2K-16 AB-L grey, without terminals | <input checked="" type="checkbox"/> 34891601 |
| 2K-16 AB-L/w white, without terminals | <input type="checkbox"/> 34861601 |

Junction Boxes

Red Range



For suspended ceilings (with and without terminals up to 2.5 mm²)

- 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



Junction Boxes

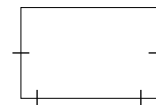
Red Range

Q 4

56 x 40 x 23 mm



Junction Box, with protection class IP20, Nominal cross-section 2.5 mm², $U_i=230V$ AC, certified according to VDE (DIN EN 60598-1 (VDE 0711-1)), Inserts with cable retention capacity, (4 Side), Internal fastening points, for standard indoor installations, with cable retention, cable entry from above possible



Description

Q 4-L

grey, without terminals

Order no.

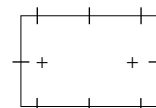
■ 33490401

Q-Mini

89 x 43 x 34 mm



Junction Box, with protection class IP20, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Inserts with cable retention capacity, (8 Rear, 2 Side), Internal fastening points, for standard indoor installations, with cable retention, cable entry from above possible



Description

Q-Mini-L **NEW**

grey, without terminals

Order no.

■ 33490801

Junction Boxes

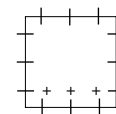
Red Range

Q 12

85 x 85 x 37 mm



Junction Box, with protection class IP20, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Inserts with cable retention capacity, (3 Rear, 12 Side), Internal fastening points, for standard indoor installations, with cable retention, cable entry from above possible



Description

Q 12-L

grey, without terminals

■ 33491201

Q 12 SB-L

red, without terminals, for identifying circuits for safety lighting

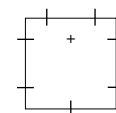
■ 33471201

AP 7

78 x 78 x 27 mm



Junction Box, with protection class IP30, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, (1 Rear, 7 Side), Internal fastening points, for standard indoor installations



Description

AP 7 - L

grey, without terminals

■ 31560701

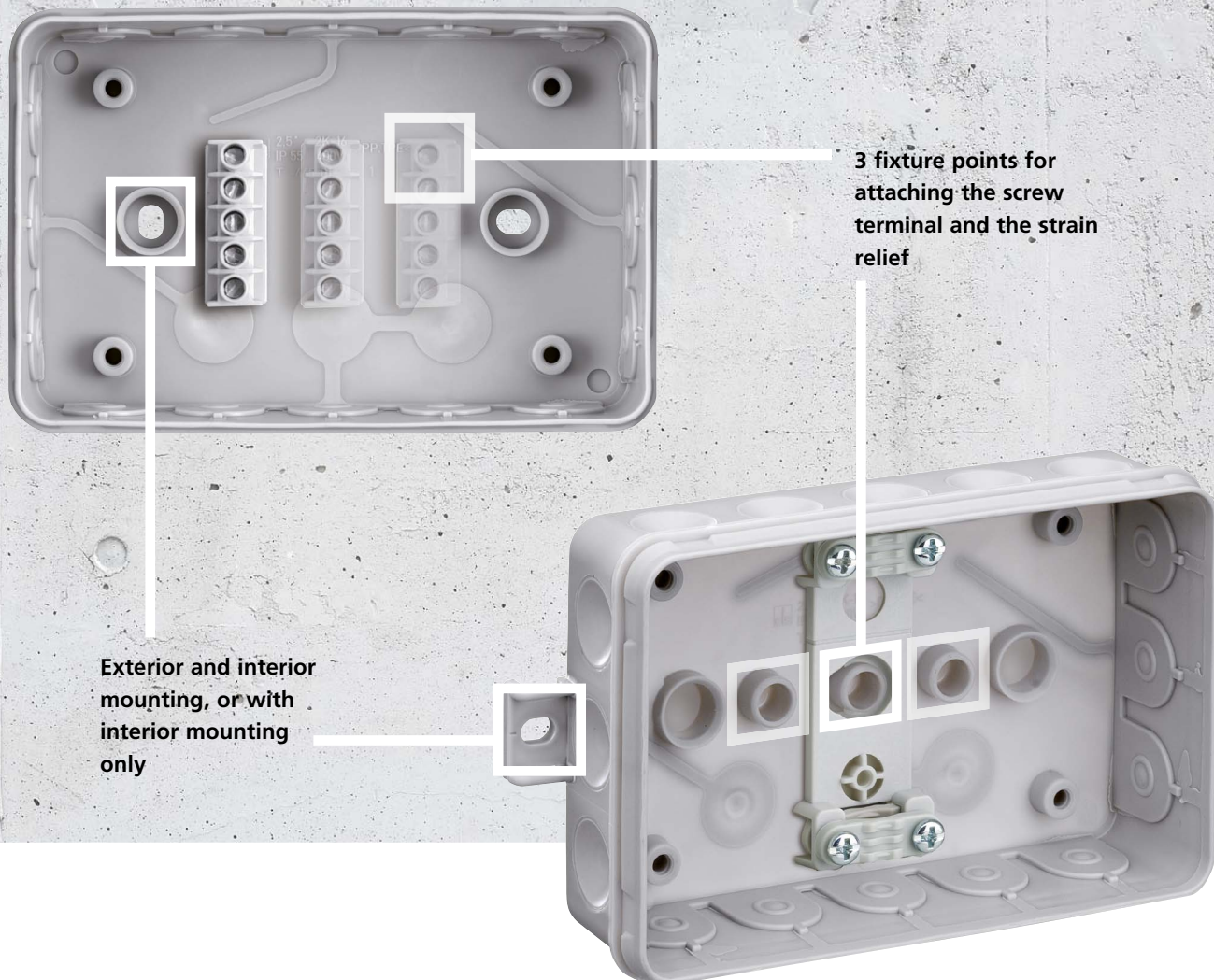
AP 7 - 2,5²

grey, with 5 interlockable screw terminals 2.5 mm² (5 x 1² / 5 x 1.5² / 3 x 2.5²)

■ 31510701

Junction Boxes

2K-16



■ 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 fixing points for attaching the
screw terminal and the strain relief

■ No tool required for opening the line
inlet, sealing range 2-14 mm

■ Connection table in the lid

■ With practical labelling strip

■ More secure opening and
closing mechanism:

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



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

ZEL 2K-12

Grey

Order no.

34400101

UP 6

80 x 32 mm



IP54



Flush-mounted junction box, with protection class IP54,
Rated insulation voltage: 400V AC, Halogen free

Description

UP 6-L

UP 6-2,5²

Order no.

30690601

30640601

Stoppers red series



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

Description

VST RR

Grey

Order no.

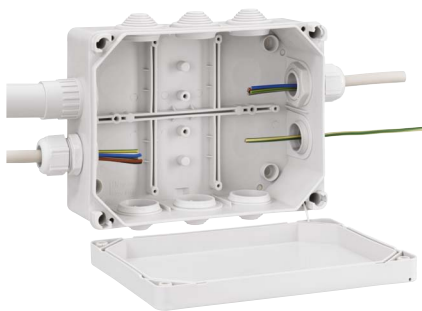
30040701

Junction Boxes

HP



With stepped nipples (cross-sectional area from 1.5 mm² to 10 mm²)



- Mounting on wood or other combustible materials
- 6 sizes
- Mounted stepped nipples
- Insertion points are equally suitable for metric mounting accessories
- Grey - similar RAL 7035
- 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

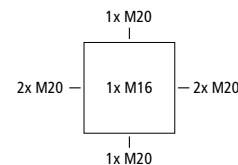
HP

HP 70

75 x 75 x 42 mm



Junction Box, with protection class IP55, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Stepped nipple, M20, Sealing area 5 - 16 mm, (1 Rear, 7 Side), Internal fastening points, for standard indoor installations



Description

HP 70-L

grey, without terminals

Order no.

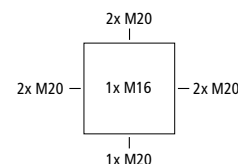
32097001

HP 80

85 x 85 x 42 mm



Junction Box, with protection class IP55, Nominal cross-section 2.5 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Stepped nipple, M20, Sealing area 5 - 16 mm, (1 Rear, 7 Side), Internal fastening points, for standard indoor installations



Description

HP 80-L

grey, without terminals

Order no.

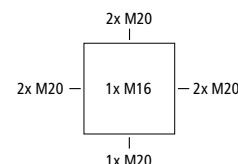
32298001

HP 90

90 x 90 x 45 mm



Junction Box, with protection class IP55, Nominal cross-section 4 mm², $U_i=400V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Stepped nipple, M20, Sealing area 5 - 16 mm, (1 Rear, 7 Side), Internal fastening points, for standard indoor installations



Description

HP 90-L

grey, without terminals

Order no.

32599001

Junction Boxes

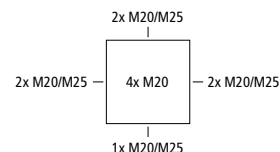
HP

HP 100

113 x 113 x 58 mm



Junction Box, with protection class IP55, Nominal cross-section 6 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Stepped nipple, M20/M25, Sealing area 5 - 21 mm, (4 Rear, 7 Side), Internal fastening points, for standard indoor installations



Description

HP 100-L
grey, without terminals

Order no.

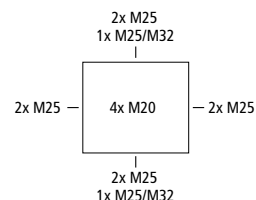
32690001

HP 150

164 x 119 x 77 mm



Junction Box, with protection class IP55, Nominal cross-section 10 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Stepped nipple, M20/M25/M32, Sealing area 5 - 21 mm, (4 Rear, 10 Side), Internal fastening points, for standard indoor installations



Description

HP 150-L
grey, without terminals

Order no.

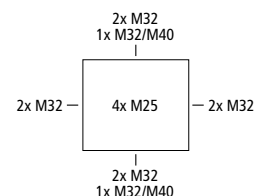
32695001

HP 190

199 x 149 x 77 mm



Junction Box, with protection class IP55, Nominal cross-section 16 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Stepped nipple, M25/M32/M40, Sealing area 13 - 26,5 mm, (4 Rear, 10 Side), Internal fastening points, for standard indoor installations



Description

HP 190-L
grey, without terminals

Order no.

32699001

Junction Boxes

WK



For fire-risk operating facilities according to VDE 0100-420
(with and without terminal blocks 2.5 - 25 mm²)

- Halogen-free duroplastic
- UL94 V0
- Cable cross-sections from 2.5² to 25²
- Glow-wire test as per VDE 0471 up to 960°C
- Colour: grey - similar RAL 7035



Junction Boxes

WK

WK 007

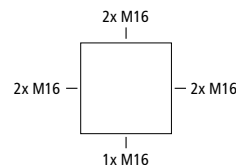
80 x 80 x 38 mm



Junction Box, with protection class IP54, Nominal cross-section 2.5 mm², $U_i=400V$ AC, Push-out membranes, M16, (7 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M16 sealing area 6 - 10 mm,
1 sealing plugs M16



Description

WK 007-L

grey, without terminals

Order no.

40290701

WK 007-2,5²

grey, with screw terminal, 5-pole - 2.5 mm² (6 x 1.5² / 4 x 2.5²)

40240701

WK 040

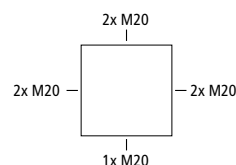
87 x 87 x 45 mm



Junction Box, with protection class IP54, Nominal cross-section 4 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20, (7 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M20 sealing area 8 - 13,5 mm,
1 sealing plugs M20



Description

WK 040-L

grey, without terminals

Order no.

40490701

WK 040-4²

grey, with screw terminal, 5-pole - 2.5/4 mm² (4 x 1.5² / 4 x 2.5² / 4 x 4²)

40440701

Junction Boxes

WK

WK 060

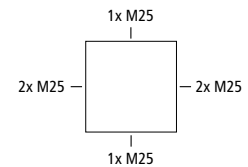
100 x 100 x 50 mm



Junction Box, with protection class IP54, Nominal cross-section 6 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M25, (7 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M25 sealing area 9 - 18,5 mm,
1 sealing plugs M25



Description

WK 060-L

grey, without terminals

Order no.

40690601

WK 060-6²

grey, with screw terminal, 5-pole - 6 mm² (5 x 2.5² / 5 x 4² / 4 x 6²)

40640601

WK 100

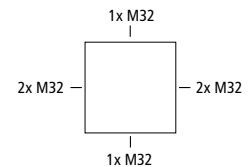
115 x 115 x 66 mm



Junction Box, with protection class IP54, Nominal cross-section 10 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M32, (7 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M32 sealing area 13 - 23 mm,
1 sealing plugs M32, 1 sealing kit



Description

WK 100-L

grey, without terminals

Order no.

41090601

WK 100-10²

grey, with screw terminal, 5-pole - 10 mm² (5 x 4² / 4 x 6² / 3 x 10²)

41040601

WK 160

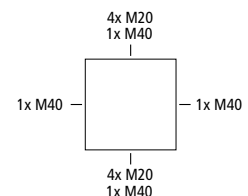
165 x 165 x 76 mm



Junction Box, with protection class IP54, Nominal cross-section 16 mm², $U_i=690V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M40, (12 Side), Internal fastening points, for standard indoor installations

Accessories supplied:

4 Attachment bushes IP54 M40 sealing area 17 - 30 mm,
1 sealing plugs M40, 1 Sealing kit



Description

WK 160-L

grey, without terminals

Order no.

41691201

WK 160-16²

grey, with screw terminal, 5-pole - 16 mm² (5 x 10² / 3 x 16²)

41641201

Junction Boxes

WK

WK 250

256 x 171 x 106 mm



IP54

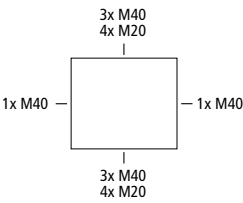
25²

IK05

690V
AC

Junction Box, with protection class IP54, Nominal cross-section 25 mm², U_i=690V AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Push-out membranes, M20/M40, (16 Side), Internal fastening points, for standard indoor installations

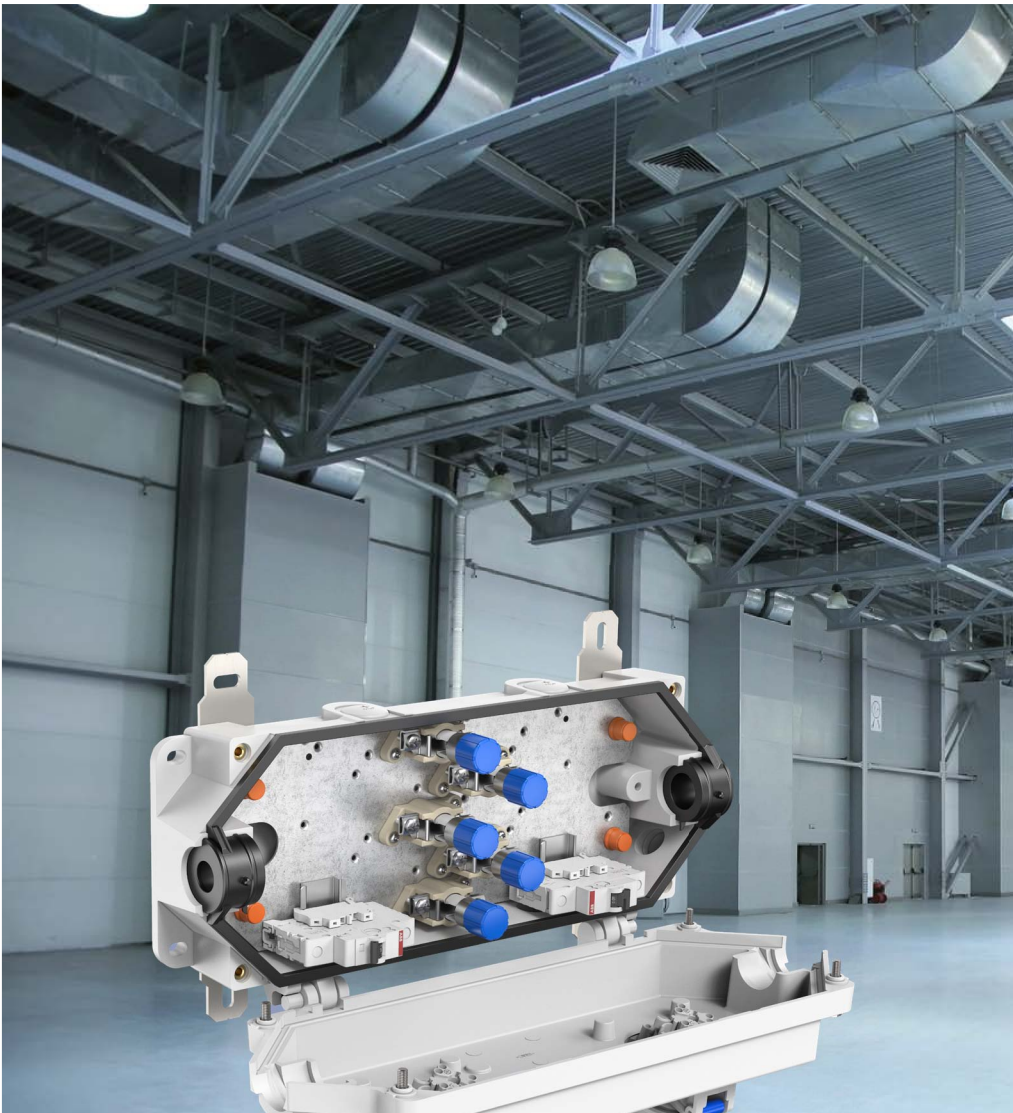
Accessories supplied:
4 Attachment bushes IP54 M40 sealing area 17 - 30 mm,
1 sealing plugs M40, 1 Sealing kit



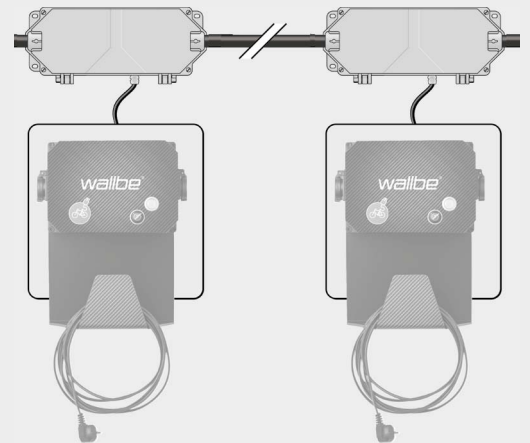
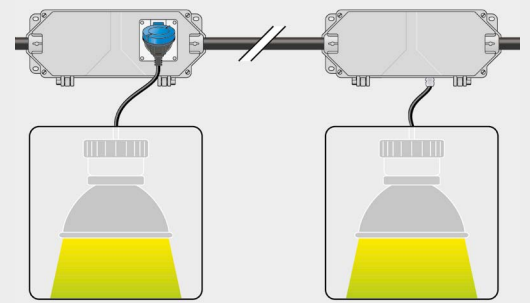
| Description | Order no. |
|---|-----------|
| WK 250-L grey, without terminals | 42591601 |
| WK 250-25² grey, with screw terminal, 5-pole - 25 mm ² (5 x 16 ² / 3 x 25 ²) | 42541601 |

Junction Boxes

Rapid-Box

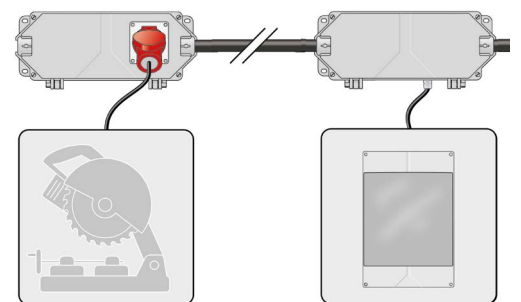


Application examples:



Switchgear combination according to EN 61439

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



Junction Boxes

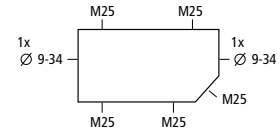
Rapid-Box

Rapid-Box 16²

190 x 447 x 105 mm



Junction Box, with protection class IP66/IP67, $U_i=400V$ AC, M25, (5 Side), External fastening points, for installations in the industrial environment and tunnel applications, pressure and suction tight in accordance with Gotthard guideline. Halogen-free enclosure made of special thermosetting plastic, terminals made of special high-temperature-resistant ceramic. External fixing lugs and cover screws made of stainless steel 1.4571



Accessories supplied:

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

4 off M25 locking screws

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

Junction Boxes

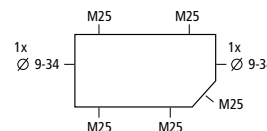
Rapid-Box

Rapid-Box 50²

190 x 447 x 105 mm



Junction Box, with protection class IP66/IP67, $U_i=400V$ AC, M25, (5 Side), External fastening points, for installations in the industrial environment and tunnel applications, pressure and suction tight in accordance with Gotthard guideline. Halogen-free enclosure made of special thermosetting plastic, terminals made of special high-temperature-resistant ceramic. External fixing lugs and cover screws made of stainless steel 1.4571



Accessories supplied:

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

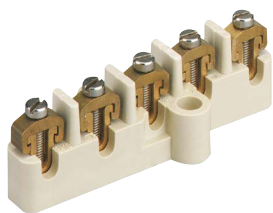
4 off M25 locking screws

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

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 mm ² , for K15, K2-, K3-EK boxes | 5 | 46050601 |
| WK 100 KLS-10² 5x10 mm ² , for K15, K3-, K4-EK boxes | 5 | 46051001 |
| WK 160 KLS-16² 5x16 mm ² , for K3-, K4-EK boxes | 5 | 46051601 |
| WK 250 KLS-25² 5x25 mm ² , for K4-EK boxes | 5 | 46053501 |

Cable gland, grey, with locknut



Cable gland, IP68, with strain relief, polyamide, M_{c} x 1.5 mm, with locknut, grey

| 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

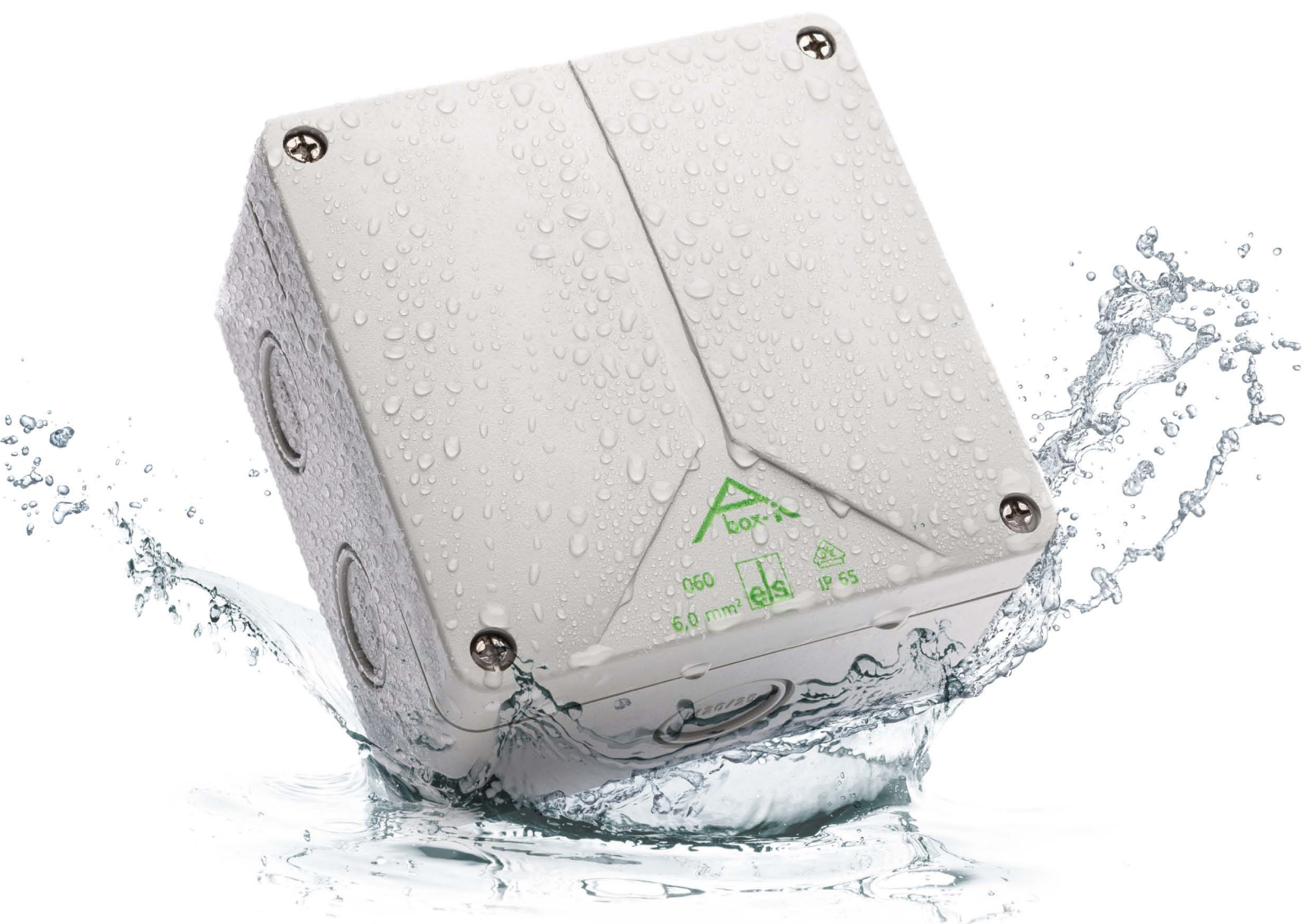


Double membrane seals, IP66, with two sealing membranes, closed, thermoplastic elastomer (TPE), for wall thicknesses 1.5 - 4.5 mm, grey

| 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 |

Junction Boxes

Junction Box Accessories



Junction Boxes

Technical Information

IP68

Protection rating (IP code) in accordance with DIN EN 60529 (VDE 0470-1)



Protection class II
Equipment with protective insulation in accordance with DIN VDE 0100-410



Vattenfall Approval

10²

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

690V
AC

Rated voltage For use in AC voltage systems, maximum permissible nominal voltage of the electrical system



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

IK09

Level of protection (IK code) against mechanical impact in accordance with DIN EN 50102 (VDE 0470-100)



The **VDE symbol** stands for the tested safety of the product in respect of electrical, mechanical, thermal and other hazards.



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



DLG focus test
for special innovations in machines and technical products - predominantly in agriculture and forestry applications.



Industrial Quality

Pictograms | Junction Boxes



Standard Quality



Industrial Quality

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

| | Ambient temperature Minimum value | Ambient temperature Maximum value | Ambient temperature Average 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 |
|--------------------------------------|--------------------------------------|--------------------------------------|--|-----------------------------------|--|---|--|
| Red Range / HP Junction Boxes | -25°C | 40°C | 35°C | 50% | 95% | IP55 | IK07 |
| Abox Junction Boxes | -25°C | 40°C | 35°C | 50% | 95% | IP65 | IK07 |
| Abox-i Junction Boxes | -35°C | 80°C | 60°C | 50% | 95% | IP65/66 | IK08 |
| WK Junction Boxes | -25°C | 40°C | 35°C | 50% | 95% | IP54 | IK05 |

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

¹⁾ When used with suitable connectors or cable glands

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

| Material | Used in the products: | Weak acids | Strong acids | Weak alkalis | Strong alkalis | Alcohol | Petrol | Benzene | Mineral oil | Diesel | Ammonia, gaseous (DLG Focus Test) | Vegetable fats | Animal fats | Halogen-free | Heavy metal-, PVC- and silicon-free | Combustion behaviour in accordance with DIN EN 60695 (VDE 0471) / UL94 |
|--|--|------------|--------------|--------------|----------------|---------|--------|---------|-------------|--------|-----------------------------------|----------------|-------------|--------------|-------------------------------------|--|
| Polystyrene, impact proof | Abox | O | Ø | O | O | O | X | X | O | X | not specified | 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 nipples, Red Range (bottom section) | O | O | O | O | O | Ø | X | O | X | not specified | O | O | yes | yes | 650°C / HB |
| Polypropylene copolymer | Red Range (cover) | O | O | O | O | O | Ø | Ø | Ø | Ø | not specified | 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 | not specified | O | O | yes | yes | 960°C / V-0 |
| Duroplastic | WK series integrated terminal block except for 4 mm² | X | X | Ø | X | O | O | O | O | O | not specified | O | O | yes | yes | 960°C / V-0 |
| Thermoplastic elastomer | Double membrane seals 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 | Cable glands IP 68, cover screws | X | X | O | O | O | O | Ø | O | O | O | O | O | yes | yes | 750°C / HB/V-2 |

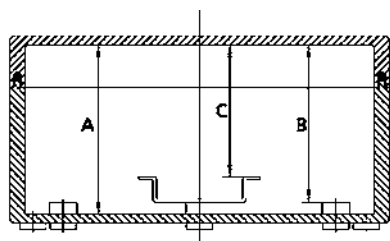
1) From Abox-i 060 combustion behaviour in accordance with DIN EN 60695: 960°C. Abox-i 025 and 040 combustion behaviour in accordance with DIN EN 60695: 650°C

* 5-inch (127 mm) flame test in accordance with UL 746 C (comparable with the requirements in accordance with UL 94, 5VA)

The materials used by Spelsberg have been subjected to a weathering test in accordance with DIN 53 387 (superseded by DIN EN ISO 4892-2) and a 1000-hour test by the State Testing Office in Dortmund. The materials used in IQ products demonstrate optimum results here. This material also passed the UV resistance test in accordance with UL 746 C without limitations.

In principle, not only the level of protection but also the climatic conditions and the occurrence of chemical influences should be assessed when selecting the installation site. Details of the material properties and chemical resistance of the materials used can be taken from the table **though it should be noted that they are only 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 | --- | --- |

Junction Boxes

Technical Information

| |  |  |  |  |
|--|---|---|--|---|
| Part 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 | Series Abox 025 and Abox-i 025 Series Abox 040 and 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 |
| Stripping length | 11mm | 11mm | 11mm | 11mm |
| Tightening torque | 1.2 Nm | 2.0 Nm | 2.0 Nm | 2.5 Nm |
| Type of terminal | Screw terminal M4 | High-set screw terminal M5 | High-set screw terminal M5 | High-set 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 Busbar up to 20x8 | single-wire rigid 50-240 / multi-wire flexible 50-240, fine-wire 50-240 / fine-wire end ferrule 50-240 Busbar 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 |
| 11mm | 15mm | 38mm | 38mm | 37mm | 45mm | 11mm |
| 4.0 Nm | 4.0 Nm | 20 Nm | 10-20 Nm | 10-20 Nm | 40 Nm | 1.2 Nm |
| High-set screw terminal M8 | Screw terminal | Screw terminal conductor entry on top | Feed-through terminal block Hex socket M10 | Feed-through terminal block Hex socket M10 | Screw terminal conductor entry on top | Screw terminal |








sm= multi-wire, sector conductor

Junction Boxes

Technical Information



| |  |  |  |  |  |
|--|---|---|---|--|---|
| Part No terminal | 460 506 01 WK 060 KLS-6 ² | 460 510 01 WK 100 KLS-10 ² | 460 516 01 WK 160 KLS-16 ² | 460 535 01 WK 250 KLS-25 ² | 076 125 01 AKL 125 |
| installed in junction box | WK 060-6 ² | WK 100-10 ² | WK 160-16 ² | WK 250-25 ² | Abox-i 1500-150 ² |
| Rated connection capacity | 6mm ² | 10 mm ² | 16mm ² | 25mm ² | 150mm ² |
| 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 2.5 ² -6 ² re, rm | 3 x 4 ² -10 ² re, rm | 3 x 6 ² -16 ² re, rm | 3 x 10 ² -25 ² 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 |
| Stripping length | 15mm | 15mm | 23mm | 28mm | ----- |
| 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



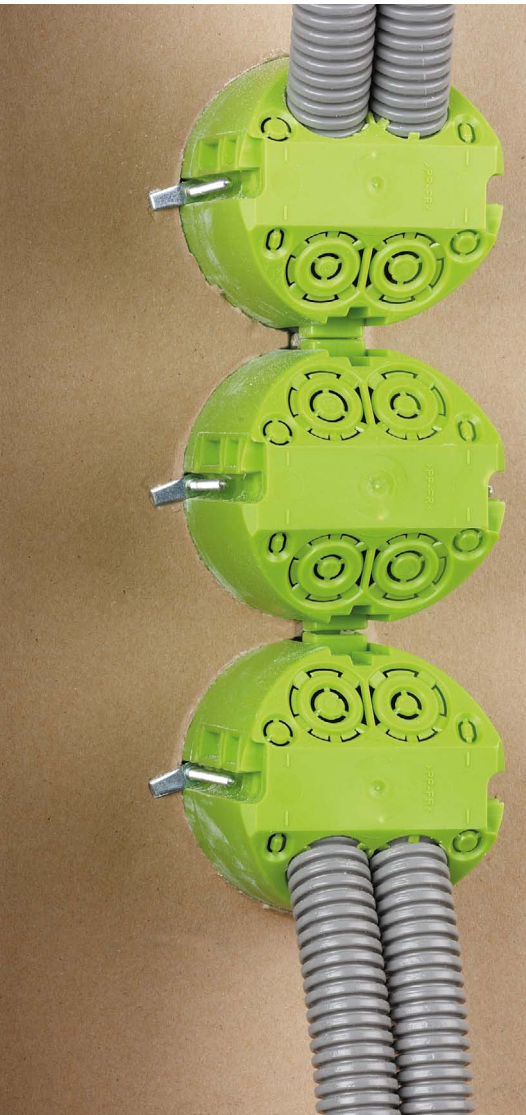
rm= multi-wire, round conductor

| | | | | | |
|--|---|---|--|---|---|
|  |  |  |  |  |  |
| 076 140 01 AKL 140 | ----- | ----- | ----- | ----- | ----- |
| Abox-i 2400-2402 | Abox SLK 2.5 ² Abox SLK 4 ² Abox SL 2.5/4 ² Abox-i SLK 2.5 ² Abox-i SLK 4 ² Abox-i SL 2.5/4 ² Abox XT SL 2.5 ² Abox XT SL 4 ² Abox XT SL 2.5/4 ² | Abox XT SL 6 ² | Abox SL 6 ² Abox-i SL 6 ² | Abox SL 10 ² Abox-i SL 10 ² | Abox SL 16 ² Abox-i SL 16 ² |
| 240mm ² | 4mm ² | 6mm ² | 6mm ² | 10mm ² | 16mm ² |
| 1000 | 450 | 450 | 800 | 800 | 800 |
| 400 | 32 | 41 | 41 | 57 | 76 |
| 2 | 3 | 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 0.2-4 ² multi-wire 0.2-4 ² fine-wire 0.14-4 ² | single-wire 0.5-6 ² multi-wire 0.5-6 ² fine-wire 0.5-6 ² | single-wire 0.5-10 ² fine-wire 0.5-10 ² fine-wire with end ferrule 6 ² | single-wire 0.5-16 ² fine-wire 0.5-16 ² fine-wire with end ferrule 10 ² | single-wire 0.5-16 ² fine-wire 0.5-25 ² fine-wire with end ferrule 16 ² |
| Cu / AL | Cu | Cu | Cu | Cu | Cu |
| 1 | 1 | 1 | 1 | 1 | 1 |
| ----- | 11mm | 11mm | 15mm | 19mm | 20mm |
| 20 Nm | ----- | ----- | ----- | ----- | ----- |
| Screw terminal | Spring-type terminal | Spring-type terminal | Spring-type terminal | Spring-type terminal | Spring-type terminal |



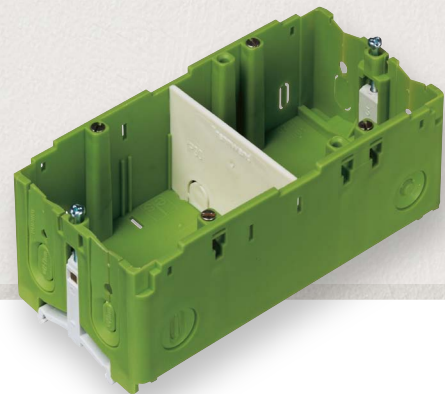
sm= multi-wire, sector conductor

Cavity Wall and Trunking Boxes



Fast installation:

- 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

- 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 combibridge 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)

Cavity Wall and Trunking Boxes

Table of Contents

| | Types | Series | Page |
|---|--|---------------------|------|
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|  | Cavity wall socket accessories | HW | 91 |
|  | Floor-mounted trunking installation boxes | KD | 93 |
|  | Front-mounted trunking installation boxes | KD | 94 |
|  | Trunking box accessories | KD | 96 |
| | Technical Information | Cavity wall sockets | 97 |

Cavity Wall and Trunking Boxes

Cavity Wall Units and Junction Boxes

HW 040 - outlet socket

35 x 35 x 40 mm

IP30



Outlet socket, with protection class IP30,
Rated insulation voltage: 400V AC

| Description | Order no. |
|-------------|-----------|
| HW 040 | 92404001 |

HW 035 - flat box

68 x 68 x 35 mm

IP30



Flat box, with protection class IP30,
Rated insulation voltage: 400V AC, certified according to
VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22))

| Description | Order no. |
|-------------|-----------|
| HW 035 | 92003501 |

HW 035 H - Flat box halogen-free

68 x 68 x 35 mm

IP30



Flat box, with protection class IP30,
Rated insulation voltage: 400V AC, certified according to
VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Halogen free

| Description | Order no. |
|-------------|-----------|
| HW 035 H | 92023501 |

HW 050 - receptacle

68 x 68 x 50 mm

IP30



Receptacle, with protection class IP30,
Rated insulation voltage: 400V AC, certified according to
VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22))

| Description | Order no. |
|-------------|-----------|
| HW 050 | 92005001 |
| HW 050 WD | 92035001 |

Cavity Wall and Trunking Boxes

Cavity Wall Units and Junction Boxes

HW 050 H - Receptacle, halogen-free

68 x 68 x 50 mm



Receptacle, with protection class IP30,
Rated insulation voltage: 400V AC, certified according to
VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Halogen free

| Description | Order no. |
|-------------|-----------|
| HW 050 H | 92025001 |

HW 065 - equipment junction box

68 x 68 x 65 mm



Branch socket, with protection class IP30,
Rated insulation voltage: 400V AC, certified according to
VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22))

| Description | Order no. |
|-------------|-----------|
| HW 065 | 92006501 |
| HW 065 WD | 92036501 |

HW 065 H - Equipment junction box, halogen-free

68 x 68 x 65 mm



Branch socket, with protection class IP30,
Rated insulation voltage: 400V AC, certified according to
VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), Halogen free

| Description | Order no. |
|-------------|-----------|
| HW 065 H | 92026501 |

HW 120 junction box

120 x 120 x 65 mm



Junction Box, with protection class IP30,
Rated insulation voltage: 400V AC

| Description | Order no. |
|-------------|-----------|
| HW 120 | 92512001 |

Cavity Wall and Trunking Boxes

Cavity Wall Units and Junction Boxes

HW 050 - equipment double box

68 x 139 x 50 mm

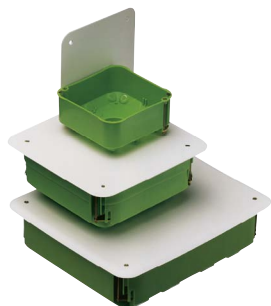


IP30

Double socket, with protection class IP30,
Rated insulation voltage: 400V AC

| Description | Order no. |
|-------------|-----------|
| HW 050/2 | 92305001 |
| HW 050/2 WD | 92335001 |

HWK - junction boxes



IP30

Junction box, with protection class IP30,
Rated insulation voltage: 400V AC

| Description | Order no. |
|-------------|-----------|
| HWK 1 | 92800101 |
| HWK 2 | 92800201 |
| HWK 3 | 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-60 for type HW 035 / HW 050 / HW 065, screw spacing 60 mm | 90 | U71 | 92510101 |
| HW VD-67 for type HW 070, screw spacing 67 mm | 90 | U86, U120 | 92510001 |

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 |
| DH 125-M5 NEW 125 mm | 125 | U120 GRO-3-O | 97912401 |

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

RVB conduit coupling



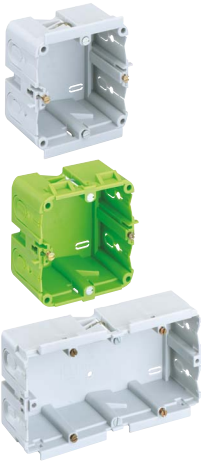
Conduit coupling (without conduit) with strain relief, grey, for flexible metric electrical installation conduits

| 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 |


Cavity Wall and Trunking Boxes

Front-Mounted Trunking Boxes

Front-mounted trunking boxes




| | | Gewiss | Rehau | Niedax |
|----------------|--------------|--|--|--|
| Trunking boxes | Trunking | 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


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Front-mounted trunking box

KD 1 70/47 F1 gr

Productnumber: 36110701 | Dimensions: 47 mm

Front-mounted trunking box
for installation in Gewiss and Rehau wall trunkings/device installation ducts



Log in to mySpelsberg to see the price of this product.

[Watchlist](#)

[Technical Data](#)
[Downloads](#)
[Similar products](#)
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Colours

Cover colour grey

Dimensions

Height 47 mm

Material characteristics

Halogen free no

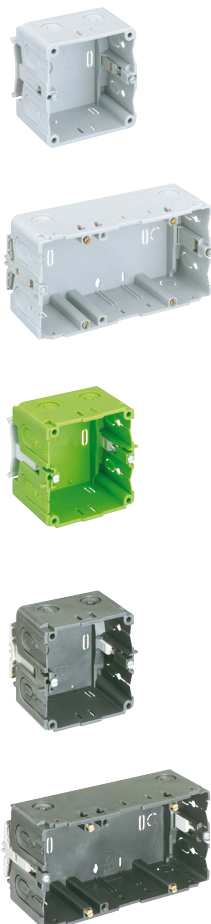
Ambient conditions

max. relative humidity 25°C 100 %

Cavity Wall and Trunking Boxes

Floor-Mounted Trunking Boxes

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 de- vice installation trunking | BS wall trunking 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 de- vice 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 |

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 |

Cavity Wall and Trunking Boxes

Technical Information



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 | Cavity Wall and Trunking Boxes



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

| | Enclosure without fittings | | | Enclosure with fittings | | | | | Protection rating according to DIN EN 60529 / VDE 0470-1 ¹⁾ | Shock-proof as per DIN EN 50102 / DE 0470 Part 100 |
|---|--------------------------------------|--------------------------------------|--|--------------------------------------|--------------------------------------|--|------------------------------------|---|---|--|
| | 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) | | |
| 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.

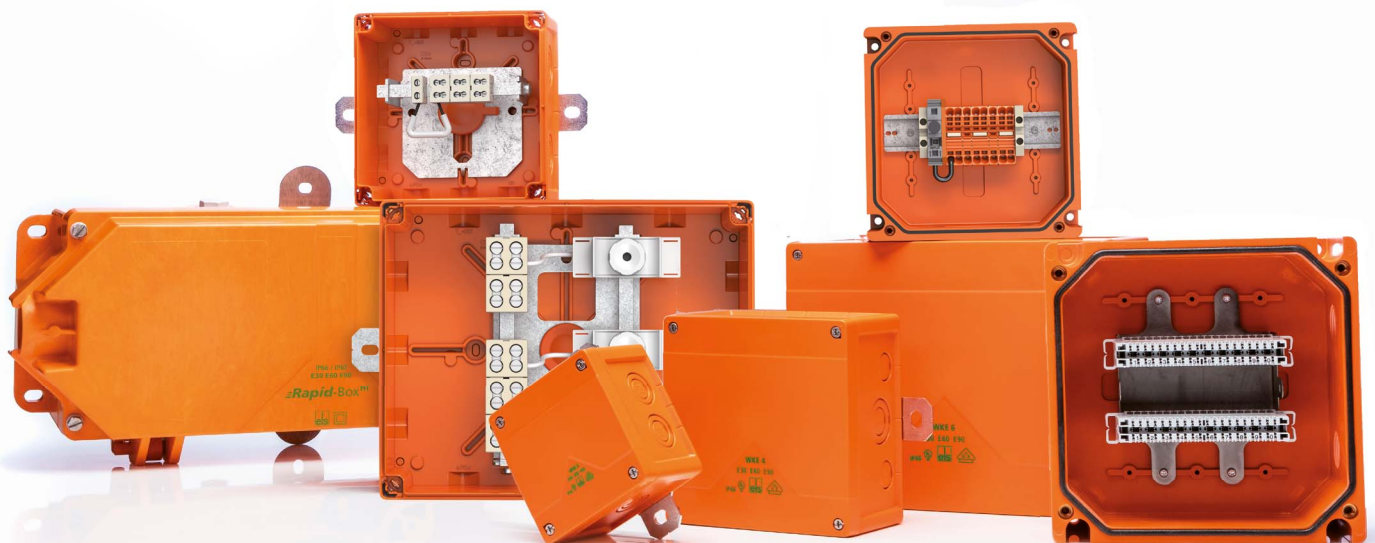
¹⁾ When used with suitable connectors or cable screw couplings

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.**



Smart fire protection solutions from a single source







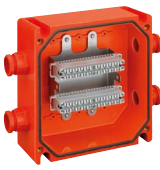


LIFELINE is the technology for life. With the knowledge and experience of our competent staff, we take responsibility every day to make the world a little safer. The smart fire safety solutions of LIFELINE offer first-class quality, which can be relied upon in emergencies. LIFELINE protects all life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

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, Spelsberg has always been strongly positioned with the LIFELINE brand for the development of fire protection solutions, particularly in these product segments.

The junction boxes 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.

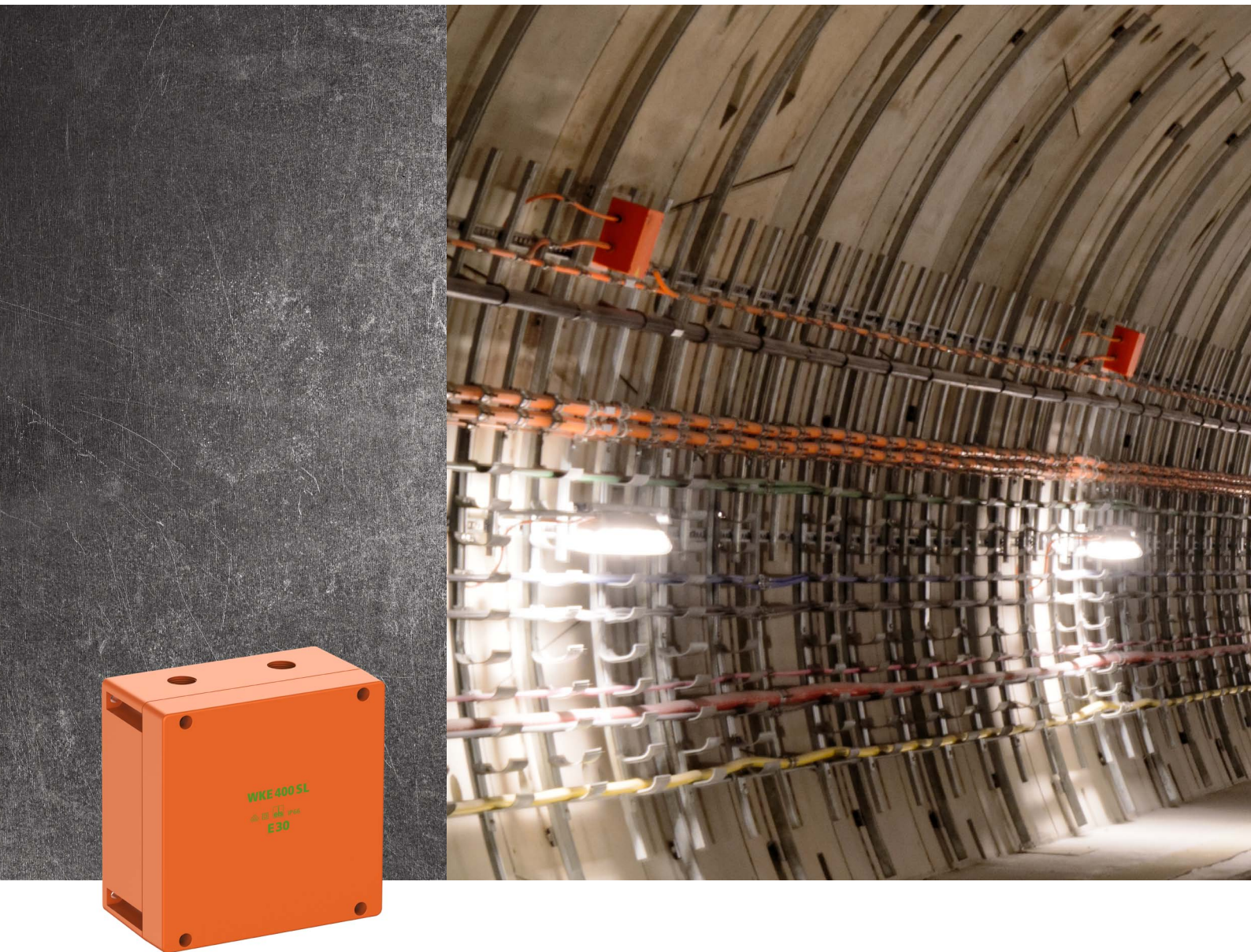
Electrical Functional Integrity

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Electrical Functional Integrity

WKE 200-400 SL | Case study



Fire protection solutions for the „Kanzlerbahn“, Berlin

Berlin underground line 55, known as the „Kanzlerbahn“, has operated for years on the section between Brandenburg Gate and Central Station. Following a comprehensive phase of planning and construction work lasting more than 10 years, in September 2020 the route extension to Alexanderplatz was completed and in the process line U55 was combined with the previous U5.

The new U5 line now offers passengers the convenience of a direct journey from Hönower Central Station without changes. For the local tunnel systems, the Berliner Verkehrsbetriebe (Berlin Public Transport Services - BVG) imposed tightened safety conditions on the electrical engineering installed there, particularly in relation to technical fire safety. In the event of fire, the functionality of vital plant and systems had to be guaranteed.

Spelsberg's WKE cable junction boxes with fuses integrated into the branch, meet these requirements. Thanks to these fuses, for the first time, non-reactive cable branching is possible since, in the event of a fault, the functional integrity in the main section is unaffected. Thus, in the event of fire, operation of the electrical circuits for emergency lighting and other evacuation equipment is ensured for at least 30 minutes.





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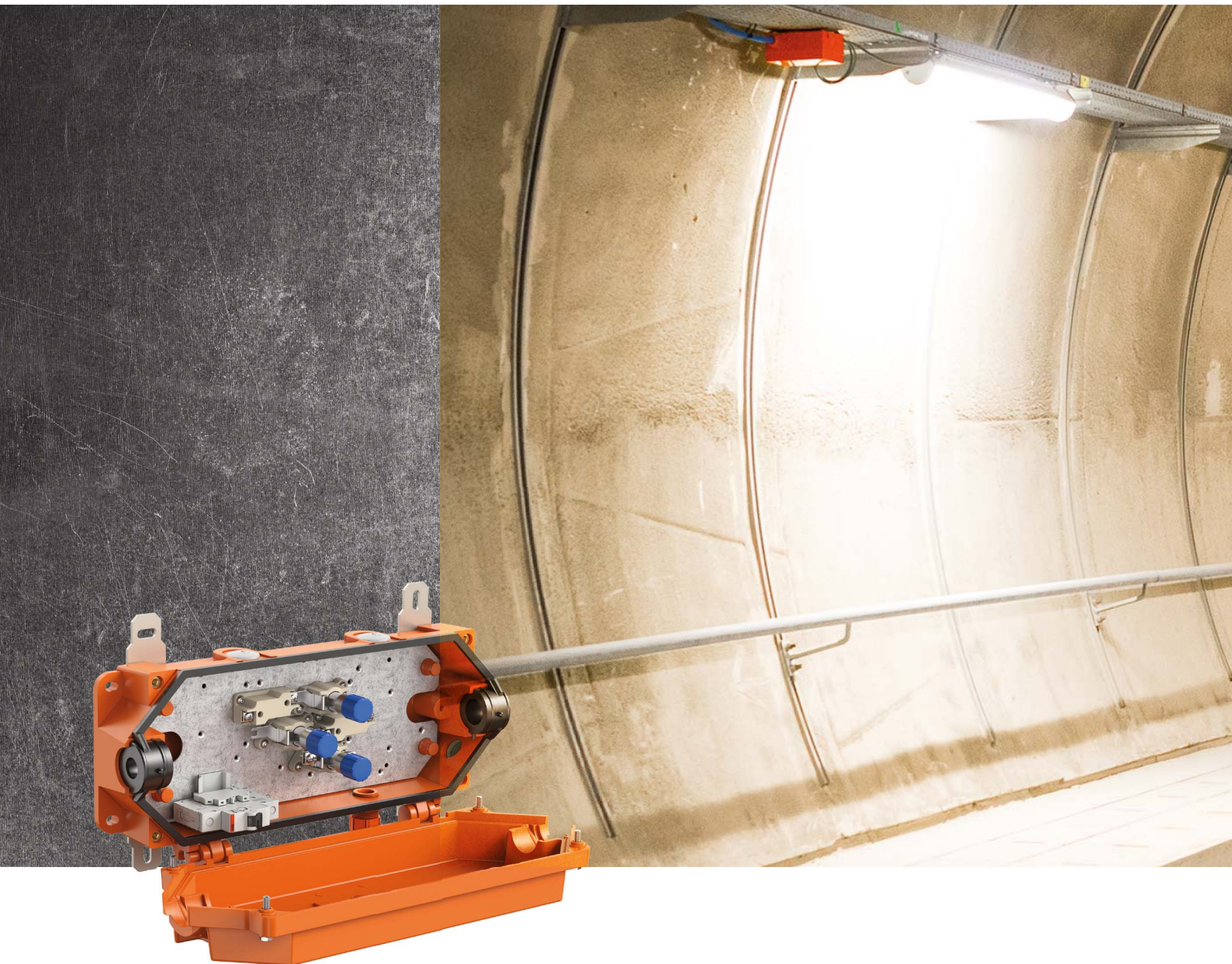
Spelsberg developed bespoke solutions to meet customer-specific requirements, with the WKE 300 and WKE 400 SL types, for challenging environments in the tunnels of the Berliner Verkehrsbetriebe. In a global innovation, the WKE 200 - 400 SL junction and connection boxes series combine in a single product the advantages of the screwless WAGO TOPJOB® S Push-in terminal blocks and certified functional integrity according to DIN 4102-12.

They therefore offer a safe solution wherever functional integrity, high vibration and impact resistance, and a reliable dust and water seal are required. Cooperative exchange of information, coupled with expert advice and project support from the Spelsberg team, enabled BVG to implement the necessary measures for safety of electrical installations in the event of fire in a fast and solution-oriented manner.



Electrical Functional Integrity

Rapid-Box | Case study



Railway tunnel Liefkenshoek Belgium

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

and cable junction in this case. As part of a comprehensive railway project in Belgium, the products impressed thanks to their flexibility in handling and their resilience.

The Liefkenshoek Rail Link Project (LHSV), which has a 38-year duration, is one of the largest infrastructure projects ever carried out in Belgium. A railway line for freight traffic that con-

nects two marshalling yards of the Port of Antwerp runs over a length of approx. 16.2 km. The river Scheldt as well as the canal dock have to be bridged by tunnels in this case. ENGIE Fabricom, the company appointed with the project planning, required product solutions for the distribution and supply of consumers as well as for the provision of electrants as access points for maintenance and rescue forces. The electrical installation carried





out by envie Solutions in line structure was to take place by means of uncut main cables within the tunnels.

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

As the only fire protection enclosure for uncut lines on the market with certification in accordance with DIN 4102-12 as well as suitability especially for tunnel installations, the Rapid Boxes fully satisfy all requirements. The system distinguished itself by its high degree of customisation during the course of the project. This primarily involved the line connection, the junction cross-sections, the adaptability of the number of terminals as well as the fuse protection of the lines and connected consumers.

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

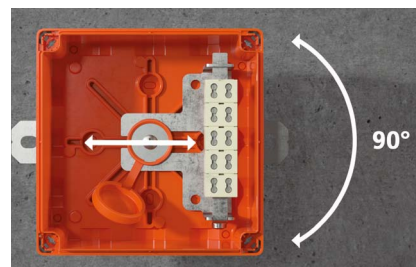
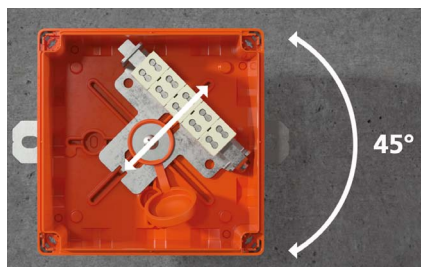
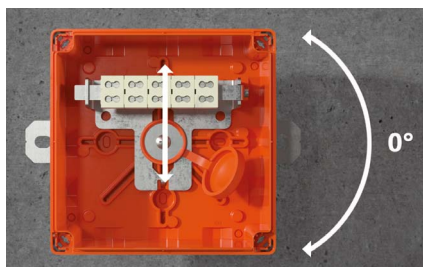
Electrical Functional Integrity

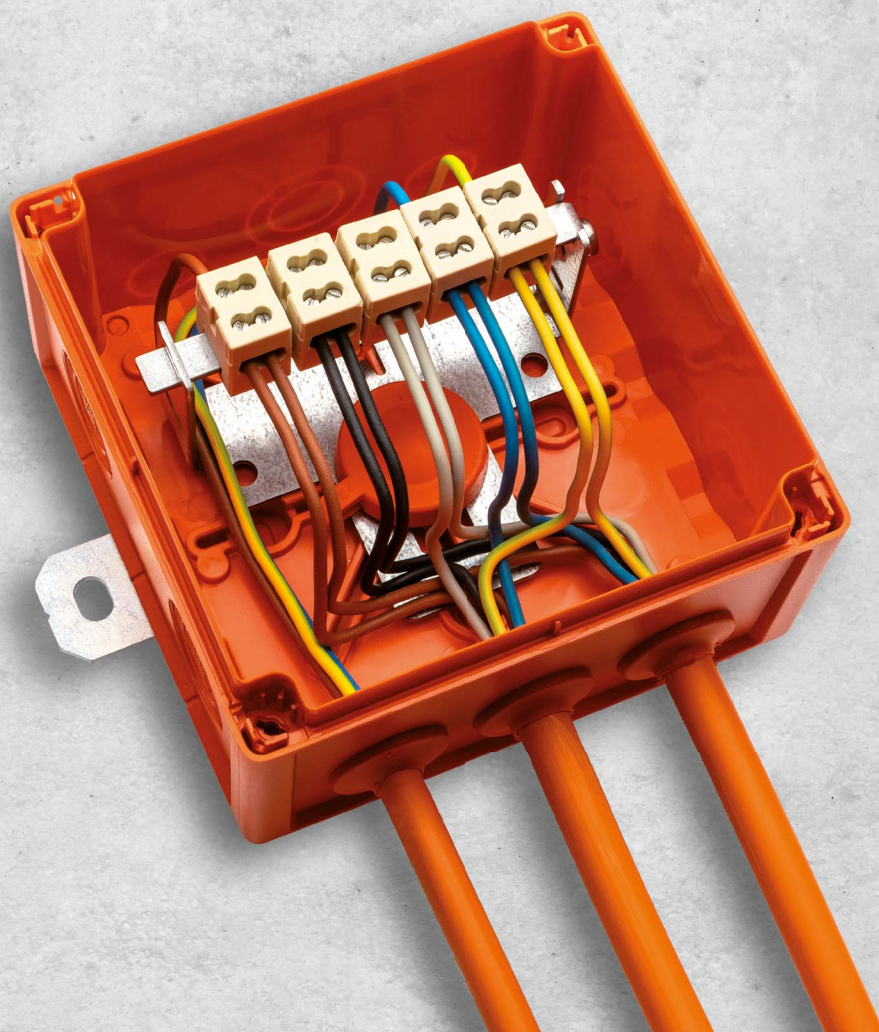
WKE 2-6 | Extremely ROBUST | Extremely FLEXIBEL



Planning freedom saves time and cost for you

- High protection class IP66
- Impact strength IK08
- Ideal for special solutions
e.g., in tunnels
- High strength of the box
- Clear and variable positioning of
the base carrier through simple
rotation in steps of 45°
- Step-less positioning of the
longitudinal axis





An easy, quick and safe installation

- Central fixation through one single screw
- Always accessible
- Usability of all cable entries while raising the terminal to uplifted position

Position above:

- easy handling of the wires
- Possible to mount the cables by adhering to the bending radius
- All cable entries are usable without any limitations

Position below:

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



Electrical Functional Integrity

WKE 2-6 ... be flexible!

Cover retaining strap

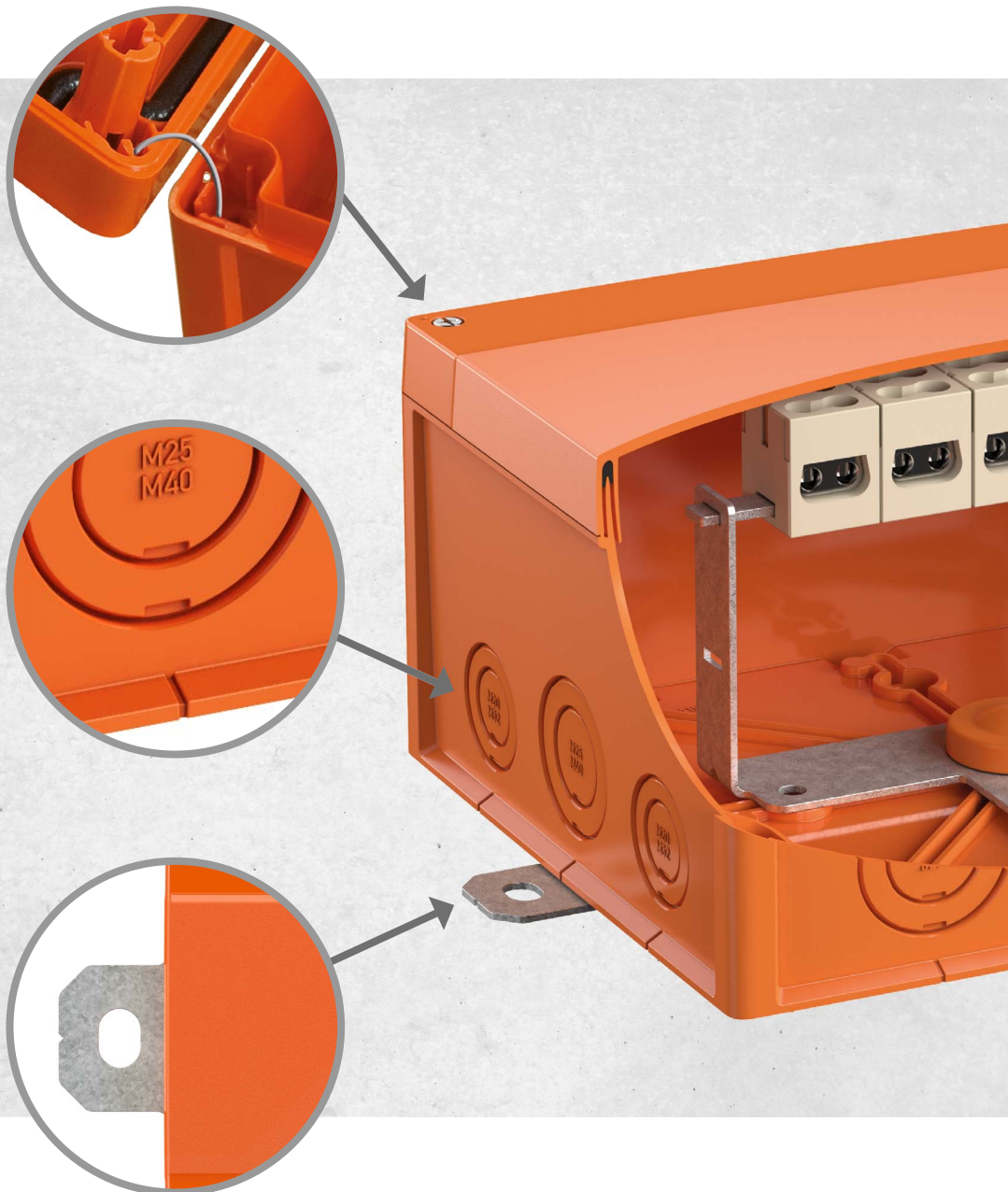
- can be used optionally by the installer

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



Extensive international certifications



DIN 4102-12

Functional integrity E30 / E60 / E90



EN 60670

Junction and connection boxes



IEC 62208 & IEC 61439

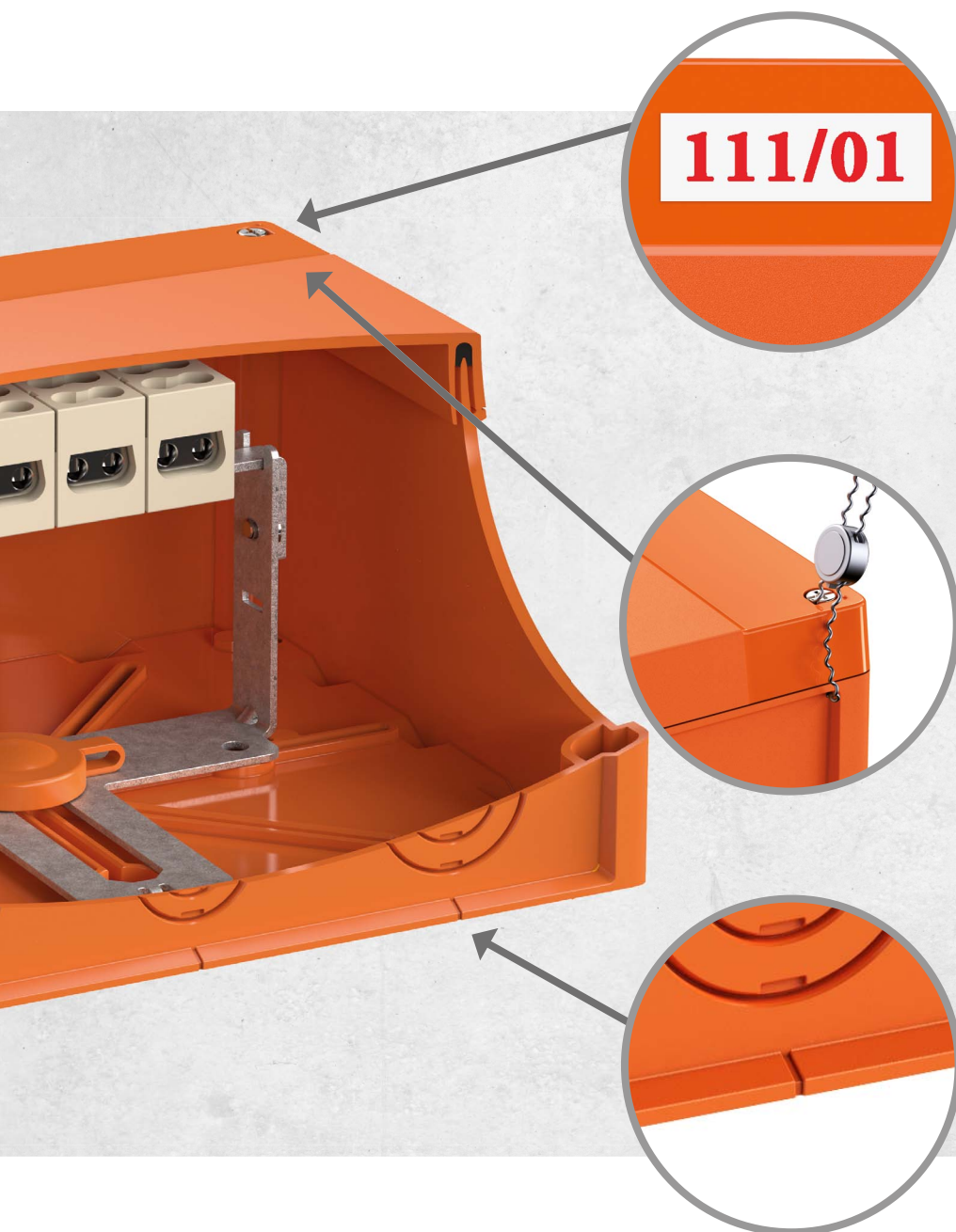
Empty enclosure & switching device combinations



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



spelsberg.com/WKE



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

Electrical Functional Integrity

WKE 2-6 for Connecting and Junctions



Electrical 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
- Quick mounting through external fixing lugs
- General construction-supervisory test certificate (AbP)
- Installation material such as screw anchors and double membrane seals included
- Completely pre-assembled
- VDE and UL-EU certified
- Ideal for building technology



Electrical Functional Integrity

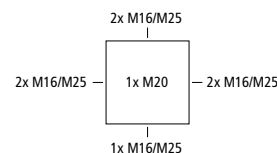
WKE 2-6 for Connecting and Junctions

WKE 2 - 5 x 1,5²

100 x 100 x 70 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M16/M25, (1 Rear, 7 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

Cover retaining straps, screw anchors,
4 off double membrane seals IP66 M25 sealing area 9 - 16 mm

Description

WKE 2 - 5 x 1,5²

orange, Connection box, 5-pole, 0.5 - 4 mm², junction box 5-pole 0.5 - 1.5 mm², number of clampable wires per pin: 8 x 0.5² / 4 x 0.75² / 6 x 1² / 6 x 1.5² / 2 x 4²

Order no.

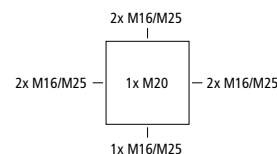
86650201

WKE 2 - 3 x 4²

100 x 100 x 70 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M16/M25, (1 Rear, 7 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

Cover retaining straps, screw anchors,
4 off double membrane seals IP66 M25 sealing area 9 - 16 mm

Description

WKE 2 - 3 x 4²

orange, Connection box, 3-pole, 1 - 6 mm², junction box 3-pole 1 - 4 mm², number of clampable wires per pin: 10 x 1² / 8 x 1.5² / 6 x 2.5² / 4 x 4² / 2 x 6²

Order no.

86651201

Electrical Functional Integrity

WKE 2-6 for Connecting and Junctions

WKE 4 - 5 x 4²

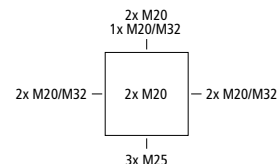
150 x 150 x 85 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M20/M25/M32, (2 Rear, 10 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder

Accessories supplied:

Cover retaining straps, screw anchors,
3 off double membrane seals IP66 M25 sealing area 9 - 16 mm,
3 off double membrane seals IP66 M32 sealing area 14 - 21 mm



Description

WKE 4 - 5 x 4²

orange, Connection box, 5-pole, 1 - 10 mm², junction box 5-pole 1 - 4 mm²,
number of clampable wires per pin: 10 x 1² / 8 x 1.5² / 6 x 2.5² / 4 x 4² / 2 x 6² / 2 x 10²

Order no.

86650401

WKE 2 - Duo 3 x 4²

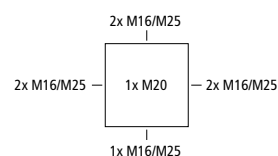
100 x 100 x 70 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M16/M25, (1 Rear, 7 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder

Accessories supplied:

Cover retaining straps, screw anchors,
4 off double membrane seals IP66 M25 sealing area 9 - 16 mm



Description

WKE 2 - Duo 3 x 4²

orange, Connection box, 3-pole, 0.5 - 4 mm², junction box 3-pole 0.5 - 4 mm²,
number of clampable wires per pin: 16 x 0.5² / 8 x 0.75² / 12 x 1² / 12 x 1.5² / 4 x 2.5² / 4 x 4²

Order no.

86740001

Electrical Functional Integrity

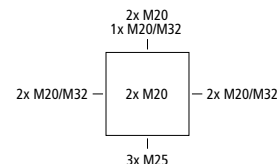
WKE 2-6 for Connecting and Junctions

WKE 4 - Duo 5/3 x 6²

150 x 150 x 85 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M20/M25/M32, (2 Rear, 10 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

Cover retaining straps, screw anchors,
2 off double membrane seals IP66 M25 sealing area 9 - 16 mm,
4 off double membrane seals IP66 M32 sealing area 14 - 21 mm

Description

WKE 4 - Duo 5/3 x 6²

orange, Connection box, 5-pole, 0.5 - 6 mm², junction 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 4 / 2 x 6²

Order no.

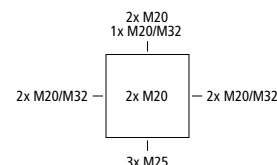
86771001

WKE 4 - Duo 5 x 6²

150 x 150 x 85 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M20/M25/M32, (2 Rear, 10 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

Cover retaining straps, screw anchors,
3 off double membrane seals IP66 M25 sealing area 9 - 16 mm,
3 off double membrane seals IP66 M32 sealing area 14 - 21 mm

Description

WKE 4 - Duo 5 x 6²

orange, Connection box, 5-pole, 0.5 - 6 mm², junction 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

Order no.

86741001

Electrical Functional Integrity

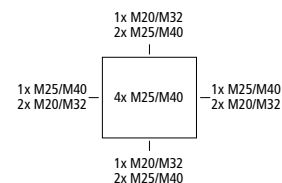
WKE 2-6 for Connecting and Junctions

WKE 6 - Duo 7 x 6²

200 x 250 x 120 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M20/M25/M32/M40, (4 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

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

Description

WKE 6 - Duo 7 x 6²

orange, Connection box, 7-pole, 0.5 - 6 mm², junction 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

Order no.

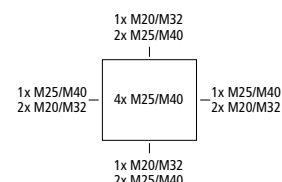
86742001

WKE 6 - 5 x 6²

200 x 250 x 120 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M20/M25/M32/M40, (4 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

Cover retaining straps, screw anchors,
4 off double membrane seals IP66 M32 sealing area 14 - 21 mm,
2 off double membrane seals IP66 M40 sealing area 19 - 28 mm

Description

WKE 6 - 5 x 6²

orange, Connection box, 5-pole, 1.5 - 16 mm², junction 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

Order no.

86650601

Electrical Functional Integrity

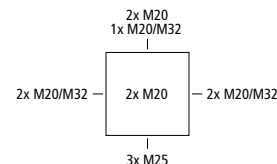
WKE 2-6 for Connecting and Junctions

WKE 4 - Duo 3 x 10²

150 x 150 x 85 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M20/M25/M32, (2 Rear, 10 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

Cover retaining straps, screw anchors,
3 off double membrane seals IP66 M25 sealing area 9 - 16 mm,
3 off double membrane seals IP66 M32 sealing area 14 - 21 mm

Description

WKE 4 - Duo 3 x 10²

orange, Connection box, 3-pole, 1 - 10 mm², junction box 3-pole 1 - 10 mm²,
number of clampable conductors per pole: $20 \times 1^2 / 16 \times 1.5^2 / 12 \times 2.5^2 / 8 \times 4^2 / 4 \times 6^2 / 4 \times 10^2$

Order no.

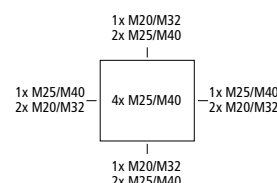
86750001

WKE 6 - Duo 5 x 10²

200 x 250 x 120 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M20/M25/M32/M40, (4 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

Cover retaining straps, screw anchors,
6 off double membrane seals IP66 M32 sealing area 14 - 21 mm,
2 off double membrane seals IP66 M40 sealing area 19 - 28 mm

Description

WKE 6 - Duo 5 x 10²

orange, Connection box, 5-pole, 1 - 10 mm², junction box 5-pole 1 - 10 mm²,
number of clampable conductors per pole: $20 \times 1^2 / 16 \times 1.5^2 / 12 \times 2.5^2 / 8 \times 4^2 / 4 \times 6^2 / 4 \times 10^2$

Order no.

86751001

Electrical Functional Integrity

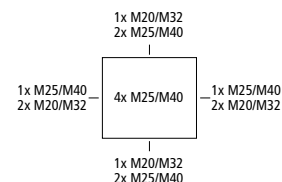
WKE 2-6 for Connecting and Junctions

WKE 6 - Duo 3 x 16²

200 x 250 x 120 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M20/M25/M32/M40, (4 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

Cover retaining straps, screw anchors,
3 off double membrane seals IP66 M32 sealing area 14 - 21 mm,
3 off double membrane seals IP66 M40 sealing area 19 - 28 mm

Description

WKE 6 - Duo 3 x 16²

orange, Connection box, 3-pole, 1.5 - 16 mm², junction box 3-pole 1.5 - 16 mm²,
number of clampable wires per pin: 20 x 1.5² / 16 x 2.5² / 12 x 4² / 8 x 6² / 4 x 10² / 4 x 16²

Order no.

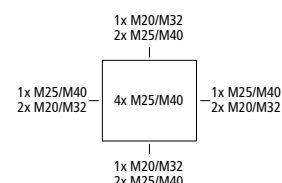
86760001

WKE 6 - Duo 5 x 16²

200 x 250 x 120 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M20/M25/M32/M40, (4 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

Cover retaining straps, screw anchors,
6 off double membrane seals IP66 M32 sealing area 14 - 21 mm,
2 off double membrane seals IP66 M40 sealing area 19 - 28 mm

Description

WKE 6 - Duo 5 x 16²

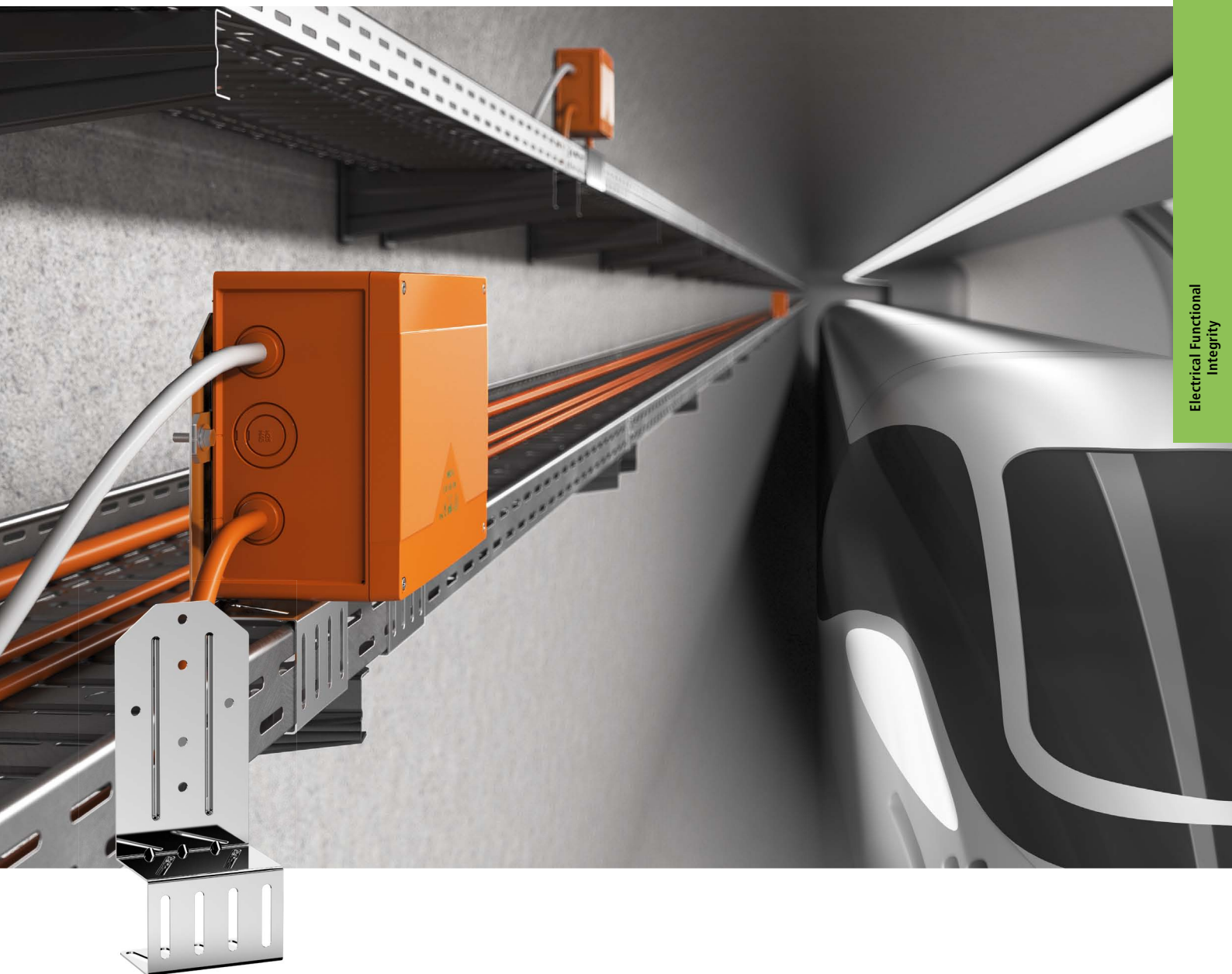
orange, Connection box, 5-pole, 1.5 - 16 mm², junction box 5-pole 1.5 - 16 mm²,
number of clampable wires per pin: 20 x 1.5² / 16 x 2.5² / 12 x 4² / 8 x 6² / 4 x 10² / 4 x 16²

Order no.

86761001

Electrical Functional Integrity

WKE BK 1 Assembly Plate for installationen on cable ducts



WKE BK1 Assembly Plate - your guarantee of fire-safe mounting

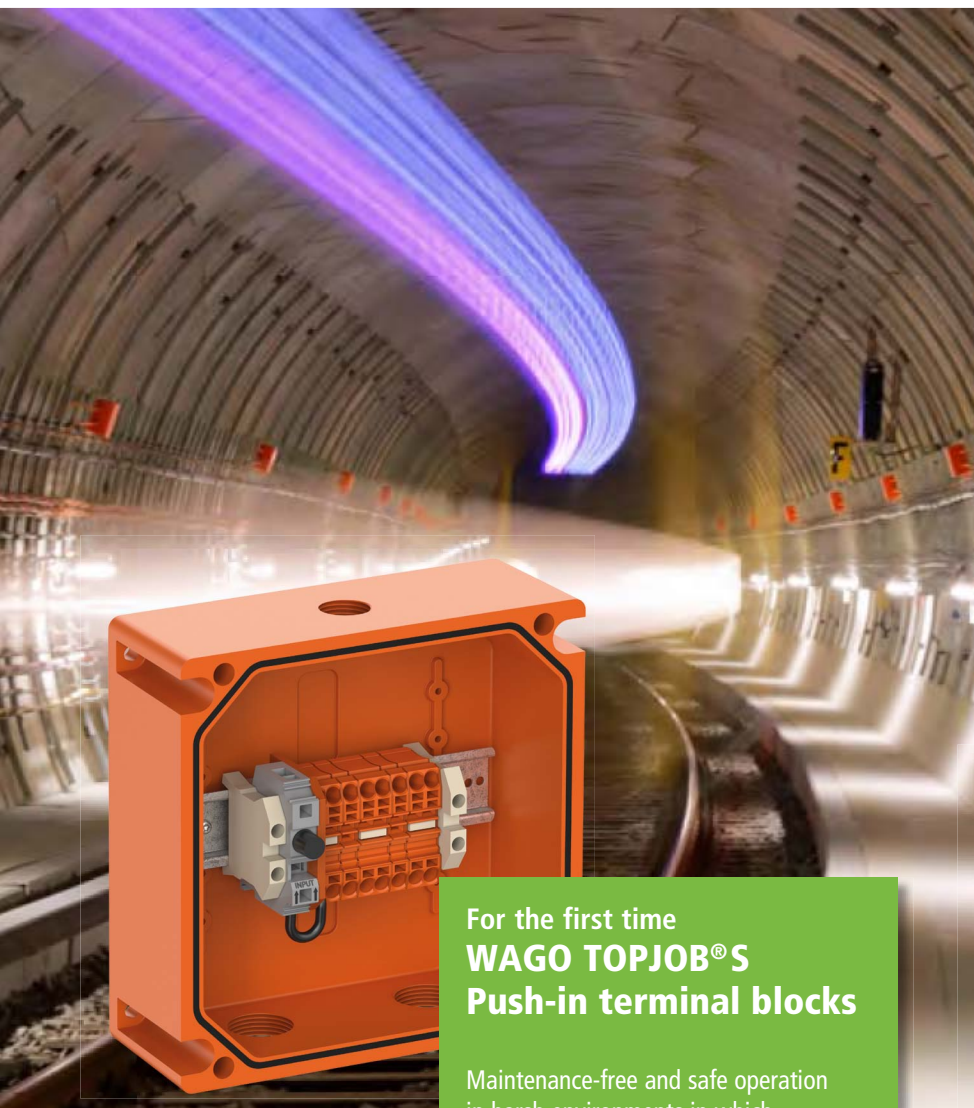
The WKE BK 1 assembly plate is designed to provide fire-safe mounting of WKE 2-6 cable junction and connection boxes on cable ducts with functional integrity. The adapted, inwardly projecting construction of the assembly plate allows safe installation of cables with functional integrity, without these having to deviate from the straight run of the cable duct.

The assembly plate is DIN 4102-12 compliant and has a General Building Inspection Certificate of E90 functional integrity (No: P-1042 DMT DO) from DMT Dortmund. This certification confirms the functional endurance and thus the integrity of the overall system comprising cable junction boxes and cable support systems, in the event of fire, for up to 90 minutes (E90).

NEW!

Electrical Functional Integrity

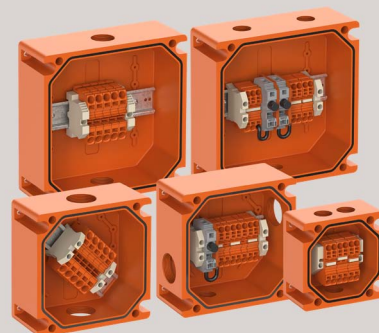
WKE 200-400 SL for Connecting and Junctions



For the first time **WAGO TOPJOB® S** Push-in terminal blocks

Maintenance-free and safe operation
in harsh environments in which,
for example, vibrations must be withstood.

- E30 functional integrity according to DIN 4102 part 12
- Clamping area of up to 16²
- Ideal for time- and material-saving installation in construction engineering
- ApP test certificate according to DIN 4102-12
- Current inspection certificate available online at www.spelsberg.de
- All junction boxes come with a wide variety of accessories, such as dowels and screw fittings
- Connections and junctions up to the nominal cross-section without any restrictions



WKE 200-400 SL - without screws and with certified functional integrity!

In a global innovation, the new junction and connection boxes in the **WKE 200-400 SL** series combine in a single product the advantages of the screwless **WAGO TOPJOB® S Push-in terminal blocks** and certified functional integrity according to DIN 4102-12. The junction boxes are available in three basic sizes, each with adapted terminal configuration for extensions, junctions, and fused junctions.

Thanks to the fuses, for the first time, nonreactive cable branching beyond the limits of fire prevention sections is possible since, in the event of a fault, the functional integrity in the main section is unaffected. This allows considerable cost savings to be made when laying cables.

As with all WKE cable junction boxes from Spelsberg, including the new WKE 200-400 SL series, the VDE certification in combination with a General Building Inspection Certificate demonstrates high product quality and safety in the event of fire.

NEW!



Electrical Functional Integrity

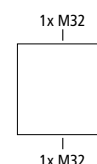
WKE 200-400 SL for Connecting and Junctions

WKE 202 SL

115 x 115 x 93 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), internal thread, M32, (2 Side), External fastening points, with E30 electrical functional integrity according to DIN 4102 Part 12, with screwless Wago TopJobS terminal blocks, enclosure made from halogen-free special thermosetting plastic



Accessories supplied:

2 off cable glands M32, sealing area 17 - 26 mm,
Wall plug set \varnothing 6 mm

Description

WKE 202 SL NEW

orange, Connection box 5-pole, clamping capacity per pin $2 \times 0.5 - 6 \text{ mm}^2$

Order no.

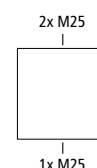
86228201

WKE 203 SL

115 x 115 x 93 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), internal thread, M25, (3 Side), External fastening points, with E30 electrical functional integrity according to DIN 4102 Part 12, with screwless Wago TopJobS terminal blocks, enclosure made from halogen-free special thermosetting plastic



Accessories supplied:

3 off cable glands M25, seal range 6 - 15 mm,
Wall plug set \varnothing 6 mm

Description

WKE 203 SL NEW

orange, Junction box 3-pole, clamping capacity per pin $4 \times 0.5 - 4 \text{ mm}^2$

Order no.

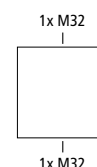
86228301

WKE 302 SL

160 x 160 x 110 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), internal thread, M32, (2 Side), External fastening points, with E30 electrical functional integrity according to DIN 4102 Part 12, with screwless Wago TopJobS terminal blocks, enclosure made from halogen-free special thermosetting plastic



Accessories supplied:

2 off cable glands M32, sealing area 17 - 26 mm,
Wall plug set \varnothing 6 mm

Description

WKE 302 SL NEW

orange, Connection box 5-pole, clamping capacity per pin $2 \times 0.5 - 10 \text{ mm}^2$

Order no.

86238201

Electrical Functional Integrity

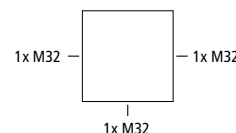
WKE 200-400 SL for Connecting and Junctions

WKE 303 SL

160 x 160 x 110 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), internal thread, M32, (3 Side), External fastening points, with E30 electrical functional integrity according to DIN 4102 Part 12, with screwless Wago TopJobS terminal blocks, enclosure made from halogen-free special thermosetting plastic



Accessories supplied:

3 cable glands M32, sealing area 17 - 26 mm, dowel kit \varnothing 6 mm

Description

WKE 303 SL **NEW**

orange, Junction box 5-pole, clamping capacity per pin 4 x 0.5 - 10 mm²

Order no.

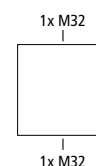
86238301

WKE 402 SL

200 x 200 x 110 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), internal thread, M32, (2 Side), External fastening points, with E30 electrical functional integrity according to DIN 4102 Part 12, with screwless Wago TopJobS terminal blocks, enclosure made from halogen-free special thermosetting plastic



Accessories supplied:

2 off cable glands M32, sealing area 17 - 26 mm, Wall plug set \varnothing 6 mm

Description

WKE 402 SL **NEW**

orange, Connection box 5-pole, clamping capacity per pin 2 x 0.5 - 16 mm²

Order no.

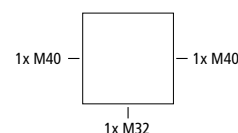
86248201

WKE 403 SL

200 x 200 x 110 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), internal thread, M32/M40, (3 Side), External fastening points, with E30 electrical functional integrity according to DIN 4102 Part 12, with screwless Wago TopJobS terminal blocks, enclosure made from halogen-free special thermosetting plastic



Accessories supplied:

2 cable glands M40, sealing area 17 - 27 mm, 1 cable gland M32, sealing area 17 - 26 mm, dowel kit \varnothing 6 mm

Description

WKE 403 SL **NEW**

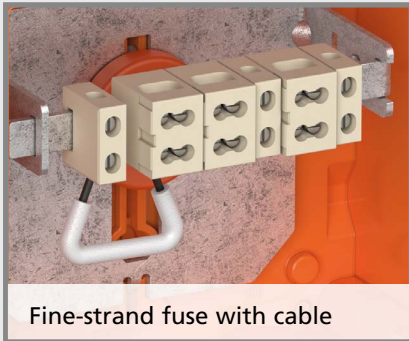
orange, Junction box 5-pole, clamping capacity per pin 4 x 0.5 - 16 mm²

Order no.

86248301

Electrical Functional Integrity

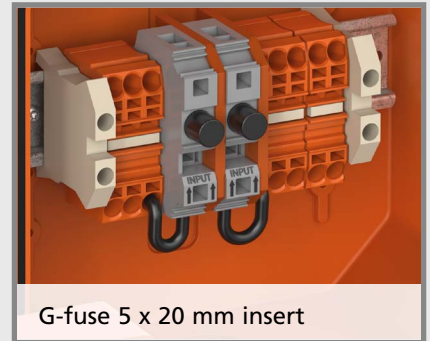
WKE for Fused Junctions



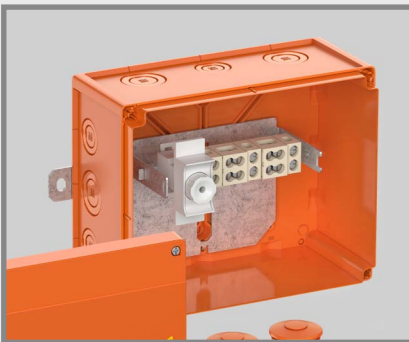
Fine-strand fuse with cable



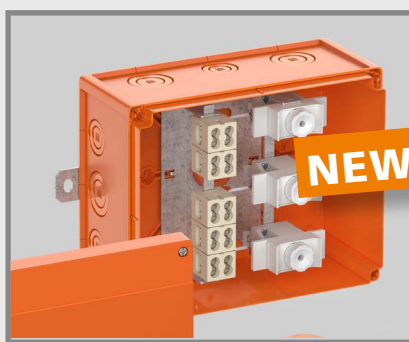
Fuse D01



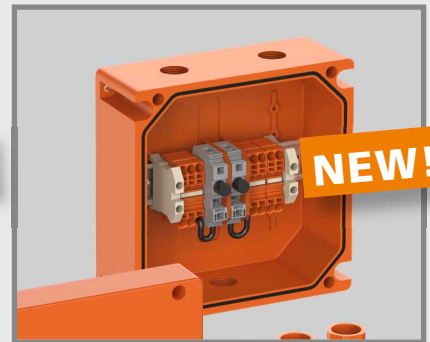
G-fuse 5 x 20 mm insert



WKE 4-6



WKE 6 T



WKE 200-400 SL



The WKE product family

The fused WKE 4 - 6 junction and connection boxes provide functional integrity for the main line in particular, by allowing a fused branch for each floor or each fire compartment. In the event of a fault, only the affected branch of the main line is securely isolated. The main line remains intact thereby guaranteeing, for example, continued lighting of escape routes.

This allows a completely new type of installation, since the individual branches no longer require radial feed, but can simply branch off the main line, without affecting the intrinsic fire resistance. The resulting cable savings reduce costs and assembly times for plant production. Highly fire-resistant, ceramic double terminals for cable cross-sections of up to 16 mm² enhance safety and ensure functional integrity in the passthrough up to E 90.

Completely new to the WKE product family are the WKE 200-400 SL junction and connection boxes with fuses and screwless WAGO TOPJOB®S Push-in terminal blocks. These have been specially developed for use in vibration zones (such as tunnel systems).

Electrical Functional Integrity

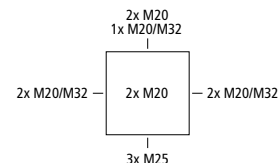
WKE 4-6 for Fused Junctions

WKE 4 - 3/3 x 6² 1SB

150 x 150 x 85 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to UL-EU (EN 62208), UL-EU (EN 61439-1/-2), Push-out membranes, M20/M25/M32, (2 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

Cover securing device, screw anchors,
3 off double membrane seals M25 IP66 sealing area 9 - 16 mm

Description

WKE 4 - 3/3 x 6² 1SB

orange, Connection box, 3-pole, 0.5 - 6 mm², junction box 3-pole 0.5 - 6 mm², fuse in branch 1 x 2A (internal, 1 x WKE BS F2A, 86300101) number of clampable wires per terminal 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

Order no.

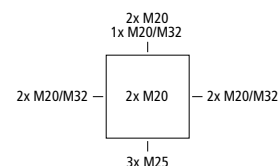
86911101

WKE 4 - 5/3 x 6² 1SB

150 x 150 x 85 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to UL-EU (EN 62208), UL-EU (EN 61439-1/-2), Push-out membranes, M20/M25/M32, (2 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

Cover securing device, screw anchors,
1 off double membrane seals M25 IP66 sealing area 9 - 16 mm,
2 off double membrane seals M32 IP66 sealing area 14 - 21 mm

Description

WKE 4 - 5/3 x 6² 1SB

orange, Connection box 5-pole 0.5 - 6 mm², junction box 3-pole 0.5 - 6 mm², fuse in branch 1 x 2A (internal, 1 x WKE BS F2A, 86300101), number of clampable conductors per terminal 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

Order no.

86912101

Electrical Functional Integrity

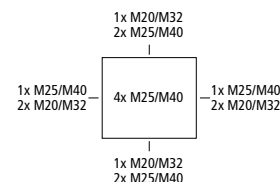
WKE 4-6 for Fused Junctions

WKE 6 - 5/3 x 10² 1D0

200 x 250 x 120 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to UL-EU (EN 62208), UL-EU (EN 61439-1/-2), M20/M25/M32/M40, (4 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

Cover retaining straps, screw anchors,
1 off double membrane seals M25 IP66 sealing area 9 - 16 mm,
2 off double membrane seals M32 IP66 sealing area 14 - 21 mm

Description

WKE 6 - 5/3 x 10² 1D0

orange, Junction box 5-pole 1.5 - 10 mm², junction box 3-pole 1.5 - 10 mm², fuse in branch 1 x socket D01 (without insert), number of clampable wires per terminal point 4 x 1.5² / 3 x 2.5² / 2 x 4² / 1 x 6² / 1 x 10²

Order no.

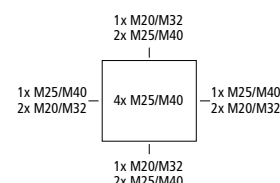
86922120

WKE 6 - 5/3 x 16² 1D0

200 x 250 x 120 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to UL-EU (EN 62208), UL-EU (EN 61439-1/-2), M20/M25/M32/M40, (4 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder



Accessories supplied:

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

Description

WKE 6 - 5/3 x 16² 1D0

orange, Connection box 5-pole 1.5 - 16 mm², junction box 3-pole 1.5 - 10 mm², fuse in branch 1 x socket D01 (without insert), number of clamped wires per terminal point 5 x 1.5² / 4 x 2.5² / 2 x 4² / 2 x 6² / 1 x 10² / 1 x 16²

Order no.

86932120

Electrical Functional Integrity

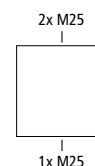
WKE 200-400 SL for Fused Junctions

WKE 204 SL

115 x 115 x 93 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, internal thread, M25, (3 Side), External fastening points, with E30 electrical functional integrity according to DIN 4102 Part 12, tested according to VDE (DIN EN 61439-1/-2 (VDE 0660-600-1/-2)) with screwless Wago TopJobS terminal blocks, enclosure made from halogen-free special thermo-setting plastic



Accessories supplied:

3 off cable glands M25, seal range 6 - 15 mm,
Wall plug set \varnothing 6 mm

Description

WKE 204 SL **NEW**

orange, Junction box with fused branch, connection box 3-pole, junction box 3-pole, number of clampable wires per pin 4 x 0.5 - 4mm², 1 fuse holder (20 x 5mm) max. 10 A

Order no.

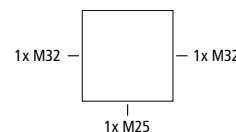
86228401

WKE 304 SL

160 x 160 x 110 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, internal thread, M25/M32, (3 Side), External fastening points, with E30 electrical functional integrity according to DIN 4102 Part 12, tested according to VDE (DIN EN 61439-1/-2 (VDE 0660-600-1/-2)) with screwless Wago TopJobS terminal blocks, enclosure made from halogen-free special thermo-setting plastic



Accessories supplied:

2 cable glands M32, sealing area 17 - 26 mm,
1 cable gland M25, sealing area 6 - 15 mm, dowel kit \varnothing 6 mm

Description

WKE 304 SL **NEW**

orange, Junction box with fused branch, connection box 5-pole, number of clampable wires per pin 4 x 0.5 - 10mm², junction box 3-pole, clamping capacity 4 x 0.5 - 6mm², 1 fuse holder (20 x 5mm) max. 10 A

Order no.

86238401

Electrical Functional Integrity

WKE 200-400 SL for Fused Junctions

WKE 404 SL

200 x 200 x 110 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, internal thread, M25/M32, (3 Side), External fastening points, with E30 electrical functional integrity according to DIN 4102 Part 12, tested according to VDE (DIN EN 61439-1/-2 (VDE 0660-600-1/-2)) with screwless Wago TopJobS terminal blocks, enclosure made from halogen-free special thermo-setting plastic



Accessories supplied:

2 cable glands M32, sealing area 17 - 26 mm,
1 cable gland M25, sealing area 6 - 15 mm, dowel kit \varnothing 6 mm

Description

WKE 404 SL **NEW**

orange, junction box with fused junction, connection box 5-pole, number of clampable wires per pin 2 x 0.5 - 16mm², junction box 3-pole, number of clampable wires per pin 4 x 0.5 - 6mm², clamping capacity per terminal point 1 x 0.5 - 6mm², 1 fuse holder (20 x 5mm) max. 10 A

Order no.

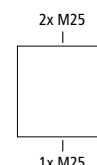
86248401

WKE 404 SL 8x6² 2FS

200 x 200 x 110 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, internal thread, M25, (3 Side), External fastening points, with E30 electrical functional integrity according to DIN 4102 Part 12, tested according to VDE (DIN EN 61439-1/-2 (VDE 0660-600-1/-2)) with screwless Wago TopJobS terminal blocks, enclosure made from halogen-free special thermo-setting plastic



Accessories supplied:

3 off cable glands M25, seal range 6 - 15 mm,
Wall plug set \varnothing 6 mm

Description

WKE 404 SL 8x6² 2FS **NEW**

orange, Junction box with fused branch, connection box 3-pole, junction box 3-pole, number of clampable wires per pin 4 x 0.5 - 6mm², clamping capacity per terminal point 1 x 0.5 - 6mm², 2 fuse holders (20 x 5mm) max. 10 A

Order no.

86248501

Electrical Functional Integrity

WKE 6 T for use in tunnels



NEW!



- Patented knock-outs allow simple installation.
- Patented terminal holder system, can be positioned in steps of 90°
- Available in 4 variants, also without fuse
- The lid screws are made of stainless steel 1.4578 (V4A)
- External fixing lugs (ideal for quick assembly) are made of high corrosion-resistant stainless steel 1.4571 (V4A).

- Fuse in the junction up to 3 x D01
- Central fixing using one screw accessible at all times

- Use of all cable entries with raised terminal possible
- Pressure/suction tight according to Gotthard tunnel guideline.



Lifted position: easy handling of the wires



Bottom position: ideal for special solutions



Electrical Functional Integrity

WKE 6 T for use in tunnels

WKE 6 T with D01

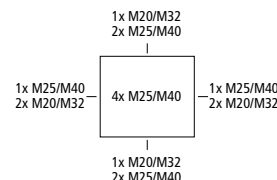
200 x 250 x 120 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to UL-EU (EN 62208), UL-EU (EN 61439-1/-2), Push-out membranes, M20/M25/M32/M40, (4 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Pressure and suction-tight according to Gotthard guideline. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder, quick assembly thanks to external fixing lug made of stainless steel 1.4571. Cover screws made of stainless steel 1.4578.

Accessories supplied:

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



Electrical Functional Integrity

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

WKE 6 T DUO

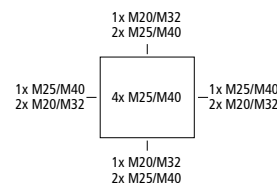
200 x 250 x 120 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M20/M25/M32/M40, (4 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Pressure and suction-tight according to Gotthard guideline. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder, quick assembly thanks to external fixing lug made of stainless steel 1.4571. Cover screws made of stainless steel 1.4578.

Accessories supplied:

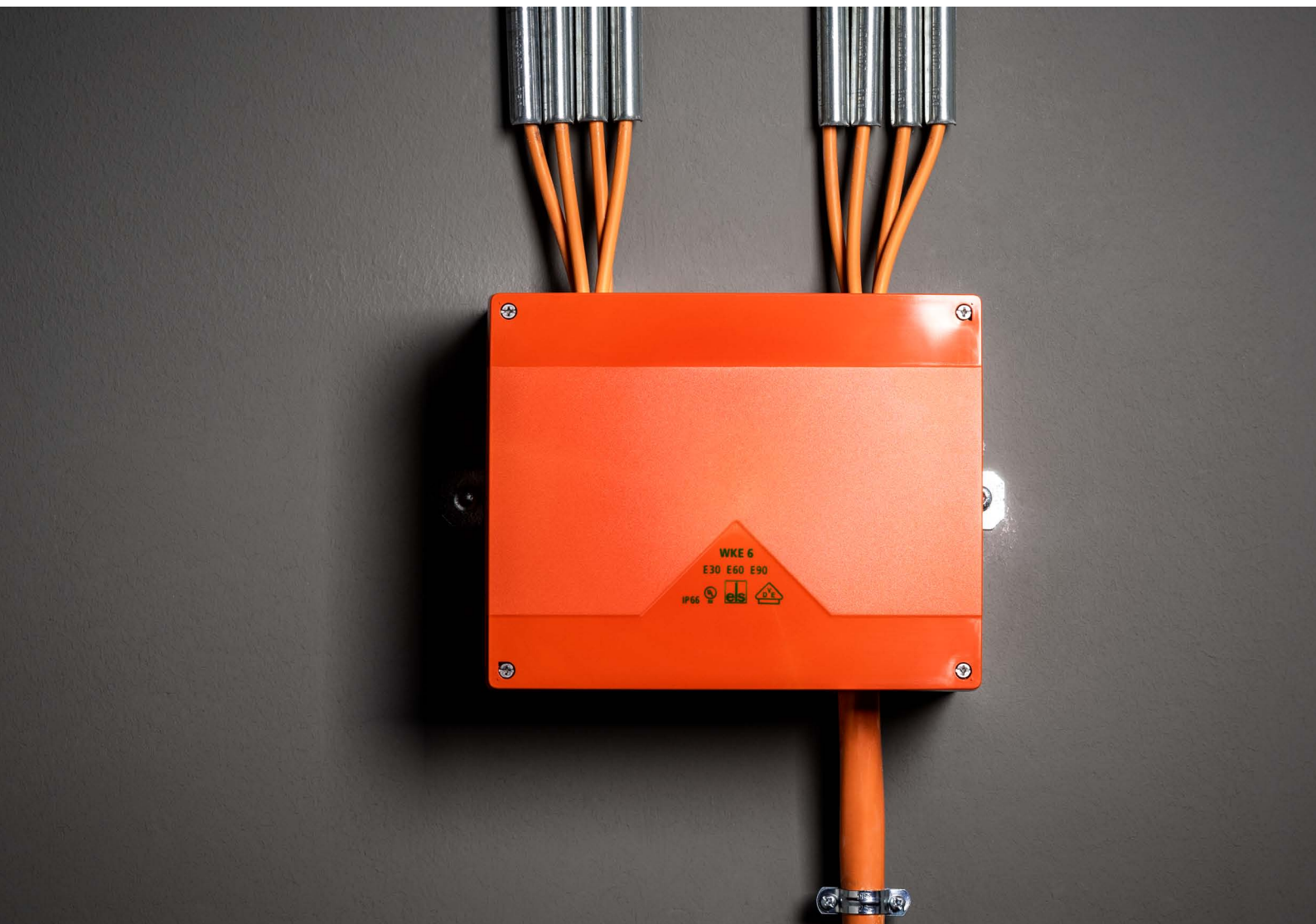
2 x cable gland M40, sealing range 16 - 28 mm,
1 x cable gland M32, sealing area 11 - 21 mm,
each 1 x double membrane seals M32 and M40 for sealing accidentally opened push-out membranes.



| Description | Order no. |
|---|-----------|
| WKE 6 T Duo 5 x 16² NEW orange, Connection box, 5-pole, 1.5 - 16 mm ² , junction box 5-pole 1.5 - 16 mm ² , number of clampable wires per pin: $20 \times 1.5^2 / 16 \times 2.5^2 / 12 \times 4^2 / 8 \times 6^2 / 4 \times 10^2 / 4 \times 16^2$ | 86763001 |

Electrical Functional Integrity

WKE 4-6 for Communication Lines



Electrical 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
- Quick mounting through external fixing lugs
- Possible to mount on cable trays
- Installation materials such as screw anchors and double membrane seals included
- Completely pre-assembled
- General construction-supervisory test certificate (AbP)
- Ideal for building technology
- VDE and UL-EU certified
- Up to 32-pin



Electrical Functional Integrity

WKE 4-6 for Communication Lines

WKE 4 - 8 x 1,5²

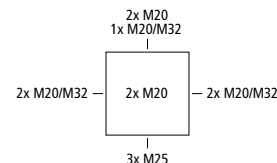
150 x 150 x 85 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), Push-out membranes, M20/M25/M32, (2 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder

Accessories supplied:

Cover retainer, screw anchor,
3 off double membrane seals IP66 M20 sealing area 7 - 12 mm,
2 off double membrane seals IP66 M25 sealing area 9 - 16 mm,
1 off double membrane seal IP66 M32/4 sealing area 4 x 3.5-6 mm



Electrical Functional Integrity

Description

WKE 4 - 8 x 1,5²

orange, Connection box, 8-pole, 0.5 - 2.5 mm², junction 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

Order no.

86850801

WKE 6 - 16 x 1,5²

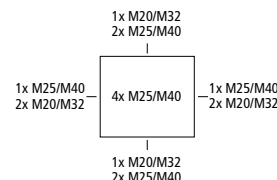
200 x 250 x 120 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), M20/M25/M32/M40, (4 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder

Accessories supplied:

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



Description

WKE 6 - 16 x 1,5²

orange, Connection box, 16-pole, 0.5 - 2.5 mm², junction box 16-pole 0.5 - 1.5 mm², number of clampable conductors per pin: 8 x 0.5² / 4 x 0.75² / 6 x 1² / 6 x 1.5² / 2 x 2.5²

Order no.

86851601

Electrical Functional Integrity

WKE 4-6 for Communication Lines

WKE 6 - 32 x 1,5²

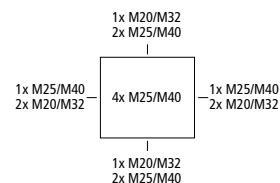
200 x 250 x 120 mm



Cable junction box, with protection class IP66, $U_i=450V$ AC, certified according to VDE (DIN EN 60670-1/-22 (VDE 0606-1/-22)), UL-EU (EN 62208), M20/M25/M32/M40, (4 Rear, 12 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. Halogen-free enclosure made of special thermoplastic, terminals made of high-temperature-resistant special ceramic, universally positionable terminal holder

Accessories supplied:

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



Description

WKE 6 - 32 x 1,5²

orange, Connection box, 32-pole, 0.5 - 2.5 mm², junction box 32-pole 0.5 - 1.5 mm²,
number of clampable conductors per pin: 8 x 0.5² / 4 x 0.75² / 6 x 1² / 6 x 1.5² / 2 x 2.5²

Order no.

86853201

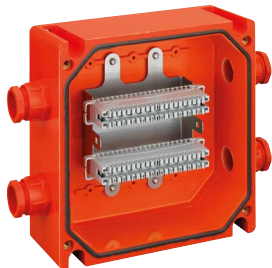
Electrical Functional Integrity

WKE 405 LSA for Communication Lines



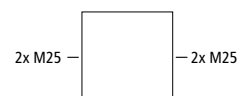
WKE 405 LSA

200 x 200 x 110 mm



IP66 E30 IK08 $0,5^2$ \square 450V AC halogen free iQ LSA

Cable junction box, with protection class IP66, $U_i=450V$ AC, M25, (4 Side), External fastening points, with time-saving connection technology (solder, screw and stripping-free) connection for cables with functional integrity according to DIN 4102 Part 12



Accessories supplied:

4 off cable glands M25, sealing area 9 - 19 mm, wall plug set \varnothing 6 mm

Description

WKE 405 LSA

orange, Connection 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.

Order no.

86240501

Electrical functional integrity

WKE 2-6 Accessories

WKE Assembly Plate



Assembly plate for fire-safe installation of cable junction boxes with functional integrity in Series WKE 2 to WKE 6 on cable support systems with functional integrity. Certified combination of junction box, assembly plate and support system with AbP (General Building Inspection Certificate) and electrical integrity E30 - E90 according to DIN 4102-12. WKE 2 requirement: 1 off; WKE 4, WKE 6 requirement: 2 off

Description

WKE BK 1 NEW

Stainless steel without fixing screws

Order no.

86310001

Double membrane seals, orange



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

Description

DMS M16/or

Sealing area 5 - 9 mm

Order no.

26061601

DMS M20/or

Sealing area 7 - 12 mm

26062001

DMS M25/or

Sealing area 9 - 16 mm

26062501

DMS M32/or

Sealing area 14 - 21 mm

26063201

DMS M40/or

Sealing area 19 - 28 mm

26064001

4-fold double membrane seals, orange



Double membrane seals, IP66, 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

DMS M32/4 or

Sealing area 3.5 - 6 mm per entry

Order no.

26063301

DMS M40/4 or

Sealing area 6 - 9 mm per entry

26064101

Cable gland, orange



Cable gland, IP68, with strain relief, polyamide, M_x x 1.5 mm, with locknut, orange

Description

KVR M16-MGM/or

Sealing area/mm

4 - 10

Thread lenght/mm

8

Order no.

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

Electrical Functional Integrity

WKE 2-6 Accessories

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

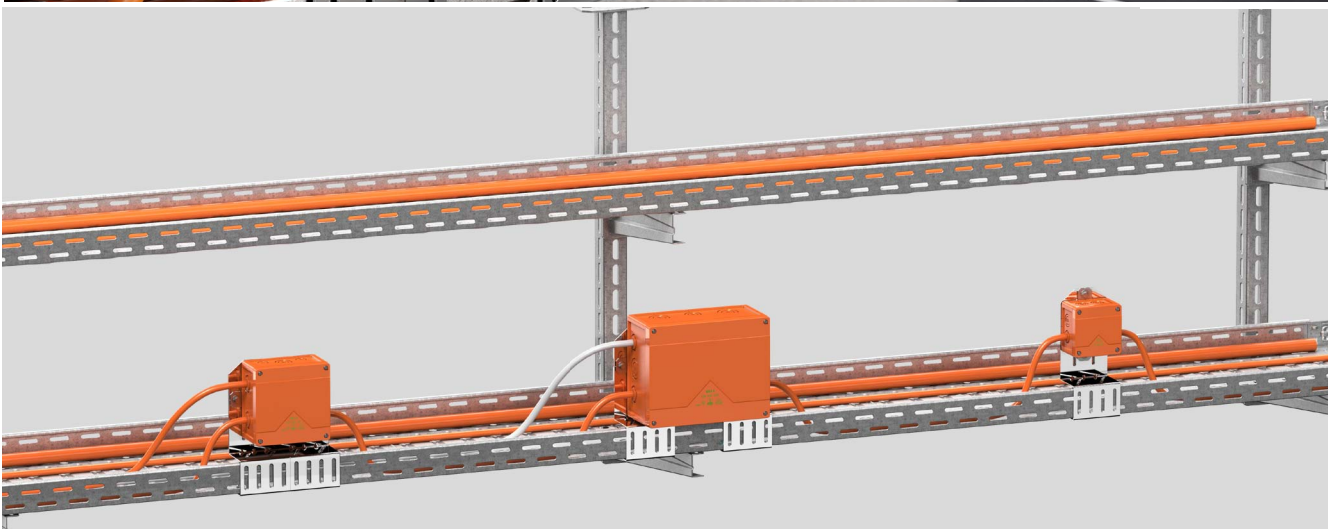
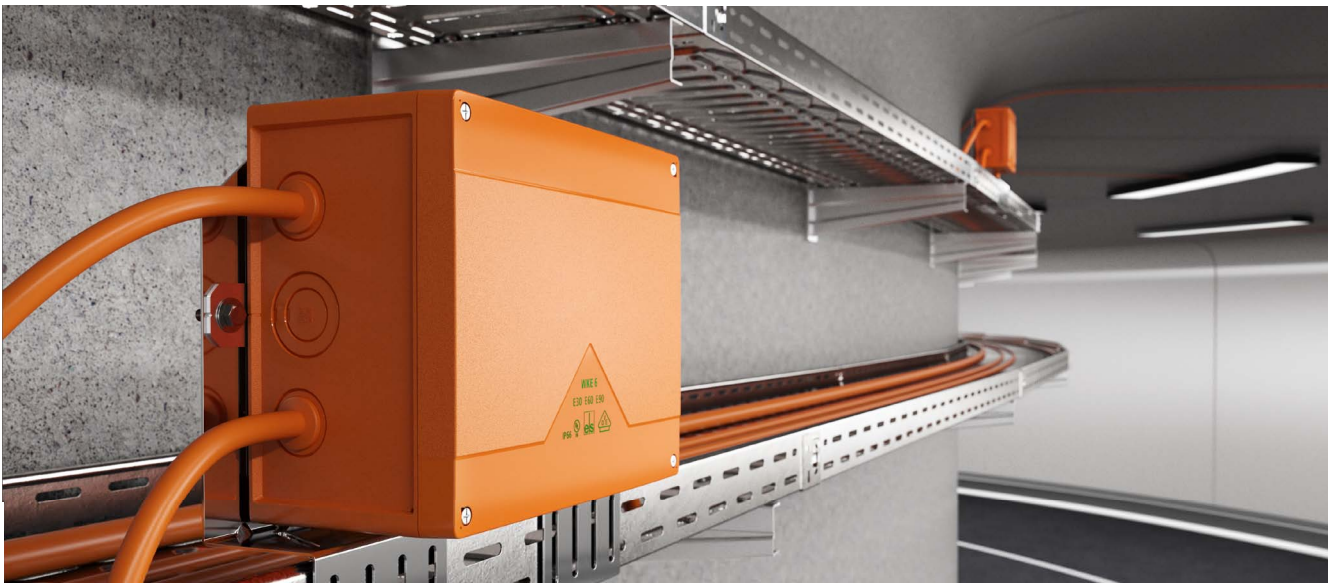
Description

WKE BS F2A

10 pieces per packaging unit

Order no.

86300101



Electrical Functional Integrity

WKE 200-400 Accessories

WKE 200-400 external fixing lugs



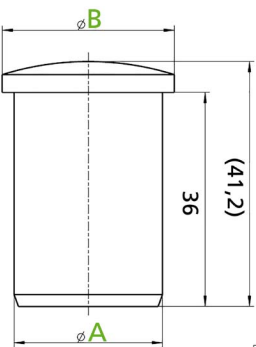
External fastening kit V2A

| 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 |

Blind plugs



Blind plugs are available on request



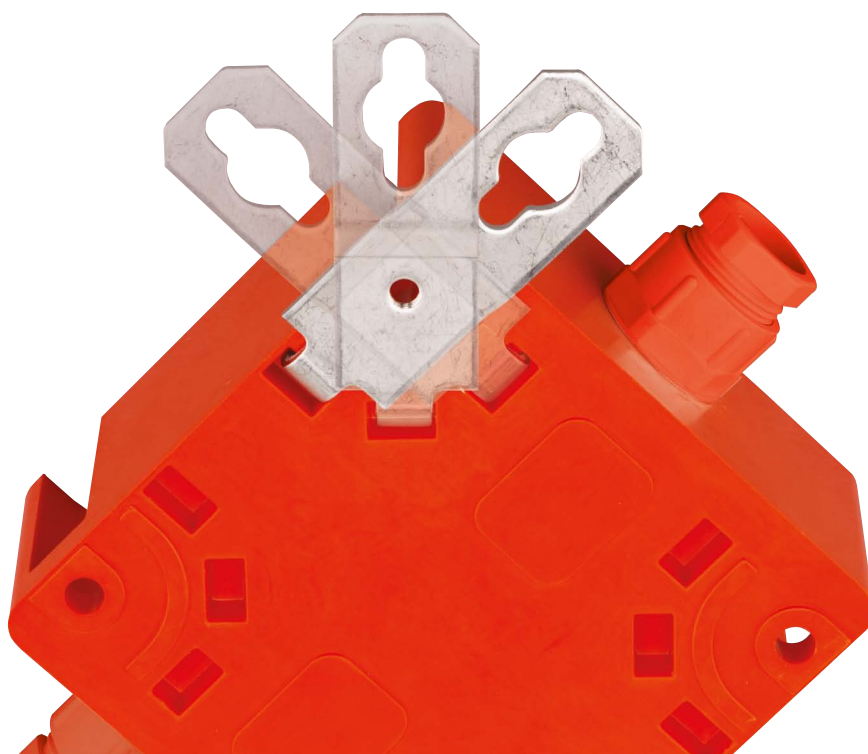
| Description |
|------------------------------------|
| Measure A: 20 mm, Measure B: 24 mm |
| Measure A: 12 mm, Measure B: 16 mm |
| Measure A: 32 mm, Measure B: 36 mm |
| Measure A: 12 mm, Measure B: 19 mm |
| Measure A: 25 mm, Measure B: 29 mm |

Electrical Functional Integrity

WKE 200-400 Accessories

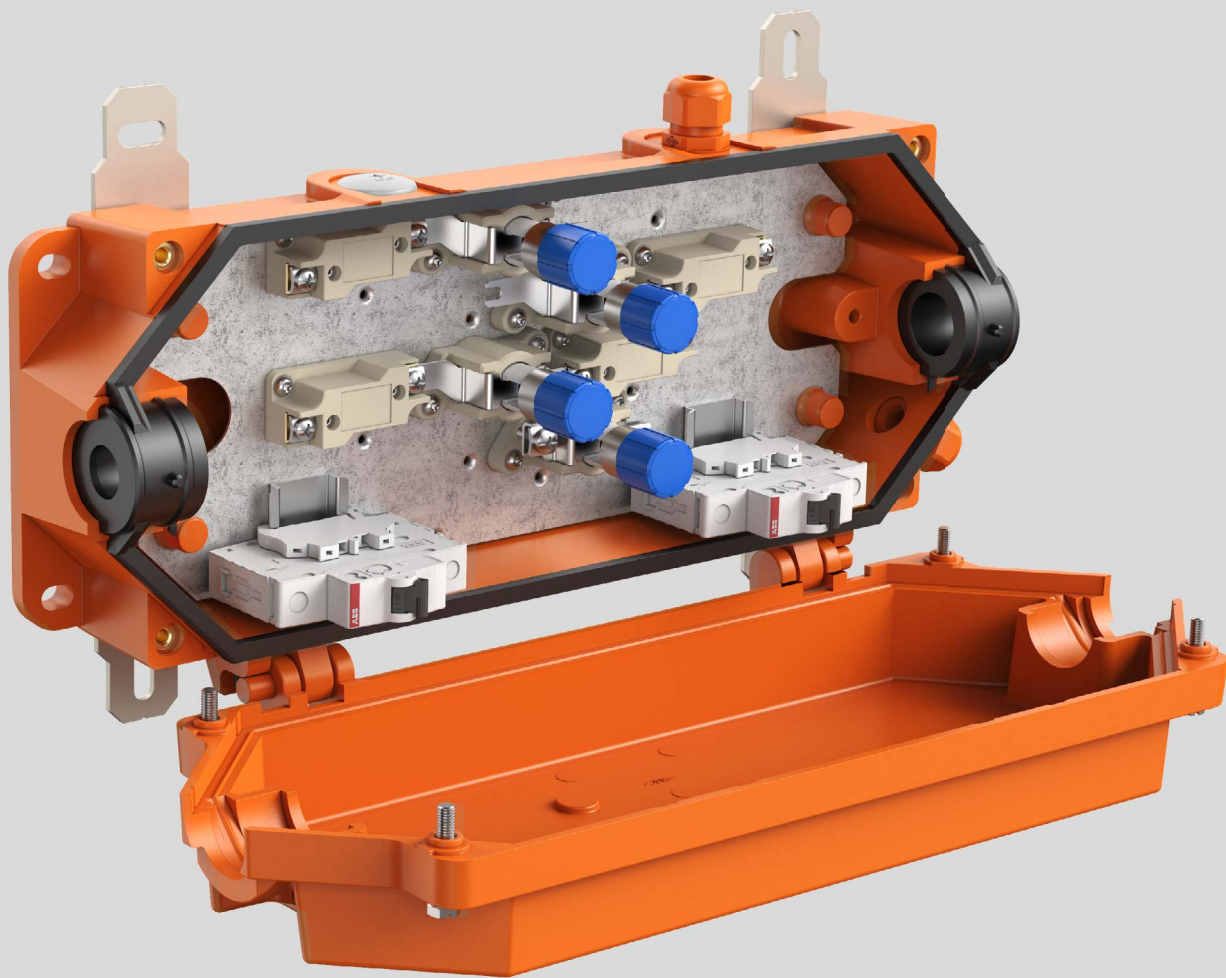


Electrical Functional
Integrity



Electrical Functional Integrity

WKE Rapid-Box HT for use in tunnels



WKE Rapid-Box^{HT} - guarantees the function of life-saving electrical systems

- Switchgear combination according to EN 61439
- Contacting of uncut conductors up to 50 mm²
- also possible afterwards
- Connecting of cut conductors up to 35 mm²
- Pressure and suction tight in accordance with Gotthard tunnel guideline
- Maintenance-free mantle terminal
- Junction per pole up to 2,5 mm²
- External fixing lugs allow assembly even when the lid is closed
- Flexible adaptation to different installation situations thanks to the turnable mounting plate
- Robust and UV resistant enclosure materials protect the interior installation.
- Safe installation due to the high ratings IP66/67 and IK09
- Specific customer solutions are possible thanks to the modular system

IP66
IP67

E30-
E90

50²

2,5²

IK09



400V
AC/DC

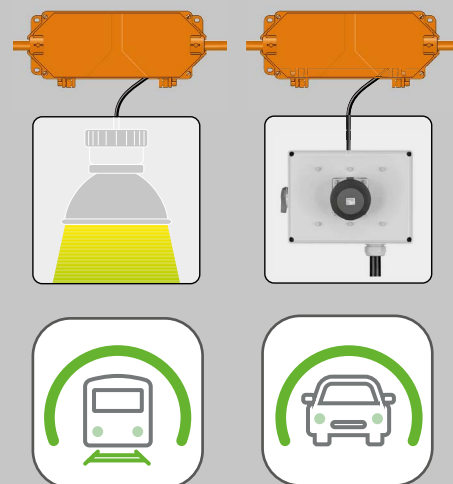


low
smoke





Application examples:



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

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

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

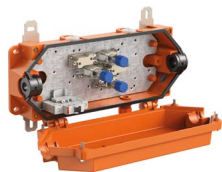
The junction is therefore separated safely and permanently, also in case of a fire. The continuous operating temperature of 80°C allows it to be used in conventional electrotechnical installations and switchgear combinations.

Electrical Functional Integrity

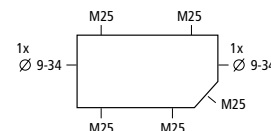
WKE Rapid-Box HT for use in tunnels

WKE Rapid-Box HT 16²

190 x 447 x 105 mm



Junction Box, with protection class IP66/IP67, $U_i=400V$ AC, M25, (5 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. For installations in the industrial environment and tunnel applications, pressure and suction tight in accordance with Gotthard guideline. Halogen-free enclosure made of special thermosetting plastic, terminals made of special high-temperature-resistant ceramic. External fixing lugs and cover screws made of stainless steel 1.4571



Accessories supplied:

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

Description

WKE Rapid-Box HT 1x3 16² 1F **NEW**

orange, Feed-through: 3-pole terminal for uncut wires, clamping range for uncut wire 2.5mm² to 25mm², clamping range for cut wire 2.5mm² to 16mm², rated current 63A. Fuse and feedback-free junction 3-pole up to 2.5mm², fuse protection with 1 x circuit breaker, unipolar B16, pre-wired, sealing area main cable: 17 - 22 mm (other sealing areas on request)

Order no.

30232116

WKE Rapid-Box HT 2x3 16² 2F **NEW**

orange, Feed-through: 4-pole terminal for uncut wire, clamping range for uncut wire 2.5mm² to 25mm², clamping range for cut wire 2.5mm² to 16mm², rated current 63A. Fuse and feedback-free junction 4-pole up to 2.5mm², fuse protection with 2 x circuit breaker, unipolar B10, pre-wired, sealing area main cable: 17 - 22 mm (other sealing areas on request)

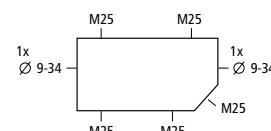
30244216

WKE Rapid-Box HT 50²

190 x 447 x 105 mm



Junction Box, with protection class IP66/IP67, $U_i=400V$ AC, M25, (5 Side), External fastening points, with E30 - E 90 electrical functional integrity according to DIN 4102 Part 12. For installations in the industrial environment and tunnel applications, pressure and suction tight in accordance with Gotthard guideline. Halogen-free enclosure made of special thermosetting plastic, terminals made of special high-temperature-resistant ceramic. External fixing lugs and cover screws made of stainless steel 1.4571



Accessories supplied:

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

Description

WKE Rapid-Box HT 1x3 50² 1F **NEW**

orange, Feed-through: 3-pole terminal for uncut wire, clamping range for uncut wire 16mm² to 50mm², clamping range for cut wire 16mm² to 35mm², rated current 100A. Fuse and feedback-free junction 3-pole up to 2.5mm², fuse protection with 1 x circuit breaker, unipolar B16, pre-wired, sealing area main cable: 21 - 26 mm (other sealing areas on request)

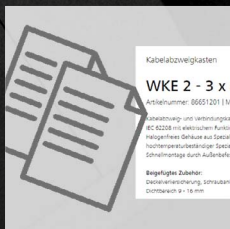
Order no.

30232150

WKE Rapid-Box HT 2x3 50² 2F **NEW**

orange, Feed-through: 4-pole terminal for uncut wire, clamping range for uncut wire 16mm² to 50mm², clamping range for cut wire 16mm² to 35mm², rated current 100A. Fuse and feedback-free junction 4-pole up to 2.5mm², fuse protection with 2 x circuit breaker, unipolar B10, pre-wired, sealing area main cable: 21 - 26 mm (other sealing areas on request)

30244250



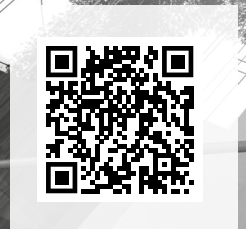
Tender documents



BIM data



3D-CAD data



Planning information

www.spelsberg.com/service/planninginformation



In order to give customers and partners in all work phases of the planning project with the best-possible support, Spelsberg provides all planning-related information drawn together in one place.

Electrical Functional Integrity

Technical Information



Protection rating (IP code)
in accordance with DIN EN 60529
(VDE 0470-1)



Protection class II
Equipment with protective insulation in
accordance with DIN VDE 0100-410



Electrical functional integrity
in accordance with DIN 4102-12
"E" stands for functional integrity,
"30-90" stands for the duration in minutes



Nominal cross section The largest
permissible wire cross-section that can
be connected acc. to 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 system



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



Level of protection (IK code) against
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



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



Industrial quality

Pictograms |
Electrical Functional Integrity



**Standard
Quality**



**Industrial
Quality**

Overview of the ambient conditions and mechanical properties of els products

| | Ambient temperature Minimum value | Ambient temperature Maximum value | Ambient temperature Average 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 boxes | -35°C | 80°C | 60°C | 50% | 95% | IP66 | IK08 |
| WKE 200-400 junction boxes | -25°C | 40°C | 35°C | 50% | 95% | IP66 | IK08 |
| Rapid-Box HT | -25°C | 40°C | 35°C | 50% | 95% | IP66/67 | IK09 |

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

¹⁾ When used with suitable connectors or cable glands

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

| Material | | Used in the products: | | Weak acids | Strong acids | Weak alkalis | Strong alkalis | Alcohol | Petrol | Benzene | Mineral oil | Diesel | Ammonia, gaseous (DLG Focus Test) | Vegetable fats | Animal fats | Halogen-free | Free from heavy metals, PVC and silicone | Combustion behaviour in accordance with DIN EN 60695 (VDE 0471) / UL94 |
|----------------------|------------------------------|-----------------------|--|------------|--------------|--------------|----------------|---------|--------|---------|-------------|--------|--------------------------------------|----------------|-------------|--------------|---|---|
| Duroplastic | WKE 200-400, Rapid-Box HT | | | Ø | Ø | Ø | Ø | O | O | O | O | O | not speci- fied | 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-0 |

O = resistant Ø = partially resistant X = not resistant

In principle, not only the protection class but also the climatic conditions and the occurrence of chemical influences should be assessed when selecting the installation site. Details of the material properties and chemical resistance of the materials used can be taken from the table **though it should be noted that they are only guide values.**

Electrical Functional Integrity

Technical Information

Connections and junctions

| Part No | Type designation | max. conductor cross-section / mm ² | | Number of poles | | DUO terminal blocks allow different conductor cross-sections for each pole |
|------------|----------------------------------|--|----------------|-----------------|----------|--|
| | | Cable extension | Cable junction | Feed-through | Junction | |
| 866 502 01 | WKE 2 - 5 x 1.5 ² | 2.5 | 1.5 | 5 | 5 | no |
| 867 400 01 | WKE 2 - Duo 3 x 4 ² | 4 | 4 | 3 | 3 | yes |
| 866 512 01 | WKE 2 - 3 x 4 ² | 6 | 4 | 3 | 3 | no |
| 866 504 01 | WKE 4 - 5 x 4 ² | 10 | 4 | 5 | 5 | no |
| 867 710 01 | WKE 4 - Duo 5/3 x 6 ² | 6 | 6 | 5 | 3 | yes |
| 867 410 01 | WKE 4 - Duo 5 x 6 ² | 6 | 6 | 5 | 5 | yes |
| 867 420 01 | WKE 6 - Duo 7 x 6 ² | 6 | 6 | 7 | 7 | yes |
| 866 506 01 | WKE 6 - 5 x 6 ² | 16 | 6 | 5 | 5 | no |
| 867 500 01 | WKE 4 - Duo 3 x 10 ² | 10 | 10 | 3 | 3 | yes |
| 867 510 01 | WKE 6 - Duo 5 x 10 ² | 10 | 10 | 5 | 5 | yes |
| 867 600 01 | WKE 6 - Duo 3 x 16 ² | 16 | 16 | 3 | 3 | yes |
| 867 610 01 | WKE 6 - Duo 5 x 16 ² | 16 | 16 | 5 | 5 | yes |
| 867 630 01 | WKE 6 T Duo 5 x 16 ² | 16 | 16 | 5 | 5 | yes |
| 862 282 01 | WKE 202 SL | 6 | - | 5 | - | no |
| 862 283 01 | WKE 203 SL | 4 | 4 | 3 | 3 | yes |
| 862 382 01 | WKE 302 SL | 10 | - | 5 | - | no |
| 862 383 01 | WKE 303 SL | 10 | 10 | 5 | 5 | yes |
| 862 482 01 | WKE 402 SL | 16 | - | 5 | - | no |
| 862 483 01 | WKE 403 SL | 16 | 16 | 5 | 5 | yes |

With fused junction

| Part No | Type designation | max. conductor cross-section / mm ² | | Number of poles | | DUO terminal blocks allow different conductor cross-sections for each pole |
|------------|-----------------------------------|--|----------------|-----------------|----------|--|
| | | Cable extension | Cable junction | Feed-through | Junction | |
| 869 111 01 | WKE 4 – 3/3 x 6 ² 1SB | 6 | 6 | 3 | 3 | no |
| 869 121 01 | WKE 4 – 5/3 x 6 ² 1SB | 6 | 6 | 5 | 3 | no |
| 869 221 20 | WKE 6 – 5/3 x 10 ² 1D0 | 10 | 4 | 5 | 3 | yes |
| 869 321 20 | WKE 6 – 5/3 x 16 ² 1D0 | 16 | 4 | 5 | 3 | yes |
| 869 631 01 | WKE 6 T 1D01 | 16 | 4 | 5 | 3 | yes |
| 869 632 01 | WKE 6 T 2D01 | 16 | 4 | 5 | 4 | yes |
| 869 633 01 | WKE 6 T 3D01 | 16 | 4 | 5 | 5 | yes |
| 862 281 01 | WKE 204 SL | 4 | 4 | 3 | 3 | yes |
| 862 384 01 | WKE 304 SL | 10 | 10 | 5 | 3 | yes |
| 862 485 01 | WKE 404 SL 8 x 6 ² 2FS | 6 | 6 | 3 | 3 | yes |
| 862 484 01 | WKE 404 SL | 16 | 10 | 5 | 3 | yes |



For communication cables

| Part No | Type designation | max. conductor cross-section / mm ² | | Number of poles | | DUO terminal blocks allow different conductor cross-sections for each pole |
|------------|-------------------------------|--|----------------|-----------------|----------|--|
| | | Cable extension | Cable junction | Feed-through | Junction | |
| 868 508 01 | WKE 4 - 8 x 1.5 ² | 2.5 | 1.5 | 8 | 8 | no |
| 868 516 01 | WKE 6 - 16 x 1.5 ² | 2.5 | 1.5 | 16 | 16 | no |
| 868 532 01 | WKE 6 - 32 x 1.5 ² | 2.5 | 1.5 | 32 | 32 | no |
| 862 405 01 | WKE 405 LSA | 0.8 | 0.8 | 40 | - | LSA terminal strip |

Electrical Functional Integrity










Technical Information


WKE 2-6 / WKE 6 T - Cable insertions

|  Double membrane seals |  Clamping area |
|---|---|
| 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 |

|  Cable gland |  Clamping area |  Rated torque |
|---|--|--|
| 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 |

WKE 2-6 - number of clampable wires per pin or terminal point (depending on enclosure size)




|  | Terminal 6 ² Tightening torque 0.8 Nm | | | Terminal 10 ² Tightening torque 1.2 Nm | | | Terminal 16 ² Tightening torque 2.0 Nm | | |
|---|---|---|---|---|---|---|---|---|---|
| |  |  |  |  |  |  |  |  |  |
| 0.5 ² | 16 | 8 | 4 | | | | | | |
| 0.75 ² | 8 | 4 | 2 | | | | | | |
| 1.0 ² | 12 | 6 | 3 | 20 | 10 | 5 | | | |
| 1.5 ² | 12 | 6 | 3 | 16 | 8 | 4 | 20 | 10 | 5 |
| 2.5 ² | 4 | 2 | 1 | 12 | 6 | 3 | 16 | 8 | 4 |
| 4 ² | 4 | 2 | 1 | 8 | 4 | 2 | 12 | 6 | 3 |
| 6 ² | 4 | 2 | 1 | 4 | 2 | 1 | 8 | 4 | 2 |
| 10 ² | | | | 4 | 2 | 1 | 4 | 2 | 1 |
| 16 ² | | | | | | | 4 | 2 | 1 |

 = Single terminal, 2 clamping points

 = Clamping point



 = Double terminal, 4 clamping points

WKE 200-400 SL - Cable insertions

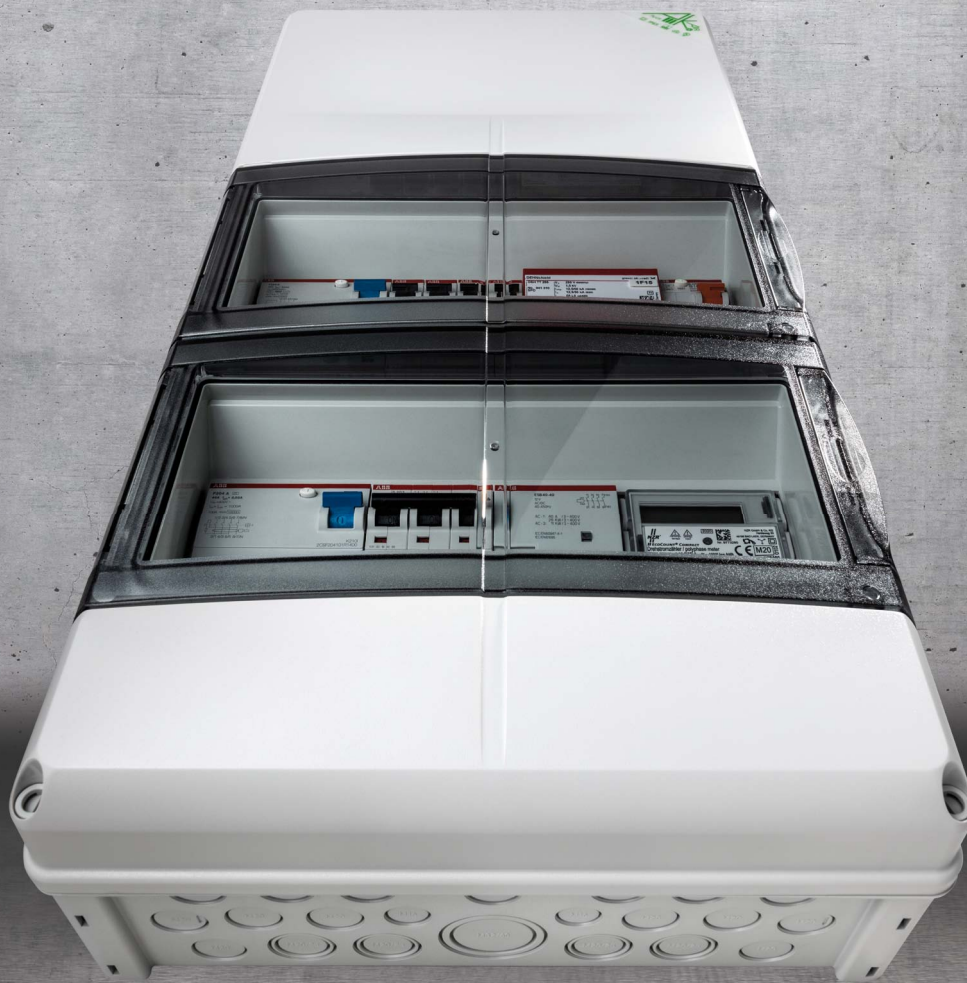
|  Cable gland |  Clamping area |  Rated torque |
|--|--|---|
| M 20 x 1.5 | 6 - 13 | 4 |
| M 25 x 1.5 | 6 - 15 | 6 |
| M 25 x 1.5 | 9 - 19 | 6 |
| M 32 x 1.5 | 17 - 26 | 7 |
| M 40 x 1.5 | 17 - 27 | 7.5 |
| M 50 x 1.5 | 23 - 34 | 7.5 |

WKE 200-400 SL - Connection of cables (depending on enclosure size)

|  Rated cross-section |  Cable cross-section (single wire) |  Push-in terminal block (directly pluggable) |  Stripping length |  Rated insulation voltage |  Rated current |
|--|---|---|---|---|--|
| mm ² | mm ² | mm ² | mm ² | | |
| 6 | 0.5 - 6 | 2.5 - 6 | 13 - 15 | 450 V | 41 A |
| 10 | 0.5 - 10 | 4 - 10 | 17 - 19 | 450 V | 57 A |
| 16 | 0.5 - 16 | 6 - 16 | 18 - 20 | 450 V | 76 A |
| 6mm ² (Fuse terminal) | 0.2 - 6 | ----- | 12-13 | 450 V | 10 A |

|  Cable gland |  Sealing area |
|--|---|
| M20 | 6 - 13 |
| M25 | 6 - 15 |
| M32 | 9 - 19 |
| M40 | 17 - 27 |
| M50 | 23 - 34 |

Small Distribution Boards



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.

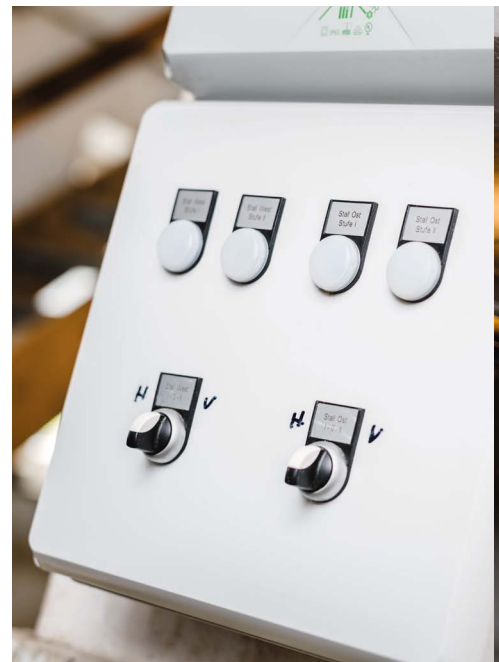
Small Distribution Boards

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|  Small distribution board, weather-resistant 3-24 modules, IP65 | AKi Compact | 149 |
|  Small distribution board, for unprotected outdoor installation 14-70 modules, IP65, per DIN VDE 0100-737 | AK Air / AK Air Plus | 160 |
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Small Distribution Boards

AK | Case Study



Hof Rassenhövel KG | Reliable distribution and control of the heating system

Spelsberg's AK small distribution boards are also relied on in challenging environmental conditions. That's because thanks to their product characteristics, they are just as versatile as their areas of application.

A good example of this is Hof Rassenhövel KG from Ennepetal in North Rhine-Westphalia. For heating the sties, the farm uses a climate-friendly, fully automated, wood chip heating system, which runs on

small pieces of scrap wood that would not serve any other purpose. The supply and control of the heating, lighting circuits and socket outlets for the pig sties at the farm are taken care of by Spelsberg's AK small distribution boards. These were professionally installed by Halver-based company Elektro Panne.

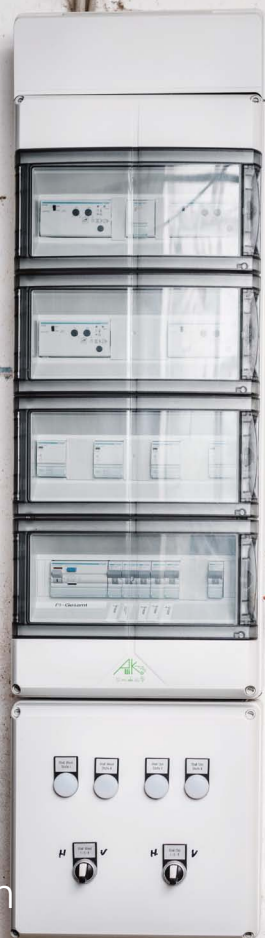
Conditions are harsh in the boiler room due to the dirt cause by combustion

along with the waste heat and vibrations. Here, two AK 28 Plus small distribution boards are used to operate the directly adjacent heating boiler for the wood chip heating system. The standard rails for up to 14 modules, which are height-adjustable without tools, in each case house NEOZED fuses, RC circuit-breakers, line circuit-breakers as well as a main switch for this purpose. The additional connection space provided





Indoor installation



COMPANY

Agricultural holding/arable farming,
Pig farming and breeding.



TASK

Supply and control of the heating,
lighting circuits and socket outlets for
pig sties.



PRODUCTS USED

Installation of two AK 28 Plus small
distribution boards as well as a combination
of an AK-F 56 with an AK-F 14 L-g
distribution board, with operating elements.



WHY AK SMALL DISTRIBUTION BOARDS?

As DLG-certified products, AK Air small
distribution boards are suitable for
extreme applications, e.g. in air containing
ammonia. The 14 modules from the AK
Airs enable the heating contactors to be
spaced further apart, thus preventing the
build-up of heat.

The empty enclosure connected by
means of combination flange allows the
installation of local control devices and
direct wiring to the controller.

by the AK 28 Plus has been used for
the wiring of multi-tiered installation
terminals which are often required in
industrial and commercial applications in
order to enable fast and straightforward
installation.

Another small distribution board installa-
tion in a more demanding environment
can be found at Hof Rassenhövel. Here,
the installations are exposed to air con-
taining ammonia on account of the
adjacent pig sties which is a well-known
challenge when it comes to protecting

electrical equipment on farms. As DLG
certified products, AK Air small distribution
boards are ideally suited for these
unfavourable and special working
environments.

Reliable distribution and control of the
heating, lighting and socket outlets was
taken care of by Elektro Panne who
installed an AK-F 56 small distribution
board housing line circuit breakers,
remote power dimmers and installation
contactors. In addition, a combination
flange was used to connect an AK-F 14 L-g

underneath, housing operating elements.
The difference between the ambient
temperature and the temperature inside
the small distribution board gives rise to
the risk of condensation forming inside
the housing. Not with the AK Air small
distribution board: The integrated BEL
Air ventilation elements prevent con-
densation while maintaining the high
protection rating IP65. As a result, any
condensation that forms is removed from
the housing by means of air exchange
in no time at all. So more air exchange
ensures a higher level of safety.

Small Distribution Boards

AK Compact | AKi Compact



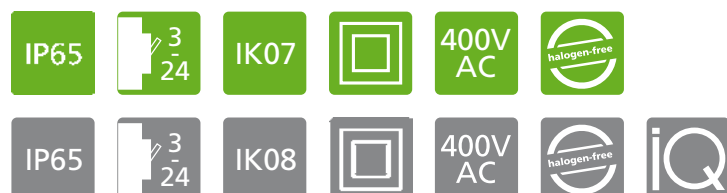
■ Compact small distribution boards for 3-24 modules

■ Variants for indoor (AK) and protected outdoor areas (AKi)

■ Convenient insertion of cables by means of pre-assembled double membrane seals

■ Cable insertions can be replaced by cable glands

■ Easy lateral combination option



Small Distribution Boards

AK | AKi Compact

AK 03

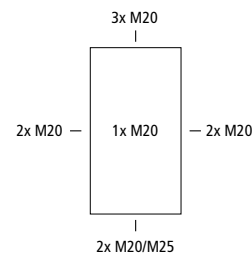
100 x 150 x 96 mm



Small-scale distributors, with protection class IP65, 1 Row, 3 available modules, Rated operational voltage: 400V AC, metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top

Accessories supplied:

Double-membrane seals: 1x M25,
sealing plugs, masking and labelling strips



Description

AK 03

with PE/N terminal rail, each with 1 clamping point 16 mm² and 3 terminal points 6 mm²

Order no.

73540301

AKi 03

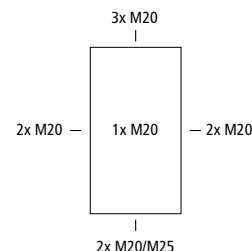
100 x 150 x 96 mm



Small-scale distributors, with protection class IP65, 1 Row, 3 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1000V DC, metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top

Accessories supplied:

Double-membrane seals: 1x M25,
sealing plugs, masking and labelling strips



Description

AKi 03

with PE/N terminal rail, each with 1 clamping point 16 mm² and 3 terminal points 6 mm²

Order no.

73640301

AK 05

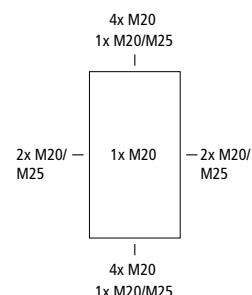
125 x 200 x 122 mm



Small-scale distributors, with protection class IP65, 1 Row, 5 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1000V DC, metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top

Accessories supplied:

Double-membrane seals: 1x M25,
sealing plugs, masking and labelling strips



Description

AK 05

with PE/N terminal rail, each with 2 terminal points 16 mm² and 3 terminal points 6 mm²

Order no.

73540501

Small Distribution Boards

AK | AKi Compact

AKi 05

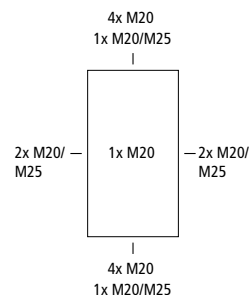
125 x 200 x 122 mm



Small-scale distributors, with protection class IP65, 1 Row, 5 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1000V DC, metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top

Accessories supplied:

Double-membrane seals: 1x M25, sealing plugs, masking and labelling strips



Description

AKi 05

with PE/N terminal rail, each with 2 terminal points 16 mm² and 3 terminal points 6 mm²

Order no.

73640501

AK 09

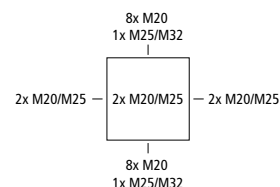
200 x 200 x 122 mm



Small-scale distributors, with protection class IP65, 1 Row, 9 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1000V DC, metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top

Accessories supplied:

Double-membrane seals: 1x M20, 1x M32, sealing plugs, masking and labelling strips



Description

AK 09

with PE/N terminal rail, each with 2 terminal points 16 mm² and 5 terminal points 6 mm²

Order no.

73540901

AKi 09

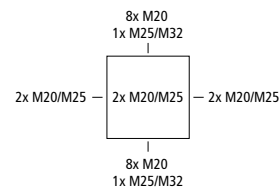
200 x 200 x 122 mm



Small-scale distributors, with protection class IP65, 1 Row, 9 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1000V DC, metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top

Accessories supplied:

Double-membrane seals: 1x M20, 1x M32, sealing plugs, masking and labelling strips



Description

AKi 09

with PE/N terminal rail, each with 2 terminal points 16 mm² and 5 terminal points 6 mm²

Order no.

73640901

Small Distribution Boards

AK | AKi Compact

AK 12

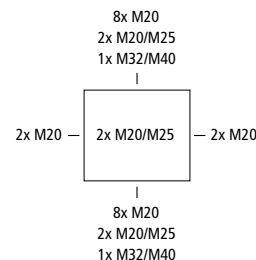
250 x 200 x 122 mm



Small-scale distributors, with protection class IP65, 1 Row, 12 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1000V DC, metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top

Accessories supplied:

Double-membrane seals: 1x M20, 1x M32, sealing plugs, masking and labelling strips



Description

AK 12

with PE/N terminal rail, each with 2 terminal points 16 mm² and 10 terminal points 6 mm²

Order no.

73541201

AKi 12

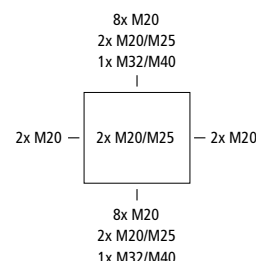
250 x 200 x 122 mm



Small-scale distributors, with protection class IP65, 1 Row, 12 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1000V DC, metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top

Accessories supplied:

Double-membrane seals: 1x M20, 1x M32, sealing plugs, masking and labelling strips



Description

AKi 12

with PE/N terminal rail, each with 2 terminal points 16 mm² and 10 terminal points 6 mm²

Order no.

73641201

AK 24

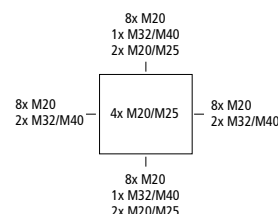
250 x 370 x 122 mm



Small-scale distributors, with protection class IP65, 2 Rows, 24 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1000V DC, metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top

Accessories supplied:

Double-membrane seals: 2x M20, 1x M32, sealing plugs, masking and labelling strips



Description

AK 24

with PE/N terminal rail, each with 2 terminal points 16 mm² and 14 terminal points 6 mm²

Order no.

73542401

Small Distribution Boards

AK | AKi Compact

AKi 24

250 x 370 x 122 mm



IP65

24

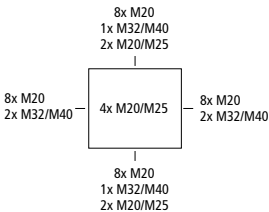
IK08

400V AC

iQ

Small-scale distributors, with protection class IP65, 2 Rows, 24 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1000V DC, metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top

Accessories supplied:
Double-membrane seals: 2x M20, 1x M32, sealing plugs, masking and labelling strips



| Description | Order no. |
|---|-----------|
| AKi 24 with PE/N terminal rail, each with 2 terminal points 16 mm² and 14 terminal points 6 mm² | 73642401 |



Small Distribution Boards

AK | Simply more Distribution Boards



Small Distribution Boards

More time saved thanks to the possibility of full pre-wiring in the workshop and selecting different fixing variants, such as the 3-point fixing or using external fixing lugs for fast and safe installation.

More flexibility thanks to standard rails with tool-free height adjustment and space for up to 14 modules for rail-mounted devices and

special designs. Availability of various flanges for flexible combination and cable insertion.

More user-friendliness thanks to a variety of metric knockouts, pre-mounted double membrane seals, a hinged window for each row, and more space for the wiring thanks to a top hat rail spacing of 150 mm.

More options

thanks to the possibility to easily expand and combine with other small distribution boards, and opting for Schuko® sockets instead of external mounting of maintenance sockets in the close proximity of the distribution board.



Small Distribution Boards

AK Air | Simply more benefits



MORE CONNECTION SPACE, MORE CONVENIENCE

More room for easier wiring and higher power dissipation. Suitable for multitiered terminal blocks in commerce and industry.

14

14 MODULES INSTEAD OF 12

Two additional modules per row for more options and sufficient reserve capacity for retrofits - such as 1 surge protector (3-pole), 1 residual current circuit breaker, 6 load current circuit breakers.



HEIGHT-ADJUSTABLE STANDARD RAIL

More flexibility when installing rail-mounted devices of sizes 1-3 and special sizes. Easier wiring thanks to the distance between the top DIN rail and the bottom of the distribution board.



MORE COMBINABILITY

All AK distribution boards can be simply and quickly horizontally combined with other AK distribution boards using the combination gland. For vertical combination, the AK-F types are available.



VDE + DLG CERTIFIED (EN 60670-24/VDE 0606-24)

Worry-free application due to conformity with international standards and compliance with the statutory protection requirements.



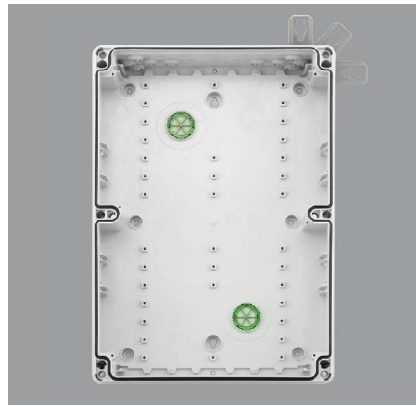
OPTION FOR SCHUKO SOCKET OUTLETS

The extension socket that can be easily integrated into the distribution board reduces the workload thanks to the availability of connection possibilities without external surface-mounted boxes for maintenance purposes.



INTEGRATED AIR VENTILATION ELEMENTS

Effective and maintenance-free protection against the formation of condensation due to constant air circulation while maintaining the high protection rating IP65.



SIMPLE AND VERSATILE FIXING VARIANTS

Fast, secure installation by means of practical 3-point, 4-point or keyhole fixings, as well as external fixing lugs outside the sealing area



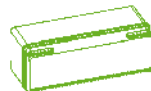
ROBUST ENCLOSURE FOR THE HIGHEST DEMANDS WITH IK08

The solution for harsh industrial and commercial environments thanks to IK08 impact resistance and IP65 shock hazard protection.



OIL AND GREASE RESISTANCE

Resistant and tight enclosure provides long-term protection for equipment inside against e.g. ammonia, mineral oil or weak acids. Liability due to inadequate protection can be ruled out as a result.



CABLE COVER + CABLE INSERTION

The straightforward cable insertion is made possible thanks to a pre-assembled membrane seals or cable glands. A cable cover ensures a clean appearance thanks to optional concealment of cable insertions.

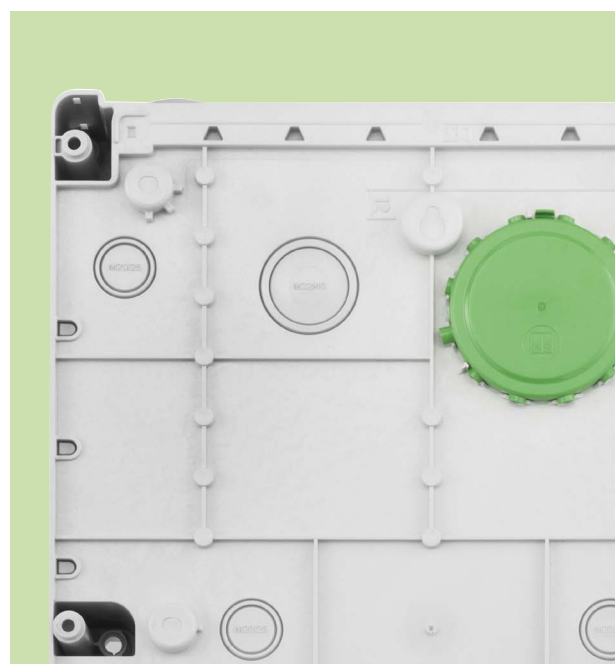
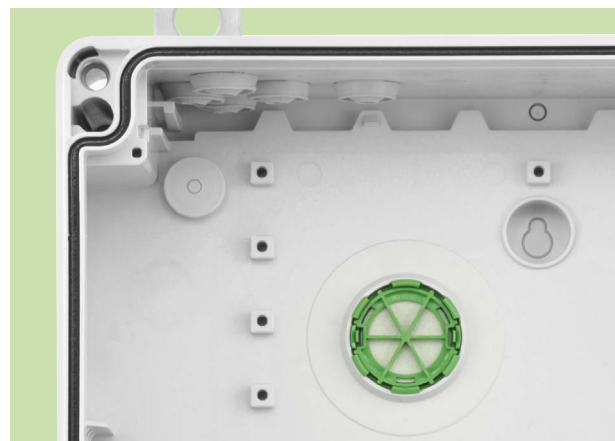


PROVEN INDUSTRIAL QUALITY

- Suitable for temperatures ranging from 35 °C to 80 °C
- Resistant to petrol, mineral oil, grease, diesel, turpentine
(and to a limited extent acids and alcohol)
- UV- and weather-resistant
- Flame-retardant and self-extinguishing up to 960 °C in accordance with VDE 0471 / EN 60695 / UL94
- Impact-resistant
- Free from halogens, heavy metals, PVC and silicon

Small Distribution Boards

AK Air | The innovative Air ventilation | Protection against condensate water



Advantages of the Air ventilation element

The Air ventilation element prevents formation of condensation while maintaining the high protection rating IP65. Any condensation that forms is removed from the enclosure by means of continuous air exchange. Due to the constant and high rate of air exchange the internal air is always able to mix with the ambient air and transports the moisture to the outside. 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.

Further information such as datasheets, the AK trailer and the AK product manual can be found at:

www.spelsberg.com/ak-simply-more-values

Advantages

- Prevention of condensation whilst maintaining the IP65 high degree of protection.
- High air exchange rate
- 100% pressure compensation
- 100% protection from foreign particles
- Maintenance free



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 that damage cannot be caused by condensation or ingress of water.

DIN VDE 0100-712: Photovoltaic systems 712.522.8.3 External influences that can be anticipated, such as wind, ice formation, temperatures and solar radiation, must be taken into account.

It should therefore be ensured during installation that the enclosure is protected by a roof construction.

This roof construction may already be present in existing structures; be set up by the user; or be supplied in the form of accessory products from the Spelsberg range.

Small Distribution Boards

AK Air | Tested safety for extreme conditions



AK Air - in the Dechen Cave in Iserlohn (Sauerland)

Sensitive electronics frequently reach their limits at an air humidity level of almost 100 % and a temperature of 10° C. To keep these safe and prevent condensate under such extreme conditions in the Dechen Cave in Iserlohn, AK Air small distribution boards with integrated air elements are used.

High air humidity inside, fluctuating temperatures at the entrances, with constant operation during opening hours and long periods without load in the evenings – these are tough requirements 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.





Ammonia resistance



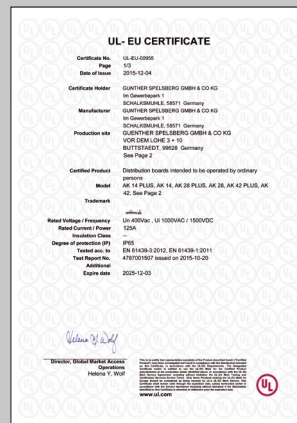
EN 60670-24



EN 62208



EN 61439-2



EN 61439-3



EN 61439-7



The **DLG Focus Test** is a reduced-scope utility value test for product differentiation and special highlighting of innovations in machines and **technical products**.



The **VDE symbol** for electrotechnical products indicates conformity with the VDE directives of European or internationally harmonised standards.



Products with the **UL EU** approval mark have been independently certified by UL (Underwriters Laboratories Inc.). Representative samples of this product have been assessed by UL and comply with the applicable European (EN) or international (IEC) standards.



Products with the **c UL us** approval mark have been independently certified by UL (Underwriters Laboratories Inc.). Representative samples of this product have been assessed by UL and comply with the applicable national standards of USA and Canada.

Small Distribution Boards

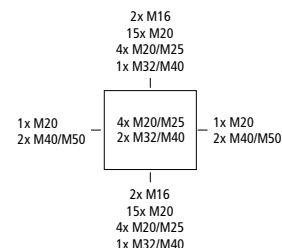
AK Air

AK 14

315 x 300 x 155 mm



Small-scale distributors, with protection class IP65, 1 Row, 14 available modules, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top



Accessories supplied:

Double-membrane seals: 1x M16, 5x M20, 2x M25, 1x M32, 1x M40, sealing plugs, masking and labelling strips

Description

AK 14

with screwless PE/N terminal rail, with respectively 3 screwable terminal points, 2.5 - 16 mm² and 14 screwless terminal points, 1.5 - 4 mm²

Order no.

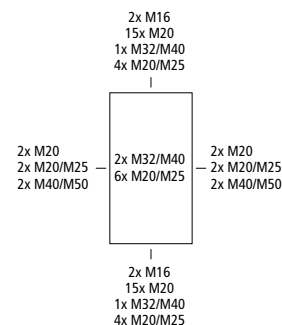
73341401

AK 14 Plus

315 x 450 x 155 mm



Small-scale distributors, with protection class IP65, 1 Row, 14 available modules, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top



Accessories supplied:

Double-membrane seals: 1x M16, 5x M20, 2x M25, 1x M32, 1x M40, sealing plugs, masking and labelling strips

Description

AK 14 Plus

with extra connection space, with 35 mm standard rail, without PE/N terminal rail

Order no.

73361401

Small Distribution Boards

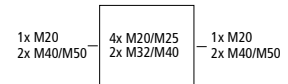
AK Air

AK-F 14

315 x 300 x 155 mm



Small-scale distributors, with protection class IP65, 1 Row, 14 available modules, Flange type, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), open top/bottom sides for the use with various flanges or for the combination of several AK-F distributors via combination flange



Accessories supplied:

Double-membrane seals: 1x M16, 5x M20, 2x M25, 1x M32, 1x M40, sealing plugs, masking and labelling strips

| Description | Order no. |
|---|-----------|
| AK-F 14 with screwless PE/N terminal rail, with respectively 6 screwable terminal points, 2.5 - 16 mm ² and 21 / 2x14 screwless terminal points, 1.5 - 4 mm ² | 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

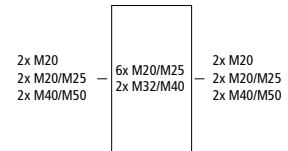
AK Air

AK-F 14 Plus

315 x 450 x 155 mm



Small-scale distributors, with protection class IP65, 1 Row, 14 available modules, Flange type, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), open top/bottom sides for the use with various flanges or for the combination of several AK-F distributors via combination flange



Accessories supplied:

Double-membrane seals: 1x M16, 5x M20, 2x M25, 1x M32, 1x M40, sealing plugs, masking and labelling strips

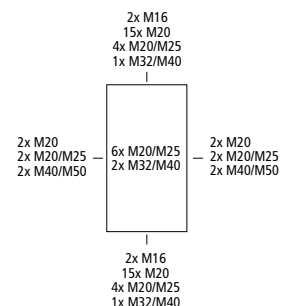
| Description | Order no. |
|---|-----------|
| AK-F 14 Plus with extra connection space, with 35 mm standard rail, without PE/N terminal rail | 73371401 |
| Recommended accessories: | Order no. |
| AK3 FL00 Flange for AK-F without pre-embossings | 73382001 |
| AK3 FL01 Flange for AK-F with pre-embossings: 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



Small-scale distributors, with protection class IP65, 2 Rows, 28 available modules, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top



Accessories supplied:

Double-membrane seals: 1x M16, 5x M20, 2x M25, 1x M32, 1x M40, sealing plugs, masking and labelling strips

| Description | Order no. |
|---|-----------|
| AK 28 with screwless PE/N terminal rail, with respectively 6 screwable terminal points, 2.5 - 16 mm² and 21 / 2x14 screwless terminal points, 1.5 - 4 mm² | 73342801 |

Small Distribution Boards

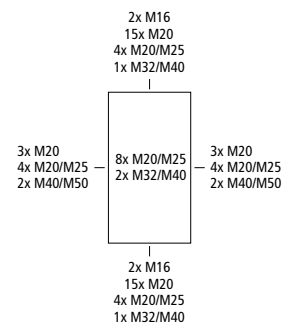
AK Air

AK 28 Plus

315 x 600 x 155 mm



Small-scale distributors, with protection class IP65, 2 Rows, 28 available modules, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top



Accessories supplied:

Double-membrane seals: 2x M16, 10x M20, 4x M25, 2x M32, 2x M40, sealing plugs, masking and labelling strips

Description

AK 28 Plus

with extra connection space, with 35 mm standard rail, without PE/N terminal rail

Order no.

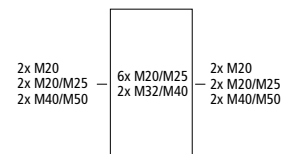
73362801

AK-F 28

315 x 450 x 155 mm



Small-scale distributors, with protection class IP65, 2 Rows, 28 available modules, Flange type, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), open top/bottom sides for the use with various flanges or for the combination of several AK-F distributors via combination flange



Accessories supplied:

Double-membrane seals: 1x M16, 5x M20, 2x M25, 1x M32, 1x M40, sealing plugs, masking and labelling strips

Description

AK-F 28

with screwless PE/N terminal rail, with respectively 6 screwable terminal points, 2.5 - 16 mm² and 21 / 2x14 screwless terminal points, 1.5 - 4 mm²

Order no.

73352801

Recommended accessories:

AK3 FL00 Flange for AK-F without pre-embossings

Order no.

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

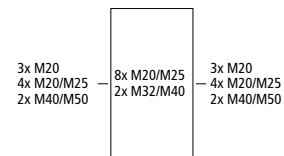
AK Air

AK-F 28 Plus

315 x 600 x 155 mm



Small-scale distributors, with protection class IP65, 2 Rows, 28 available modules, Flange type, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), open top/bottom sides for the use with various flanges or for the combination of several AK-F distributors via combination flange



Accessories supplied:

Double-membrane seals: 2x M16, 10x M20, 4x M25, 2x M32, 2x M40, sealing plugs, masking and labelling strips

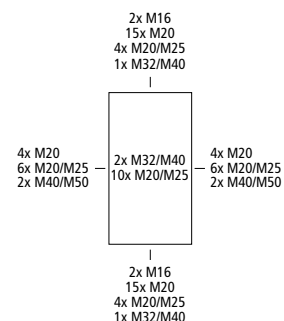
| Description | Order no. |
|---|------------------|
| AK-F 28 Plus with extra connection space, with 35 mm standard rail, without PE/N terminal rail | 73372801 |
| Recommended accessories: | Order no. |
| AK3 FL00 Flange for AK-F without pre-embossings | 73382001 |
| AK3 FL01 Flange for AK-F with pre-embossings: 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 Plus

315 x 750 x 155 mm



Small-scale distributors, with protection class IP65, 3 Rows, 42 available modules, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top



Accessories supplied:

Double-membrane seals: 2x M16, 10x M20, 4x M25, 2x M32, 2x M40, sealing plugs, masking and labelling strips

| Description | Order no. |
|--|-----------|
| AK 42 Plus with extra connection space, with 35 mm standard rail, without PE/N terminal rail | 73364201 |

Small Distribution Boards

AK Air

AK 42

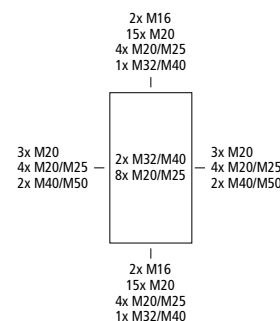
315 x 600 x 155 mm



Small-scale distributors, with protection class IP65, 3 Rows, 42 available modules, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top

Accessories supplied:

Double-membrane seals: 2x M16, 10x M20, 4x M25, 2x M32, 2x M40, sealing plugs, masking and labelling strips



Description

AK 42

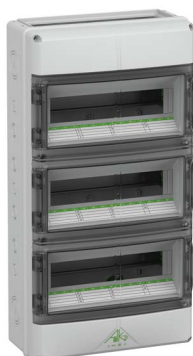
with screwless PE/N terminal rail, with respectively 6 screwable terminal points, 2.5 - 16 mm² and 21 / 2x14 screwless terminal points, 1.5 - 4 mm²

Order no.

73344201

AK-F 42

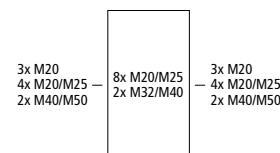
315 x 600 x 155 mm



Small-scale distributors, with protection class IP65, 3 Rows, 42 available modules, Flange type, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), open top/bottom sides for the use with various flanges or for the combination of several AK-F distributors via combination flange

Accessories supplied:

Double-membrane seals: 2x M16, 10x M20, 4x M25, 2x M32, 2x M40, sealing plugs, masking and labelling strips



Description

AK-F 42

with screwless PE/N terminal rail, with respectively 6 screwable terminal points, 2.5 - 16 mm² and 21 / 2x14 screwless terminal points, 1.5 - 4 mm²

Order no.

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

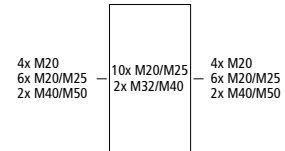
AK Air

AK-F 42 Plus

315 x 750 x 155 mm



Small-scale distributors, with protection class IP65, 3 Rows, 42 available modules, Flange type, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), open top/bottom sides for the use with various flanges or for the combination of several AK-F distributors via combination flange



Accessories supplied:

Double-membrane seals: 2x M16, 10x M20, 4x M25, 2x M32, 2x M40, sealing plugs, masking and labelling strips

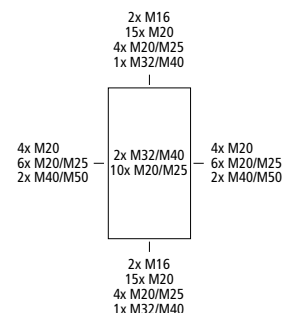
| Description | Order no. |
|---|------------------|
| AK-F 42 Plus with extra connection space, with 35 mm standard rail, without PE/N terminal rail | 73374201 |
| Recommended accessories: | Order no. |
| AK3 FL00 Flange for AK-F without pre-embossings | 73382001 |
| AK3 FL01 Flange for AK-F with pre-embossings: 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



Small-scale distributors, with protection class IP65, 4 Rows, 56 available modules, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top



Accessories supplied:

Double-membrane seals: 2x M16, 10x M20, 4x M25, 2x M32, 2x M40, sealing plugs, masking and labelling strips

| Description | Order no. |
|---|-----------|
| AK 56 with screwless PE/N terminal rail, with respectively 6 screwable terminal points, 2.5 - 16 mm² and 21 / 2x14 screwless terminal points, 1.5 - 4 mm² | 73345601 |

Small Distribution Boards

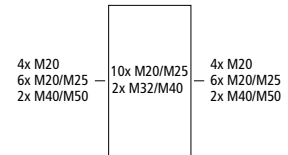
AK Air

AK-F 56

315 x 750 x 155 mm



Small-scale distributors, with protection class IP65, 4 Rows, 56 available modules, Flange type, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), open top/bottom sides for the use with various flanges or for the combination of several AK-F distributors via combination flange



Accessories supplied:

Double-membrane seals: 2x M16, 10x M20, 4x M25, 2x M32, 2x M40, sealing plugs, masking and labelling strips

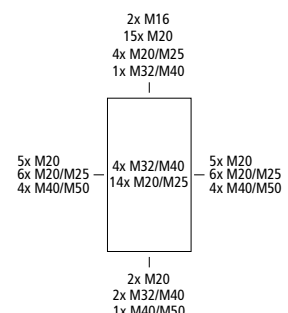
| Description | Order no. |
|---|------------------|
| AK-F 56 with screwless PE/N terminal rail, with respectively 6 screwable terminal points, 2.5 - 16 mm ² and 21 / 2x14 screwless terminal points, 1.5 - 4 mm ² | 73355601 |
| Recommended accessories: | Order no. |
| AK3 FL00 Flange for AK-F without 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



Small-scale distributors, with protection class IP65, 5 Rows, 70 available modules, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, elastic entries double membrane seals M20 on top



Accessories supplied:

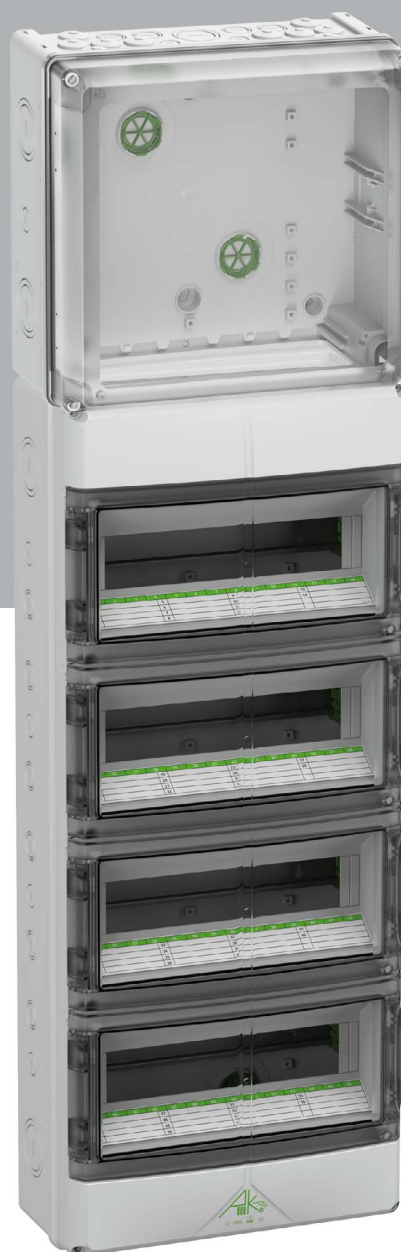
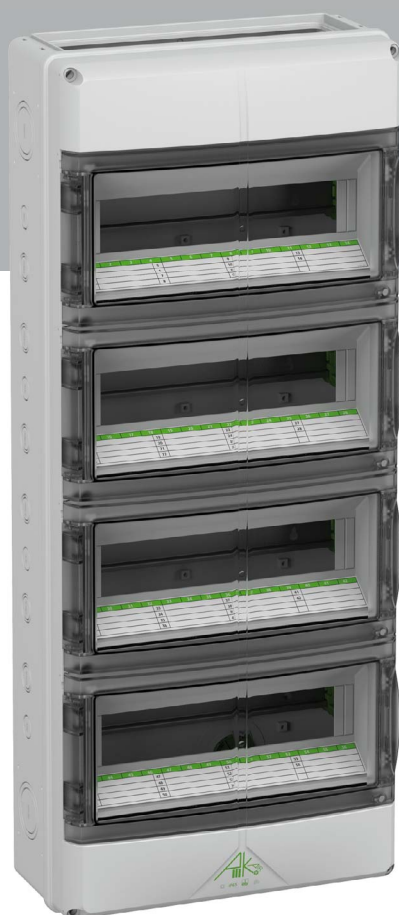
Double-membrane seals: 3x M16, 15x M20, 5x M25, 3x M32, 3x M40, sealing plugs, masking and labelling strips

| Description | Order no. |
|---|-----------|
| AK 70 with screwless PE/N terminal rail, with respectively 6 screwable terminal points, 2.5 - 16 mm ² and 21 / 2x14 screwless terminal points, 1.5 - 4 mm ² | 73347001 |

Small Distribution Boards

AK | Simply More Distribution Boards

Tool-free combination of AK-F distributors.



Small Distribution Boards

AK 14 L

AK 14 L

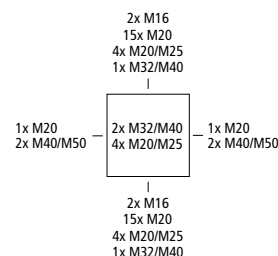
315 x 300 mm



Empty enclosure, with protection class IP65, Plastic, certified according to DLG (Ammonia resistance), $U_i=1000V$ AC, $U_i=1500V$ DC, for AK 14-56 small distribution boards, for individual expansion by adding standard rails or assembly plates

Accessories supplied:

Double-membrane seals: 1x M20, 1x M25, 1x M32, Attachment bushes: 1x M40, sealing plugs, masking and labelling strips



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

AK-F 14 L

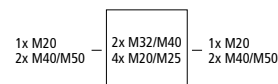
315 x 300 mm



Empty enclosure, with protection class IP65, Plastic, certified according to DLG (Ammonia resistance), $U_i=1000V$ AC, $U_i=1500V$ DC, for AK 14-56 small distribution boards, for individual expansion by adding standard rails or assembly plates

Accessories supplied:

Double-membrane seals: 1x M16, 5x M20, 2x M25, 1x M32, 1x M40, sealing plugs, masking and labelling strips



| 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



Empty enclosure, with protection class IP65, Plastic, certified according to DLG (Ammonia resistance), $U_i=1000V$ AC, $U_i=1500V$ DC, for AK 14-56 small distribution boards, for individual expansion by adding standard rails or assembly plates



Accessories supplied:
Double-membrane seals: 1x M16, 5x M20, 2x M25, 1x M32, 1x M40, sealing plugs, masking and labelling strips

| 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 |



Small Distribution Boards

AK UL



Small Distribution Boards

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 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

AK UL

315 x 155 mm



Small-scale distributors, with protection class IP65, Protection type UL 3R, 12/12K, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL (UL 50 & CSA 22.2 No. 94.1-07, UL 50E & CSA C22.2 No. 94.2-07), metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, 10 open entries on top for UL-compliant line insertion points

| Description | Order no. |
|---|------------------|
| AK 14 UL 1-row, 14 available modules, without PE/N terminal | 73341452 |
| AK 28 UL 2-row, 28 available modules, without PE/N terminal | 73342852 |
| AK 42 UL 3-row, 42 available modules, without PE/N terminal | 73344252 |
| AK 56 UL 4-row, 56 available modules, without PE/N terminal | 73345652 |
| Recommended accessories: | Order no. |
| AK AS UL Masking off strips Width 108 mm for 6 distribution units | 79901252 |

Small Distribution Boards

AK UL

AK-F UL

315 x 155 mm



Small-scale distributors, with protection class IP65, Protection type UL 3R, 12/12K, Flange type, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), UL (UL 50 & CSA 22.2 No. 94.1-07, UL 50E & CSA C22.2 No. 94.2-07), open top/bottom sides for the use with various flanges or for the combination of several AK-F distributors via combination flange

| Description | Order no. |
|--|-----------|
| AK-F 14 UL 1-row, 14 available modules, without PE/N terminal | 73351452 |
| AK-F 28 UL 2-row, 28 available modules, without PE/N terminal | 73352852 |
| AK-F 42 UL 3-row, 42 available modules, without PE/N terminal | 73354252 |
| AK-F 56 UL 4-row, 56 available modules, without PE/N terminal | 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



Small-scale distributors, with protection class IP65, Protection type UL 3R, 12/12K, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL (UL 50 & CSA 22.2 No. 94.1-07, UL 50E & CSA C22.2 No. 94.2-07), metric knockouts on top and bottom for universal cable insertions with cable glands and/or double membrane seals, 10 open entries on top for UL-compliant line insertion points

| Description | Order no. |
|--|------------------|
| AK 14 Plus UL 1-row, 14 available modules, with extra connection space including 35mm standard rail, without PE/N terminal | 73361452 |
| AK 28 Plus UL 2-row, 28 available modules, with extra connection space including 35mm standard rail, without PE/N terminal | 73362852 |
| AK 42 Plus UL 3-row, 42 available modules, with extra connection space including 35mm standard rail, without PE/N terminal | 73364252 |
| Recommended accessories: | Order no. |
| AK AS UL Masking off strips Width 108 mm for 6 distribution units | 79901252 |

Small Distribution Boards

AK UL

AK-F Plus UL

315 x 155 mm

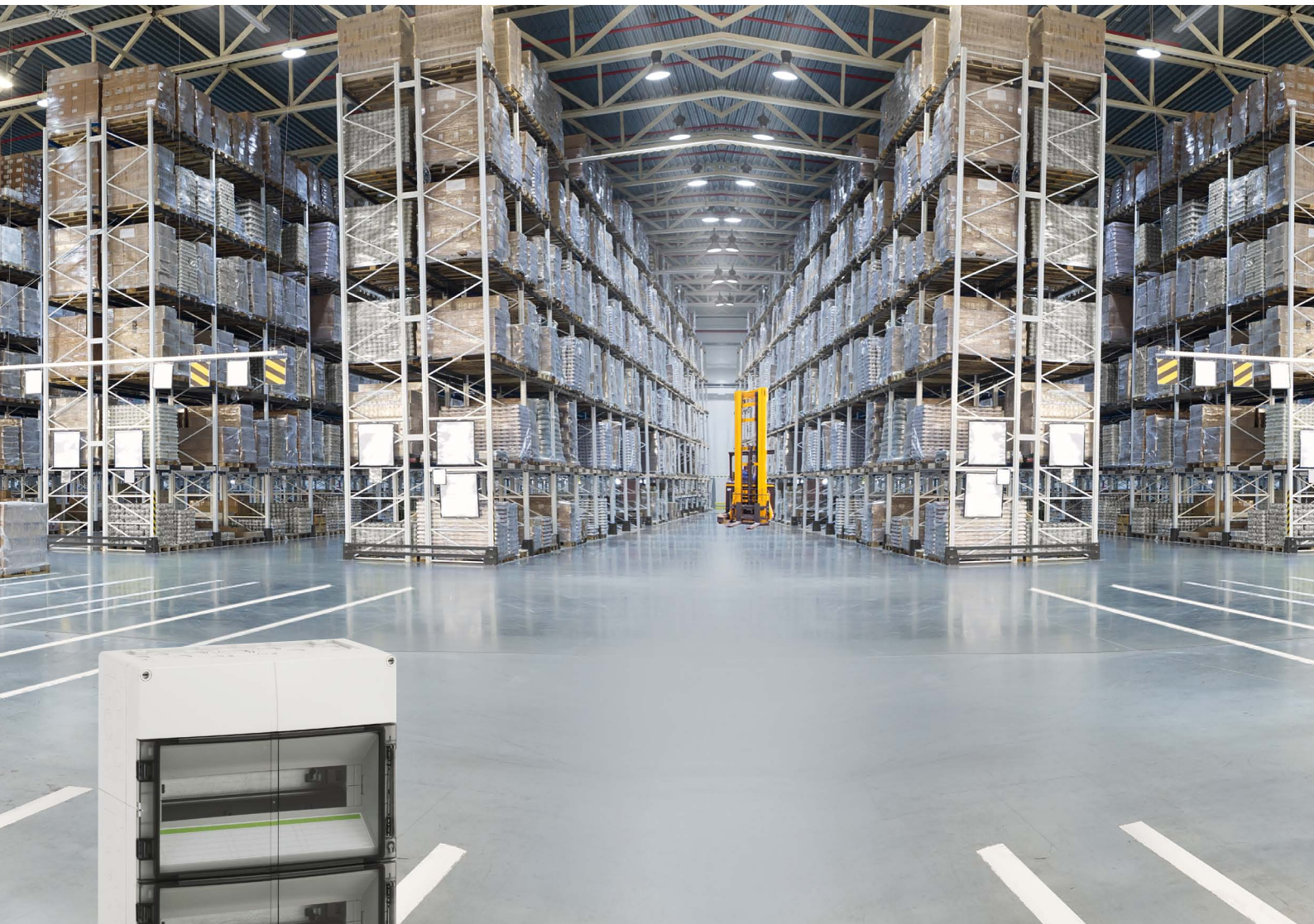


Small-scale distributors, with protection class IP65, Protection type UL 3R, 12/12K, Flange type, with integrated ventilation elements for reducing the formation of condensation, Rated operational voltage: 400V AC, Rated insulation voltage: 1000V AC, 1500V DC, certified according to VDE (DIN EN 60670-1/-24 (VDE 0606-1/-24)), DLG (Ammonia resistance), UL-EU (EN 62208), UL-EU (EN 61439-1/-2), UL-EU (EN 61439-1/-3), UL-EU (EN 61439-1 & EN IEC 61439-7), UL (UL 50 & CSA 22.2 No. 94.1-07, UL 50E & CSA C22.2 No. 94.2-07), open top/bottom sides for the use with various flanges or for the combination of several AK-F distributors via combination flange

| Description | Order no. |
|--|-----------|
| AK-F 14 Plus UL 1-row, 14 available modules, with extra connection space including 35mm standard rail, without PE/N terminal | 73371452 |
| AK-F 28 Plus UL 2-row, 28 available modules, with extra connection space including 35mm standard rail, without PE/N terminal | 73372852 |
| AK-F 42 Plus UL 3-row, 42 available modules, with extra connection space including 35mm standard rail, without PE/N terminal | 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

AKe



- Individual transparent doors can be lead sealed, blanking off of individual rows
- Including PE/N terminals
- Including stepped nipples for cable entry



Small Distribution Boards

AKe

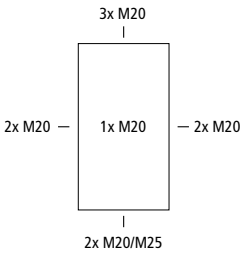
AKe 03

100 x 150 x 96 mm



Small-scale distributors, with protection class IP55, 1 Row, 3 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 690V AC, 690V DC, metric knock-outs on top and bottom for universal cable insertions with cable glands, double membrane seals and/or stepped nipple

Accessories supplied:
Stepped nipples: 3x M20, 1x M25,
sealing plugs, cover and labelling strips



| Description | Order no. |
|---|-----------|
| AKe 03 with PE/N terminal rail, each with 1 clamping point 16 mm² and 3 terminal points 6 mm² | 73550301 |
| AKe 03-L without PE/N terminal rail | 73560301 |

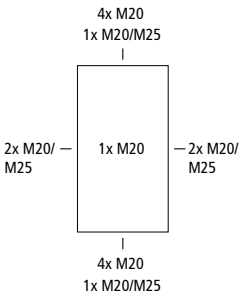
AKe 05

125 x 200 x 122 mm



Small-scale distributors, with protection class IP55, 1 Row, 5 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 690V AC, 690V DC, metric knock-outs on top and bottom for universal cable insertions with cable glands, double membrane seals and/or stepped nipple

Accessories supplied:
Stepped nipples: 4x M20, 1x M25,
sealing plugs, cover and labelling strips



| Description | Order no. |
|--|-----------|
| AKe 05 with PE/N terminal rail, each with 2 terminal points 16 mm² and 3 terminal points 6 mm² | 73550501 |
| AKe 05-L without PE/N terminal rail | 73560501 |

Small Distribution Boards

AKe

AKe 09

200 x 200 x 122 mm



IP55

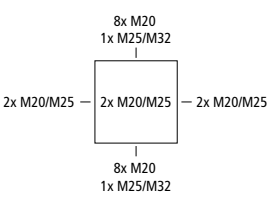
9

IK07

400V
AC

Small-scale distributors, with protection class IP55, 1 Row, 9 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 690V AC, 690V DC, metric knock-outs on top and bottom for universal cable insertions with cable glands, double membrane seals and/or stepped nipple

Accessories supplied:
Stepped nipples: 7x M20, 1x M25,
sealing plugs, cover and labelling strips



| Description | Order no. |
|--|-----------|
| AKe 09 with PE/N terminal rail, each with 2 terminal points 16 mm² and 5 terminal points 6 mm² | 73550901 |
| AKe 09-L without PE/N terminal rail | 73560901 |

AKe 12

250 x 200 x 122 mm



IP55

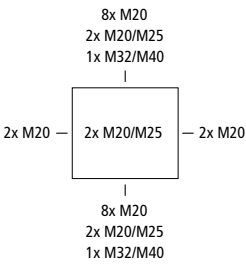
12

IK07

400V
AC

Small-scale distributors, with protection class IP55, 1 Row, 12 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 690V AC, 690V DC, metric knock-outs on top and bottom for universal cable insertions with cable glands, double membrane seals and/or stepped nipple

Accessories supplied:
Stepped nipples: 9x M20, 1x M32,
sealing plugs, cover and labelling strips



| Description | Order no. |
|---|-----------|
| AKe 12 with PE/N terminal rail, each with 2 terminal points 16 mm² and 10 terminal points 6 mm² | 73551201 |
| AKe 12-L without PE/N terminal rail | 73561201 |

Small Distribution Boards

AKe

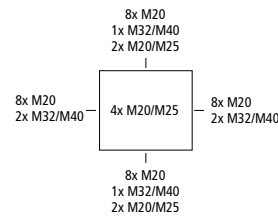
AKe 24

250 x 370 x 122 mm



Small-scale distributors, with protection class IP55, 2 Rows, 12 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 690V AC, 690V DC, metric knock-outs on top and bottom for universal cable insertions with cable glands, double membrane seals and/or stepped nipple

Accessories supplied:
Stepped nipples: 10x M20, 1x M32,
sealing plugs, cover and labelling strips



| Description | Order no. |
|---|-----------|
| AKe 24 Compact with PE/N terminal rail, each with 2 terminal points 16 mm ² and 14 terminal points 6 mm ² | 73572401 |
| AKe-L 24 Compact without PE/N terminal rail | 73582401 |

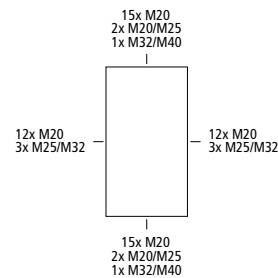
AKe 36

300 x 600 x 142 mm



Small-scale distributors, with protection class IP55, 3 Rows, 36 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 690V AC, 690V DC, metric knock-outs on top and bottom for universal cable insertions with cable glands, double membrane seals and/or stepped nipple

Accessories supplied:
Stepped nipples: 25x M20, 2x M25, 1x M32, 1x M40,
sealing plugs, cover and labelling strips



| Description | Order no. |
|--|-----------|
| AKe 36 with PE/N terminal rail, each with 1 terminal point 25 mm ² , 4 terminal points 16mm ² and 12 terminal points 6 mm ² | 73553601 |
| AKe 36-L without PE/N terminal rail | 73563601 |

Small Distribution Boards

AKe

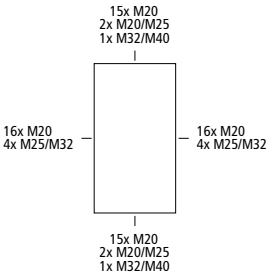
AKe 48

300 x 750 x 142 mm



Small-scale distributors, with protection class IP55, 4 Rows, 48 available modules, Rated operational voltage: 400V AC, Rated insulation voltage: 690V AC, 690V DC, metric knock-outs on top and bottom for universal cable insertions with cable glands, double membrane seals and/or stepped nipple

Accessories supplied:
Stepped nipples: 25x M20, 2x M25, 1x M32, 1x M40, sealing plugs, cover and labelling strips



| Description | Order no. |
|---|-----------|
| AKe 48 with PE/N terminal rail, each with 1 terminal point 25 mm², 6 terminal points 16mm² and 18 terminal points 6 mm² | 73554801 |
| AKe 48-L without PE/N terminal rail | 73564801 |

Small Distribution Boards

AK 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, 230 V for the lateral assembly on enclosures AK/AK-F 14/28/42/56/70, as well as Plus types

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



Small Distribution Boards

AK 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 for AK3 series



Assembly plate in melamine-clad insulating material, 4 mm thick, incl. fixing screws, grey

| 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 |

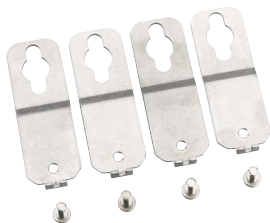
AK3 AS



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 |

AK3 KF



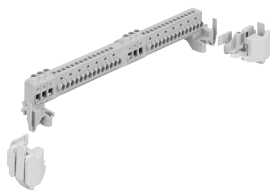
AK3 hinged window as a replacement part for all AK/AK-F 14/28/42/56 small distribution boards and Plus-Types of the latest AK-series with 14TE/series and ventilation element, small distribution board width 315mm, including. hinge and handle

| Description | Order no. |
|-------------|-----------|
| AK3 KF | 73380101 |

Small Distribution Boards

AK Accessories

Screwless PE/N terminal



Screwless PE/N clamping rail, for installation in AK small distributors from AK 14 and AKL/AKi empty housings as additional terminals or for replacement requirements

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

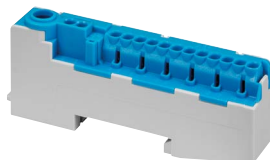
PE/N terminal



PE/N terminal rail, for installation in AK/AKi compact small-scale distributors as additional terminals or for replacement.

| 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 |

Terminal block



Terminal, for rigid conductors, 15 clamping points, 1 screwable clamping point 25 mm² (1.5-25 mm² re, 1-16 mm² rf+AD), 2 screwless clamping points 4 mm² (1-4 mm² re, 1-2.5 mm² rf+AD), 12 screwless clamping points 2.5 mm² (1-2.5 mm² re, 0.75-1.5 mm² rf+AD), 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 |

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 |

Small Distribution Boards

AK 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 |

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 labyrinth seal to avoid condensation formation in enclosures, flow rate 100 l/min. at 0.1 bar overpressure, thermoplastic elastomer, recommended for insertion on the left and right enclosure sides in different heights (see Technical Appendix - protection against condensate water), for 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 |

Small Distribution Boards

AK Accessories

Double membrane seals, grey



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

| 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, with locknut



Cable gland, IP68, with strain relief, polyamide, M_x x 1.5 mm, with locknut, grey

| 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 |

| | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 1 | | | | 5 | | | 9 | | | | 13 | | |
| 2 | | | | 6 | | | 10 | | | | 14 | | |
| 3 | | | | 7 | | | 11 | | | | | | |
| 4 | | | | 8 | | | 12 | | | | | | |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 15 | | | | 19 | | | 23 | | | | 27 | | |
| 16 | | | | 20 | | | 24 | | | | 28 | | |
| 17 | | | | 21 | | | 25 | | | | | | |
| 18 | | | | 22 | | | 26 | | | | | | |
| 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 |
| 29 | | | | 33 | | | 37 | | | | 41 | | |
| 30 | | | | 34 | | | 38 | | | | 42 | | |
| 31 | | | | 35 | | | 39 | | | | | | |
| 32 | | | | 36 | | | 40 | | | | | | |
| 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| 43 | | | | 47 | | | 51 | | | | 55 | | |
| 44 | | | | 48 | | | 52 | | | | 56 | | |
| 45 | | | | 49 | | | 53 | | | | | | |
| 46 | | | | 50 | | | 54 | | | | | | |

Hersteller / Manufacturer / Fabricant

IP: V

U_N: A

I_N: Hz

Typ / Type:

Herstellerdatum / date of manufacturing / date de fabrication

els spelsberg

Suitable labelling strips for our AK - small distribution board series can also be downloaded:
www.spelsberg.com/downloads

Small Distribution Boards

Technical Information



Protection rating (IP code)
in accordance with DIN EN 60529
(VDE 0470-1)



Maximum number of **modules**



Level of protection (IK code) against
mechanical impact in accordance with
DIN EN 50102 (VDE 0470-100)



Protection class II
Equipment with protective insulation
in accordance with DIN VDE 0100-410



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



The **VDE symbol** for electrotechnical
products indicates conformity with the
VDE directives or European or
internationally harmonised standards.
It stands for product safety and quality.



UL EU
Products with the **UL EU** approval mark
have been independently certified by UL
(Underwriters Laboratories Inc.). Repre-
sentative samples of this product have
been assessed by UL and comply with the
applicable European (EN) or international
(IEC) standards.



c UL us (Underwriters Laboratories)
Products with the **c UL us** approval mark
have been independently certified by UL
(Underwriters Laboratories Inc.).
Representative samples of this product
have been assessed by UL and comply
with the applicable national standards of
USA and Canada.



AK Air ventilation elements for prevent-
ing condensation while maintaining the
high protection rating IP65.



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



Industrial quality



The DLG Focus Test is a reduced-scope
utility value test for product differentiation
and special highlighting of innovations in
machines and technical products.

Pictograms | Small distribution boards



**Standard
Quality**



**Industrial
Quality**

| Overview of the ambient conditions and mechanical properties of els products | Enclosure without fittings | | | Enclosure with fittings | | | | | | |
|--|--------------------------------------|--------------------------------------|--|--------------------------------------|--------------------------------------|--|-----------------------------------|--|--|--|
| | Ambient temperature Minimum value | Ambient temperature Maximum value | Ambient temperature Average over 24 h | Ambient temperature Minimum value | Ambient temperature Maximum value | Ambient temperature Average 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 glands

| Overview of the properties of the materials used in els installation systems | | Weak acids | Strong acids | Weak alkalis | Strong alkalis | Alcohol | Petrol | Benzene | Mineral oil | Diesel | Ammonia, gaseous (DLG Focus Test) | Vegetable fats | Animal fats | Halogen-free | Heavy metal-, PVC- and silicon-free | Combustion behaviour in accordance with DIN EN 60695 (VDE 0471) / UL94 |
|--|--|------------|--------------|--------------|----------------|---------|--------|---------|-------------|--------|-----------------------------------|----------------|-------------|--------------|-------------------------------------|--|
| Material | Used in the products: | | | | | | | | | | | | | | | |
| Polycarbonate, glass-fibre-reinforced | AK small distribution boards | O | X | X | X | O | Ø | X | O | Ø | O | O | Ø | yes | yes | 960 °C / V-2 (5 VA*) |
| Polycarbonate, transparent | Hinged door AK small distribution boards | 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 in accordance with UL 746 C (comparable with the requirements in accordance with UL 94, 5VA)

The materials used by Spelsberg have been subjected to a weathering test in accordance with DIN 53 387 (superseded by DIN EN ISO 4892-2) and a 1000-hour test by the State Testing Office in Dortmund. The materials used for the IQ products achieved optimal results as can be seen here. This material also passed the UV resistance test in accordance with UL 746 C unconditionally.

In principle, not only the level of protection but also the climatic conditions and the occurrence of chemical influences should be assessed when selecting the installation site. Details of the material properties and chemical resistance of the materials used can be taken from the table **though it should be noted that they are only guide values.**

| Power dissipation data for AK Air small distribution boards | Max. power output capability (P _{de}) for GP enclosures in accordance with EN 60670-24 [per profile rail] ¹⁾ | Achievable power dissipation in PD enclosures in accordance with EN 60670-24 [per profile 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 capability (P _{de}) for GP enclosures in accordance with EN 60670-24 [per profile rail] ¹⁾ | Achievable power dissipation in PD enclosures in accordance with EN 60670-24 [per profile 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 board can be used as both a GP (universal) enclosures and also a PD enclosures for predetermined equipment in accordance with standard EN 60670-24.

1) Verification of the maximum power output capability (P_{de}) for universal enclosures - GP enclosures

Verification of the temperature rise for GP empty enclosures and GP basic enclosures was carried out using AK small distribution boards with substitute resistors which produce the maximum power dissipation per standard rail as listed in the table. In the process, the outer surface did not heat up by more than 30K. Here, the increase in temperature inside the enclosure is higher and may exceed the permissible operating temperature of the equipment used if necessary.

2) Verification of the temperature rise for enclosures for predetermined equipment - PD enclosures

Verification of the temperature rise for PD empty enclosures and PD basic enclosures was carried out using AK small distribution boards with combinations of equipment which produce the maximum power dissipation per standard rail as listed in the table. In the process, the outer surface did not heat up by more than 40K. Here, the increase in temperature inside the enclosure is higher and may exceed the permissible operating temperature of the equipment used if necessary.

Small Distribution Boards

Technical Information

| Type | [W] | | | |
|-------------------------|------------------|------------------|------------------|------------------|
| | $\Delta T = 10K$ | $\Delta T = 20K$ | $\Delta T = 30K$ | $\Delta T = 40K$ |
| AK(F) 14, AK(F) 14 L | 9.9 | 23.6 | 39 | 55.8 |
| | [8.2] | [19.3] | 32 | [45.8] |
| AK(F) 28, AK(F) 14 Plus | 13.4 | 31.7 | 52.5 | 75 |
| | [10.4] | [24.6] | [40.8] | [58.3] |
| AK(F) 42, AK(F) 28 Plus | 16.7 | 39.6 | 65.6 | 93.9 |
| | [12.6] | [29.9] | [49.5] | [70.9] |
| AK(F) 56, AK(F) 42 Plus | 20 | 47.6 | 78.6 | 112.4 |
| | [15] | [35.6] | 59 | [84.3] |
| AK(F) 70, AK(F) 56 Plus | 25.7 | 60.9 | 100.9 | 144.4 |
| | [20.9] | [49.5] | [82.1] | [117.4] |

Power dissipation details for AK installation small distribution boards and **individually mounted empty AK enclosures**

individually mounted

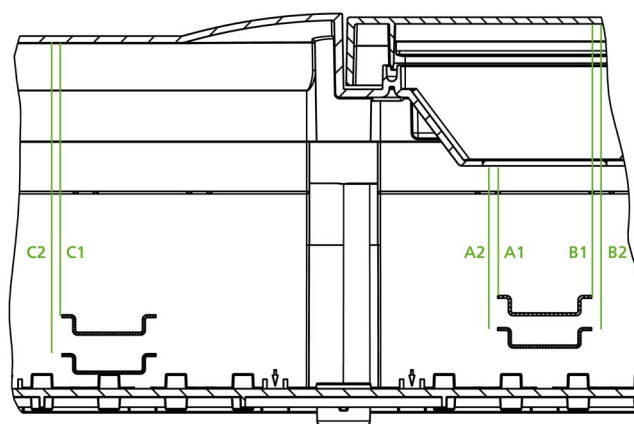
| Type | [W] | | | |
|----------------|------------------|------------------|------------------|------------------|
| | $\Delta T = 10K$ | $\Delta T = 20K$ | $\Delta T = 30K$ | $\Delta T = 40K$ |
| AK 03 / AKi 03 | 2.4 | 5.7 | 9.4 | 13.4 |
| | [1.8] | [4.4] | [7.2] | [10.4] |
| AK 05 / AKi 05 | 3.8 | 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] |



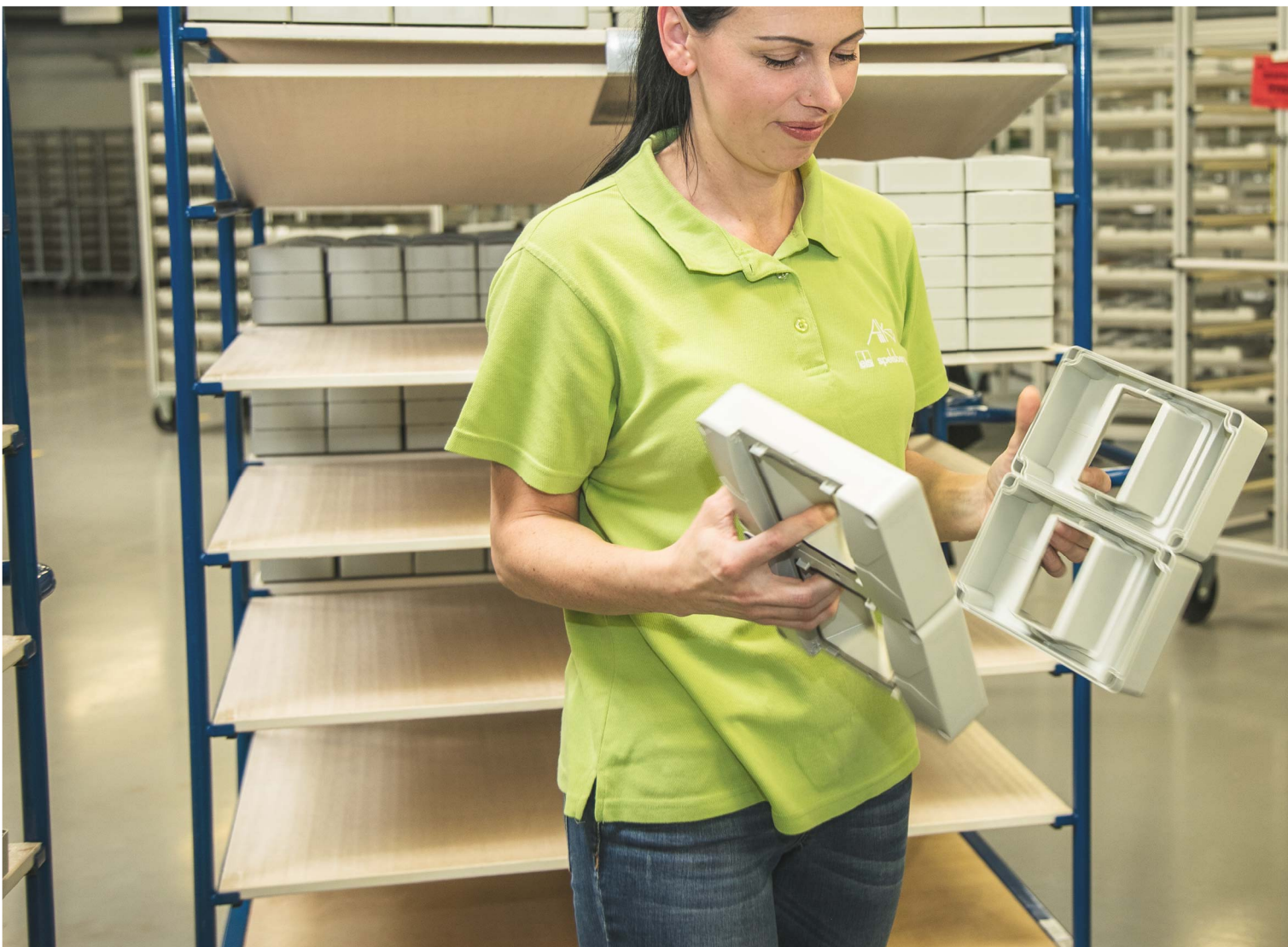
Permissible power loss P_{per} in watts in accordance with DIN VDE 61439-1 Supplement 2 for **individually mounted surface-mounted small distribution boards** and **surface-mounted empty enclosures** with stipulated ΔT . Power loss at 50% of the enclosure height and [75%] of the enclosure height.

Assembly and installation instructions

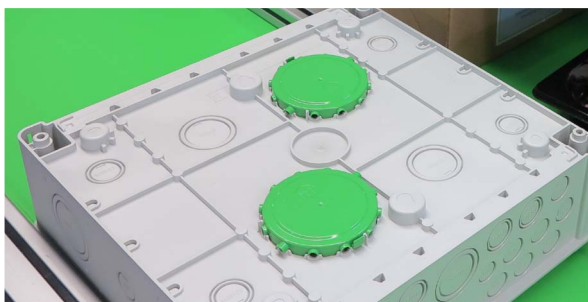
Installation dimensions of AK small distribution boards



| | A1 | A2 | B1 | B2 | C1 | C2 |
|----------------------|------|------|------|-------|-------|-------|
| AK / AK-F 14-70 | 48mm | 60mm | 95mm | 107mm | | |
| AK / AK-F Plus 14-42 | 48mm | 60mm | 95mm | 107mm | 101mm | 115mm |
| AK / AKi 03 | 48mm | | 71mm | | | |
| AK / AKi 05-24 | 48mm | | 94mm | | | |



Small Distribution Boards



Socket Distribution Boards / Enclosures



Different versions - Specially developed for your needs

An easily and quickly accessible socket makes any workflow easier, be this for servicing and maintenance or during daily working. The socket distribution boxes from Spelsberg are suitable both for supplying power to the workplace, and providing sockets in industrial buildings and craft workshops, or on machines to allow easy connection of additional equipment.






Spelsberg socket distribution boxes come as connection-ready, type-tested solutions with rail-mounted devices. The pre-wired socket combinations make it easy to satisfy the special requirements of the end customer.

Apart from the standard programme, Spelsberg also offers bespoke solutions for customers.



Socket Distribution Boards / Enclosures

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| Types | Series | Page |
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|  Socket distribution box, pre-wired or empty IP44 | STV-S / STV-L | 194 |
|  Socket enclosures, ready for connection IP44 | AKi | 203 |
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Socket Distribution Boards / Enclosures

STV | STG



All socket distribution boxes with 12 modules
now come with
3 cable insertions M32/40
on the top providing a simple option
for **feed-through cabling**.

STG - Connection-ready, fitted with CEE and protective contact sockets, ready wired for connection.

STV-S - Fitted with CEE and protective contact sockets, pre-wired, including PE/N terminal.

STV-K - Empty, without fittings but with PE/N terminal.

The enclosures are also **combinable** with AKi Compact small distribution boards.

The **special break-out contour** on the enclosure sides of the STG / STV 5 and STG / STV 9 enclosures allows the installation of further components, e.g. load disconnecting switches.

- High mechanical resistance
- Non-sensitive to temperature
- Compact dimensions
- Combinable

IP44

IK08



400V
AC



Industrial
Quality

Socket Distribution Boards / Enclosures

STG

STG 5

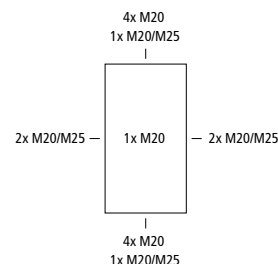
125 x 200 x 122 mm



Socket enclosure, with protection class IP44, with integrated, pre-wired sockets, high mechanical resilience, non-sensitive to temperature, combinable, halogen-free

Accessories supplied:

Attachment bushes: 2x M25, 2x M32, sealing plugs



| Description | Order no. |
|--|-----------|
| STG 004 equipped with: 4 x SCHUKO® plug socket (on front), 230V | 73220401 |
| STG 004 BE/FR NEW equipped with: 4 x Protective contact socket, French/Belgian standard (on front), 230V | 73220405 |
| STG 012 equipped with: 2 x SCHUKO® plug socket (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V | 73221201 |
| STG 012 BE/FR NEW equipped with: 2 x Protective contact socket, French/Belgian standard (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V | 73221205 |

STG 12

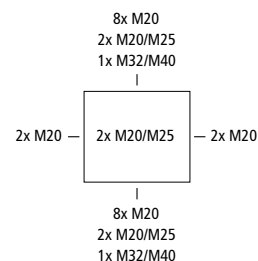
250 x 200 x 122 mm



Socket enclosure, with protection class IP44, with integrated, pre-wired sockets, high mechanical resilience, non-sensitive to temperature, combinable, halogen-free

Accessories supplied:

Attachment bushes: 2x M25, 2x M32, sealing plugs



| Description | Order no. |
|--|-----------|
| STG 008 equipped with: 8 x SCHUKO® plug socket (on front), 230V | 73220801 |
| STG 008 BE/FR NEW equipped with: 8 x Protective contact socket, French/Belgian standard (on front), 230V | 73220805 |
| STG 024 equipped with: 4 x SCHUKO® plug socket (on front), 230V 2 x CEE plug socket outlet (on front) 16A, 400V | 73222401 |
| STG 024 BE/FR NEW equipped with: 4 x Protective contact socket, French/Belgian standard (on front), 230V 2 x CEE plug socket outlet (on front) 16A, 400V | 73222405 |

Socket Distribution Boards / Enclosures

STV

STV 502-S

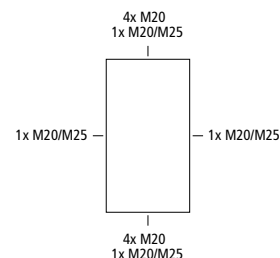
125 x 200 x 122 mm



Socket combination, with protection class IP44, suitable for installation by the customer of rail mounted devices, with integrated sockets pre-wired to PE/N terminal, high mechanical load capacity, temperature-insensitive, combinable, halogen-free

Accessories supplied:

Attachment bushes: 2x M25, sealing plugs, masking and labelling strips



Description

STV 502-S

available modules: 4
equipped with: 2 x SCHUKO® plug socket (on side), 230V

Order no.

72830201

STV 502-S BE/FR **NEW**

available modules: 4
equipped with: 2 x Protective contact socket, French/Belgian standard (on the side), 230V

72830205

STV 5-S

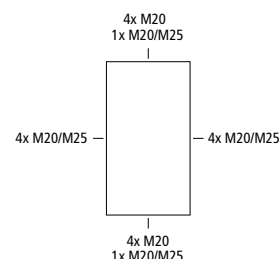
125 x 400 x 122 mm



Socket combination, with protection class IP44, suitable for installation by the customer of rail mounted devices, with integrated sockets pre-wired to PE/N terminal, high mechanical load capacity, temperature-insensitive, combinable, halogen-free

Accessories supplied:

Attachment bushes: 2x M25, 2x M32, sealing plugs, masking and labelling strips



Description

STV 512-S

available modules: 5
equipped with: 2 x SCHUKO® plug socket (on front), 230V
1 x CEE plug socket outlet (on front) 16A, 400V

Order no.

72831201

STV 512-S BE/FR **NEW**

available modules: 5
equipped with: 2 x Protective contact socket, French/Belgian standard (on front), 230V
1 x CEE plug socket outlet (on front) 16A, 400V

72831205

Socket Distribution Boards / Enclosures

STV

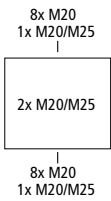
STV 904-S

200 x 200 x 122 mm



Socket combination, with protection class IP44, suitable for installation by the customer of rail mounted devices, with integrated sockets pre-wired to PE/N terminal, high mechanical load capacity, temperature-insensitive, combinable, halogen-free

Accessories supplied:
Attachment bushes: 2x M25, 2x M32, sealing plugs, masking and labelling strips



| Description | Order no. |
|--|-----------|
| STV 904-S available modules: 8 equipped with: 4 x SCHUKO® plug socket (on side), 230V | 72930401 |
| STV 904-S BE/FR NEW available modules: 8 equipped with: 4 x Protective contact socket, French/Belgian standard (on the side), 230V | 72930405 |

Socket Distribution Boards / Enclosures

STV

STV 9-S

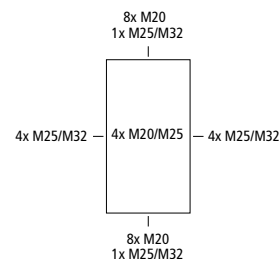
200 x 400 x 122 mm



Socket combination, with protection class IP44, suitable for installation by the customer of rail mounted devices, with integrated sockets pre-wired to PE/N terminal, high mechanical load capacity, temperature-insensitive, combinable, halogen-free

Accessories supplied:

Attachment bushes: 2x M25, 2x M32, sealing plugs, masking and labelling strips



| Description | Order no. |
|---|-----------|
| STV 912-S available modules: 9 equipped with: 2 x SCHUKO® plug socket (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V | 72931201 |
| STV 912-S BE/FR NEW available modules: 9 equipped with: 2 x Protective contact socket, French/Belgian standard (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V | 72931205 |
| STV 912-S32 available modules: 9 equipped with: 2 x SCHUKO® plug socket (on front), 230V 1 x CEE plug socket outlet (on front) 32A, 400V | 72931301 |
| STV 912-S32 BE/FR NEW available modules: 9 equipped with: 2 x Protective contact socket, French/Belgian standard (on front), 230V 1 x CEE plug socket outlet (on front) 32A, 400V | 72931305 |
| STV 922-S available modules: 9 equipped with: 2 x SCHUKO® plug socket (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 32A, 400V | 72932201 |
| STV 922-S BE/FR NEW available modules: 9 equipped with: 2 x Protective contact socket, French/Belgian standard (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 32A, 400V | 72932205 |
| STV 923-S available modules: 9 equipped with: 3 x SCHUKO® plug socket (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 32A, 400V | 72932301 |
| STV 923-S BE/FR NEW available modules: 9 equipped with: 3 x Protective contact socket, French/Belgian standard (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 32A, 400V | 72932305 |

Socket Distribution Boards / Enclosures

STV

STV 12-S

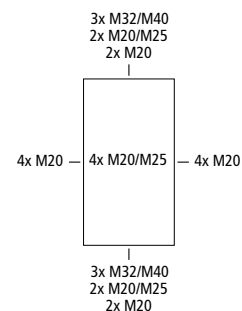
250 x 400 x 122 mm



Socket combination, with protection class IP44, suitable for installation by the customer of rail mounted devices, with integrated sockets pre-wired to PE/N terminal, high mechanical load capacity, temperature-insensitive, combinable, halogen-free

Accessories supplied:

Attachment bushes: 2x M25, 2x M32, sealing plugs, masking and labelling strips



| Description | Order no. |
|---|-----------|
| STV 1208-S available modules: 12 equipped with: 8 x SCHUKO® plug socket (on front), 230V | 73130801 |
| STV 1222-S available modules: 12 equipped with: 2 x SCHUKO® plug socket (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 32A, 400V | 73132201 |
| STV 1222-S16 available modules: 12 equipped with: 2 x SCHUKO® plug socket (on front), 230V 2 x CEE plug socket outlet (on front) 16A, 400V | 73122201 |
| STV 1224-S available modules: 12 equipped with: 4 x SCHUKO® plug socket (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 32A, 400V | 73132401 |
| STV 1224-S16 available modules: 12 equipped with: 4 x SCHUKO® plug socket (on front), 230V 2 x CEE plug socket outlet (on front) 16A, 400V | 73122401 |
| STV 1224-S32 available modules: 12 equipped with: 4 x SCHUKO® plug socket (on front), 230V 2 x CEE plug socket outlet (on front) 32A, 400V | 73112401 |

Socket Distribution Boards / Enclosures

STV

STV 12-S BE/FR

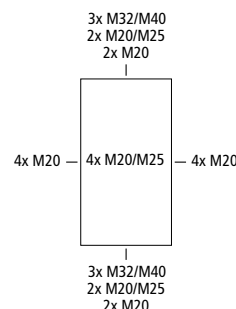
250 x 400 x 122 mm



Socket combination, with protection class IP44, suitable for installation by the customer of rail mounted devices, with integrated sockets pre-wired to PE/N terminal, high mechanical load capacity, temperature-insensitive, combinable, halogen-free

Accessories supplied:

Attachment bushes: 2x M25, 2x M32, sealing plugs, masking and labelling strips



| Description | Order no. |
|--|-----------|
| STV 1208-S BE/FR NEW available modules: 12 equipped with: 8 x Protective contact socket, French/Belgian standard (on front), 230V | 73130805 |
| STV 1222-S BE/FR NEW available modules: 12 equipped with: 2 x Protective contact socket, French/Belgian standard (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 32A, 400V | 73132205 |
| STV 1224-S BE/FR NEW available modules: 12 equipped with: 4 x Protective contact socket, French/Belgian standard (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 32A, 400V | 73132405 |
| STV 1224-S16 BE/FR NEW available modules: 12 equipped with: 4 x Protective contact socket, French/Belgian standard (on front), 230V 2 x CEE plug socket outlet (on front) 16A, 400V | 73122405 |
| STV 1224-S32 BE/FR NEW available modules: 12 equipped with: 4 x Protective contact socket, French/Belgian standard (on front), 230V 2 x CEE plug socket outlet (on front) 32A, 400V | 73112405 |

STV 502-L

125 x 200 x 122 mm



Socket empty enclosure, with protection class IP44, suitable for installation of rail mounted devices and extension sockets by the customer, with PE/N terminal, adapters and screws for assembling the sockets, high mechanical resilience, non-sensitive to temperature, halogen-free

Accessories supplied:

Attachment bushes: 2x M25, sealing plugs, masking and labelling strips

| Description | Order no. |
|---|-----------|
| STV 502-L available modules: 4 Openings for sockets: 2 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on side) | 72890201 |

Socket Distribution Boards / Enclosures

STV

STV 5-L

125 x 400 x 122 mm



Socket combination, with protection class IP44, suitable for installation of rail mounted devices and extension sockets by the customer, with PE/N terminal, adapters and screws for assembling the sockets, high mechanical resilience, non-sensitive to temperature, halogen-free

Accessories supplied:

Attachment bushes: 2x M25, 2x M32, sealing plugs, masking and labelling strips

| Description | Order no. |
|---|-----------|
| STV 504-L available modules: 5 Openings for sockets: 4 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front) | 72890401 |
| STV 512-L available modules: 5 Openings for sockets: 2 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front), 1 x drill hole for CEE sockets with a diameter of 66.5mm and drill hole distance for vertical/horizontal mounting of 60/60mm (on front) | 72891201 |

STV 904-L

200 x 200 x 122 mm



Socket combination, with protection class IP44, suitable for installation of rail mounted devices and extension sockets by the customer, with PE/N terminal, adapters and screws for assembling the sockets, high mechanical resilience, non-sensitive to temperature, halogen-free

Accessories supplied:

Attachment bushes: 2x M25, 2x M32, sealing plugs, masking and labelling strips

| Description | Order no. |
|---|-----------|
| STV 904-L available modules: 8 Openings for sockets: 2 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on side) | 72990401 |

Socket Distribution Boards / Enclosures

STV

STV 9-L

200 x 400 x 122 mm



Socket empty enclosure, with protection class IP44, suitable for installation of rail mounted devices and extension sockets by the customer, with PE/N terminal, adapters and screws for assembling the sockets, high mechanical resilience, non-sensitive to temperature, halogen-free

Accessories supplied:

Attachment bushes: 2x M25, 2x M32, sealing plugs, masking and labelling strips

| Description | Order no. |
|--|-----------|
| STV 912-L available modules: 9 Openings for sockets: 2 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front), 1 x drill hole for CEE sockets with a diameter of 66.5mm and drill hole distance for vertical/horizontal mounting of 60/60mm (on front) | 72991201 |
| STV 922-L available modules: 9 Openings for sockets: 2 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front), 2 x drill holes for CEE sockets with a diameter of 66.5mm and drill hole distance for vertical/horizontal mounting of 60/60mm (on front) | 72992201 |
| STV 923-L available modules: 9 Openings for sockets: 3 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front), 2 x drill holes for CEE sockets with a diameter of 66.5mm and drill hole distance for vertical/horizontal mounting of 60/60mm (on front) | 72992301 |

Socket Distribution Boards / Enclosures

STV

STV 12-L

250 x 400 x 122 mm



Socket empty enclosure, with protection class IP44, suitable for installation of rail mounted devices and extension sockets by the customer, with PE/N terminal, adapters and screws for assembling the sockets, high mechanical resilience, non-sensitive to temperature, halogen-free

Accessories supplied:

Attachment bushes: 2x M25, 2x M32, sealing plugs, masking and labelling strips

| Description | Order no. |
|---|-----------|
| STV 1208-L available modules: 12 Openings for sockets: 8 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front) | 73190801 |
| STV 1222-L available modules: 12 Openings for sockets: 2 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front), 2 x drill holes for CEE sockets with a diameter of 66.5mm and drill hole distance for vertical/horizontal mounting of 60/60mm (on front) | 73192201 |
| STV 1224-L available modules: 12 Openings for sockets: 4 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front), 2 x drill holes for CEE sockets with a diameter of 66.5mm and drill hole distance for vertical/horizontal mounting of 60/60 mm (on front) | 73192401 |

Socket Distribution Boards / Enclosures

AKi



AKi-STG

Connection-ready, fitted with CEE and protective contact sockets, ready wired for connection.

AKi-STV-S

Fitted with CEE and protective contact sockets, pre-wired, including PE/N terminal

AKi-STV-L

Empty, without fittings but with PE/N terminal.

- Socket distribution box with 1 and 2 rows
- Combinable with AKi empty enclosures
- High mechanical resistance
- Non-sensitive to temperature
- Horizontally combinable

IP44

IK08



400V
AC



Industrial
Quality

Socket Distribution Boards / Enclosures

AKi STG

AKi 1-S

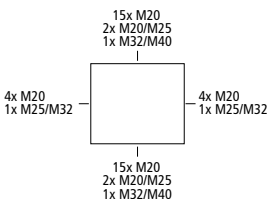
300 x 150 x 132 mm



Socket combination, with protection class IP44, with integrated, pre-wired sockets, high mechanical resilience, non-sensitive to temperature, combinable, halogen-free

Accessories supplied:

Double-membrane seals: 1x M20, 1x M25, 1x M32,
Attachment bushes: 1x M40,
sealing plugs, masking and labelling strips



| Description | Order no. |
|--|-----------|
| AKi 1-1S equipped with: 8 x SCHUKO® plug socket (on front), 230V | 74111101 |
| AKi 1-2S equipped with: 4 x SCHUKO® plug socket (on front), 230V 2 x CEE plug socket outlet (on front) 32A, 400V | 74112101 |
| AKi 1-3S equipped with: 4 x SCHUKO® plug socket (on front), 230V 2 x CEE plug socket outlet (on front) 16A, 400V | 74113101 |
| AKi 1-4S equipped with: 4 x SCHUKO® plug socket (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 32A, 400V | 74114101 |

Socket Distribution Boards / Enclosures

AKi STV

AKi 14-S

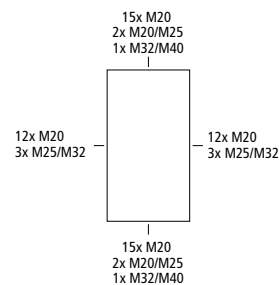
300 x 450 x 142 mm



Socket combination, with protection class IP44, suitable for installation by the customer of rail mounted devices, with integrated sockets pre-wired to PE/N terminal, high mechanical load capacity, temperature-insensitive, combinable, halogen-free

Accessories supplied:

Double-membrane seals: 1x M20, 1x M25, 1x M32,
Attachment bushes: 1x M40,
sealing plugs, masking and labelling strips



| Description | Order no. |
|--|-----------|
| AKi 14-1S available modules: 14 equipped with: 8 x SCHUKO® plug socket (on front), 230V | 73911101 |
| AKi 14-2S available modules: 14 equipped with: 4 x SCHUKO® plug socket (on front), 230V 2 x CEE plug socket outlet (on front) 32A, 400V | 73912101 |
| AKi 14-3S available modules: 14 equipped with: 4 x SCHUKO® plug socket (on front), 230V 2 x CEE plug socket outlet (on front) 16A, 400V | 73913101 |
| AKi 14-4S available modules: 14 equipped with: 4 x SCHUKO® plug socket (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 32A, 400V | 73914101 |

Socket Distribution Boards / Enclosures

AKi STV

AKi 28-S

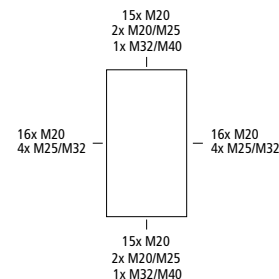
300 x 600 x 142 mm



Socket combination, with protection class IP44, suitable for installation by the customer of rail mounted devices, with integrated sockets pre-wired to PE/N terminal, high mechanical load capacity, temperature-insensitive, combinable, halogen-free

Accessories supplied:

Double-membrane seals: 1x M20, 1x M25, 1x M32,
Attachment bushes: 1x M40,
sealing plugs, masking and labelling strips



| Description | Order no. |
|--|-----------|
| AKi 28-2S available modules: 28 equipped with: 4 x SCHUKO® plug socket (on front), 230V 2 x CEE plug socket outlet (on front) 32A, 400V | 73922101 |
| AKi 28-3S available modules: 28 equipped with: 4 x SCHUKO® plug socket (on front), 230V 2 x CEE plug socket outlet (on front) 16A, 400V | 73923101 |
| AKi 28-4S available modules: 28 equipped with: 4 x SCHUKO® plug socket (on front), 230V 1 x CEE plug socket outlet (on front) 16A, 400V 1 x CEE plug socket outlet (on front) 32A, 400V | 73924101 |

AKi 1-L

300 x 150 x 132 mm



Socket empty enclosure, with protection class IP44, suitable for installation of rail mounted devices and extension sockets by the customer, with PE/N terminal, adapters and screws for assembling the sockets, high mechanical resilience, non-sensitive to temperature, halogen-free

Accessories supplied:

Double-membrane seals: 1x M20, 1x M25, 1x M32,
Attachment bushes: 1x M40,
sealing plugs, masking and labelling strips

| Description | Order no. |
|--|-----------|
| AKi 1-1L Openings for sockets: 8 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front) | 74111001 |
| AKi 1-2L Openings for sockets: 4 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front), 2 x drill holes for CEE sockets with a diameter of 66.5mm and drill hole distance for vertical/horizontal mounting of 60/60 mm (on front) | 74112001 |

Socket Distribution Boards / Enclosures

AKi STV

AKi 14-L

300 x 450 x 142 mm



Socket empty enclosure, with protection class IP44, suitable for installation of rail mounted devices and extension sockets by the customer, with PE/N terminal, adapters and screws for assembling the sockets, high mechanical resilience, non-sensitive to temperature, halogen-free

Accessories supplied:

Double-membrane seals: 1x M20, 1x M25, 1x M32,
Attachment bushes: 1x M40,
sealing plugs, masking and labelling strips

| Description | Order no. |
|--|-----------|
| AKi 14-1L available modules: 14 Openings for sockets: 8 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front) | 73911001 |
| AKi 14-2L available modules: 14 Openings for sockets: 4 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front), 2 x drill holes for CEE sockets with a diameter of 66.5mm and drill hole distance for vertical/horizontal mounting of 60/60 mm (on front) | 73912001 |

AKi 28-L

300 x 600 x 142 mm



Socket empty enclosure, with protection class IP44, suitable for installation of rail mounted devices and extension sockets by the customer, with PE/N terminal, adapters and screws for assembling the sockets, high mechanical resilience, non-sensitive to temperature, halogen-free

Accessories supplied:

Double-membrane seals: 1x M20, 1x M25, 1x M32,
Attachment bushes: 1x M40,
sealing plugs, masking and labelling strips

| Description | Order no. |
|--|-----------|
| AKi 28-2L available modules: 28 Openings for sockets: 4 x hole for protective contact sockets with diameter of 44.5mm and drill hole distance for vertical/horizontal mounting of 38/38mm (on front), 2 x drill holes for CEE sockets with a diameter of 66.5mm and drill hole distance for vertical/horizontal mounting of 60/60 mm (on front) | 73922001 |

Socket Distribution Boards / Enclosures

Accessories

Double membrane seals, grey



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

| 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, with locknut



Cable gland, IP68, with strain relief, polyamide, M_x x 1.5 mm, with locknut, grey

| 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 |

Ventilation plug



Ventilation Plug, IP44, with labyrinth seal to avoid condensation formation in enclosures, flow rate 100 l/min. at 0.1 bar overpressure, thermoplastic elastomer, recommended for insertion on the left and right enclosure sides in different heights (see Technical Appendix - protection against condensate water), for 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 |

Socket Distribution Boards / Enclosures

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 |

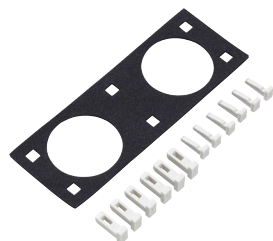
Combi set



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 |

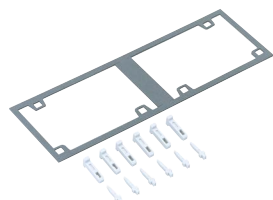
STV KS combi set



For horizontal combination with AKi 05/09 small distributors, complete with wedge connectors and intermediate seals

| Description | Order no. |
|---------------------|-----------|
| STV KS-IP 65 | 79100201 |

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 |

Socket Distribution Boards / Enclosures

Accessories

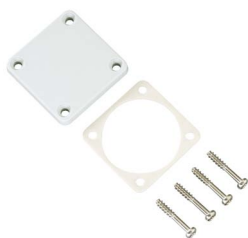
Z wall profile



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 |

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 |

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 |

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 |

Socket Distribution Boards / Enclosures

Technical Information

IP44

Protection rating (IP code)
in accordance with DIN EN 60529
(VDE 0470-1)

IK08

Level of protection (IK code)
against mechanical impact in accordance
with DIN EN 50102 (VDE 0470-100)



Protection class II
Equipment with protective insulation in
accordance with DIN VDE 0100-410

**400V
AC**

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



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



Industrial quality

Pictograms |
Socket distribution boards / enclosure



**Industrial
Quality**

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

| | Enclosure without fittings | | | Enclosure with fittings | | | | | Protection rating according to DIN EN 60529 (VDE 0470-1) ¹⁾ | Shock-proof as per DIN EN 50102 / DE 0470 Part 100 |
|--------------------------------------|--------------------------------------|--------------------------------------|--|--------------------------------------|--------------------------------------|--|-----------------------------------|--|---|--|
| | Ambient temperature Minimum value | Ambient temperature Maximum value | Ambient temperature Average over 24 h | Ambient temperature Minimum value | Ambient temperature Maximum value | Ambient temperature Average over 24 h | Max. relative humidity at 40°C | Max. relative humidity at 25°C (short-term) | | |
| STV / STG socket combinations | -35°C | 80°C | 60°C | -25°C | 40°C | 35°C | 50% | 95% | IP44 ¹⁾ | IK08 |
| AKi-STV socket combinations | -35°C | 80°C | 60°C | -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 closed socket covers

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

| Material | Used in the products: | Weak acids | Strong acids | Weak alkalis | Strong alkalis | Alcohol | Petrol | Benzene | Mineral oil | Diesel | Ammonia, gaseous (DLG Focus Test) | Vegetable fats | Animal fats | Halogen-free | Heavy metal-, PVC- and silicon-free | Combustion behaviour in accordance with DIN EN 60695 (VDE 0471) / UL94 |
|--|----------------------------------|------------|--------------|--------------|----------------|---------|--------|---------|-------------|--------|--------------------------------------|----------------|-------------|--------------|--|---|
| Polycarbonate, glass-fibre-reinforced | STV/STG, AKi | O | X | X | X | O | Ø | X | O | Ø | O | O | Ø | yes | yes | 960°C / V-2 (5VA*) |
| Polycarbonate, transparent | Hinged door STV, AKi | O | X | X | X | Ø | Ø | X | O | Ø | O | O | O | yes | yes | 850°C / V-2 |
| Polyamide 6, glass-fibre-reinforced | Cable glands 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 in accordance with UL 746 C (comparable with the requirements in accordance with UL 94, 5VA)

The materials used by Spelsberg have been subjected to a weathering test in accordance with DIN 53 387 (superseded by DIN EN ISO 4892-2) and a 1000-hour test by the State Testing Office in Dortmund. The materials used for the IQ products achieved optimal results as can be seen here. This material also passed the UV resistance test in accordance with UL 746 C unconditionally.

In principle, not only the level of protection but also the climatic conditions and the occurrence of chemical influences should be assessed when selecting the installation site. Details of the material properties and chemical resistance of the materials used can be taken from the table **though it should be noted that they are only guide values.**

Power dissipation data for STV empty enclosure

| Type | [W] | | | |
|---|---------|---------|---------|---------|
| | 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] |
| AKi 1-1L / -1S / -2L / -2S / -3S / -4S | 5.7 | 13.4 | 22.2 | 31.7 |
| | 5.0 | [11.9] | [19.7] | [28.2] |
| AKi 14-1L / -1S / -2L / -2S / -3S / -4S | 12.5 | 29.5 | 48.9 | 70.0 |
| | [9.6] | [22.8] | [37.8] | [54.1] |
| AKi 28-2L / -2S / -3S / -4S | 15.6 | 37.0 | 61.3 | 87.7 |
| | 11.8 | 27.9 | [46.2] | [66.0] |

Permissible power loss P_{per} in watts in accordance with DIN VDE 61439-1 Supplement 2 for **surface-mounted empty enclosures** at specified ΔT.
Power loss at 50% of the enclosure height and [75%] of the enclosure height.



Your partner for smart and convenient e-mobility

Take a step into the future with Spelsberg – by using power from sustainable sources for environmentally-friendly modes of transport. For this to happen, components are required which are able to reliably supply the e-bikes or e-cars with green energy. The versatile solutions from Spelsberg in the field of e-mobility make this possible.

Whether you are charging your e-bikes, pedelecs, other Light Electric Vehicles

(LEV) or e-cars, with Spelsberg you will always have the right partner for user friendly e-mobility by your side. So when touring on an e-bike, the cumbersome process of taking your own charge controller with you is consigned to the past thanks to Spelsberg's BCS stations. Instead, you can benefit straight from the factory from the integration of original systems from leading manufacturers with the highest safety standards. e-bike charging has never been so easy and convenient.






The same also applies to the integration of e-car wallboxes into the domestic installation: The innovative AK E-Mobility distributors allow retrofitting to the existing system without long downtimes or new assessments.

Whatever form of e-mobility you decide on, in each case the smart connection solutions from Spelsberg will reliably support you on your journey.

CONNECT  e-MOBILITY

E-Mobility Solutions

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E-Mobility Solutions

BCS E-Bike Charging Station | Case Study



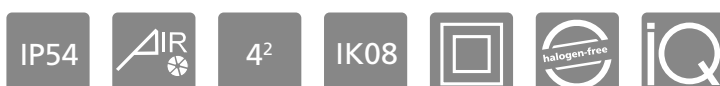
FORSTHAUS Hotel and Restaurant, Möhnesee - Easy, on-site charging

For decades now, the lakeside FORSTHAUS, has enjoyed a reputation nationwide as a small hotel and restaurant with homestyle cooking. The nearby Möhne and Ruhr cycle paths see many cyclists returning to the region year after year. Accordingly, many guests at the FORSTHAUS bring their bikes with them. "The target group of e-bike riders is becoming increasingly important for us. Out of our desire to be good hosts,

we have decided to extend the services we offer to them by adding a free charging station", explains the owner Karin Schreiner-Schulte.

During the search for a suitable solution, a Smart BCS charging station from Spelsberg was chosen. The innovative and robust BCS, taken out from our high qualitative GEOS enclosure range, are equipped in the standard configuration with original charge controllers, from Bosch and

Shimano, amongst others, and also with SCHUKO sockets. The use of these original components ensures a reliable and safe charging process. At the same time, guests do not have to use their own charge controller. The integrated electronics monitor the system, detect overloads, and if necessary automatically shut down the station. The operating temperature range of -25 °C to +40 °C allows use in protected outdoor areas throughout the year.





The e-bike charging station is an important part of the service offering for our guests. Just as important to us was expert advice beforehand and selecting a product that meets our requirements.

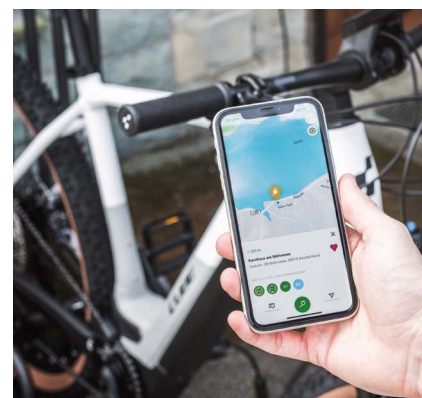
We found the collaboration with Spelsberg to be excellent.

Karin Schreiner-Schulte, owner



Having decided on the Smart version, the management of the hotel and restaurant on the Möhnesee benefit from additional features. On the one hand these allow easy monitoring of the station, and on the other hand increase the advertising effectiveness of the FORSTHAUS. The included BCS management portal provides a display of the charging processes and users, as well as statistics and servicing instructions. All e-bike riders can also access the BCS

Finder App, which by means of its Search function shows a summary of available charging stations in the proximity.



E-Mobility Solutions

BCS E-Bike Charging Station



Refuel easily with the connection-ready BCS PURE and BCS SMART e-bike charging stations from Spelsberg. These offer an easy and convenient charging option for e-bikes, pedelecs and other light electric vehicles. Equipped with charging systems from Bosch and Shimano, and with SCHUKO® sockets, charging is also possible if the e-bike's own charging unit is unavailable.

With the mobile BCS Finder App charging stations in the proximity of bikers can easily be located.



www.spelsberg.com/BCS

CONNECT  e-MOBILITY



E-Mobility Solutions

BCS E-Bike Charging Station

e-bike charging station BCS Pure

528 x 530 x 226 mm



e-bike charging station, monitored and controlled charging for the e-biker and charging station operator, grey, similar to RAL 7035, with printed cover, fixed cable system, including status display of individual charging points, can be connected to 230/400V-grid, product delivered ready for connection for rapid and easy wall-mounting

Accessories supplied:

With four external fixing lugs 10mm and 40mm wall distance, with integrated ventilation element BEL Air M40 for preventing the accumulation of condensation inside the enclosure

| Description | Order no. |
|---|-----------|
| BCS Pure NEW Four charging stations, of which 1 x Shimano, 1 x Bosch, 2 x SCHUKO 2 x SCHUKO® plug socket (on side), 230V 1 x Shimano charging point 1 x Bosch charging point | 58112201 |
| BCS Pure BOSCH NEW Four charging points, of which 2 x Bosch, 2 x SCHUKO 2 x SCHUKO® plug socket (on side), 230V 2 x Bosch charging point | 58113201 |
| BCS Pure Shimano NEW Four charging points, of which 2 x Shimano, 2 x SCHUKO 2 x SCHUKO® plug socket (on side), 230V 2 x Shimano charging point | 58114201 |

E-Mobility Solutions

BCS E-Bike Charging Station

E-bike charging station BCS

528 x 530 x 226 mm



E-bike charging station, monitored and controlled charging for the e-biker and operator of the charging station, cloud connection via LAN, WLAN or mobile radio, grey, similar to RAL 7035, with printed lid, with permanently mounted cable system (2.5 m), incl. status display of the individual charging points, connectable to the 230/400V mains, product is delivered ready for connection for quick and easy wall mounting. For use with the free BCS Finder app for Android & iOS and the management portal (including two year licence from purchase. Upon expiry of the agreed period of use of the management portal, service charges may then apply. The Terms of Use in force shall apply). Use of smart services is subject to prior acceptance of the Terms of Use in force - these can be found at www.spelsberg.com/bcs/termsfuse. Resellers are required to advise their customers of this condition.

Accessories supplied:

With four external fixing lugs 10mm and 40mm wall distance, with integrated ventilation element BEL Air M40 for preventing the accumulation of condensation inside the enclosure

| Description | Order no. |
|--|-----------|
| BCS Smart NEW Four charging stations, of which 1 x Shimano, 1 x Bosch, 2 x SCHUKO 2 x SCHUKO® plug socket (on side), 230V 1 x Shimano charging point 1 x Bosch charging point | 58012201 |
| BCS Smart FR NEW Four charging stations 1 x Shimano charging point 1 x Bosch charging point 2 x SCHUKO® plug socket (on side), 230V | 57212201 |
| BCS Smart BE NEW Four charging points, of which 2 sockets Type E 230V, 1 x Shimano, 1 x Bosch 1 x Shimano charging point 1 x Bosch charging point 2 x SCHUKO® plug socket (on side), 230V | 57412201 |
| BCS Smart GB NEW Four charging points, of which 2 sockets Type G 230V, 1 x Shimano, 1 x Bosch 1 x Shimano charging point 1 x Bosch charging point | 57112201 |

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 |

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 |

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 |

E-Mobility Solutions

BCS E-Bike Charging Station Accessories



E-Mobility Solutions

TG BCS Bicycle Charging Station



The key feature of the station is its customisability: **For this, Spelsberg also offers printing according to customer's specification.** The appearance can then be individually adapted to the installer or operator. From the company logo to colourful images, everything is possible with our in-house printing service at Spelsberg Headquarters.

Even more options for optical effects are provided by the translucent material of the cover.

With the illuminated version, more individualised customer requirements can be accommodated.



E-Mobility Solutions

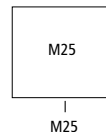
TG BCS Bicycle Charging Station

TG BCS 3

110 x 202 x 152 mm



Bicycle charging station, with protection class IP44, black, incl. cover screw with special head, cable entries, 1 x M25 rear housing side, 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 equipped with: 3 x SCHUKO® plug socket (on front), 230V | 20003001 |
| TG BCS 3 LED with LED lighting equipped with: 3 x SCHUKO® plug socket (on front), 230V | 20003401 |
| TG BCS 3 BE/FR equipped with: 3 x Protective contact socket, French/Belgian standard (on front), 230V | 20013001 |
| TG BCS 3 BE/FR LED with LED lighting equipped with: 3 x Protective contact socket, French/Belgian standard (on front), 230V | 20013401 |

E-Mobility Solutions

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 |



E-Mobility Solutions

Small Distribution Boards



For charging at home... The simple solution for your wallbox

The AK E-Mobility distributor, with integrated miniature and residual current circuit breakers, offers a simple and safe solution for adding an 11 kW wallbox to the existing electrical system.

If your wallbox already has integrated 6mA DC monitoring, then an AK E-Mobility distributor with Type A RCD circuit breaker can be used.

For a wallbox without DC monitoring, the distributor with Type B RCD circuit breaker should be used.

In the Comfort versions a Type 2 surge protector is also fitted to protect the sensitive charging electronics, together with an intermediate meter to provide information on the energy consumption of the vehicle.

Simple - Safe - Fast:

- Low planning effort
- Optimum adaptation to the wallbox
- Safe and compliant with the standards
Installation in accordance with VDE 0100-722 and EN 61439-3
- IP65 protection allows use in carport or garage
- Short downtimes when connecting the distributor



E-Mobility Solutions

Small Distribution Boards

AK 14+ EMOBIL Basic

315 x 155 x 450 mm



Small-scale distributors, with protection class IP65, type-tested to EN 61439-3, prewired ready for connection to input and output terminals 10 mm²

Accessories supplied:

Double membrane seals: 1x M16, 5x M20, 2x M25, 1x M32, 1x M40, cable glands: 1x M20, 2x M40, sealing plugs, cover and labelling strips

| Description | Order no. |
|---|-----------|
| AK 14+EMOBIL 11kW-A 1-row, for 11 kW Wallbox with integrated 6mA DC monitoring equipped with: 1 x Earth leakage switch (RCCB), 40/0.03A, 4-pole, type A | 73301101 |
| AK 14+EMOBIL 11kW-B 1-row, for 11 kW Wallbox without integrated DC monitoring equipped with: 1 x Earth leakage switch (RCCB), 40/0.03A, 4-pole, type B | 73301201 |

AK 28+ EMOBIL Comfort

315 x 155 x 600 mm



Small-scale distributors, with protection class IP65, type-tested to EN 61439-3, prewired ready for connection to input and output terminals 10 mm²

Accessories supplied:

Double membrane seals: 2x M16, 10x M20, 4x M25, 2x M32, 2x M40, cable glands: 1x M20, 2x M40, sealing plugs, cover and labelling strips

| Description | Order no. |
|---|-----------|
| AK 28+EMOBIL 11kW-A-ÜSS-Z 2-row, for 11 kW Wallbox with integrated 6mA DC monitoring equipped with: 1 x Earth leakage switch (RCCB), 40/0.03A, 4-pole, type A | 73302101 |
| AK 28+EMOBIL 11kW-B-ÜSS-Z 2-row, for 11 kW Wallbox without integrated DC monitoring equipped with: 1 x Earth leakage switch (RCCB), 40/0.03A, 4-pole, type B | 73302201 |

E-Mobility Solutions

Technical Information

IP65

Protection rating (IP code)
in accordance with
DIN EN 60529 (VDE 0470-1)



Protection class II
Equipment with protective insulation in
accordance with DIN VDE 0100-410

IK08

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

4²

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)

400V
AC

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



The **VDE symbol** stands for the tested
safety of the product in respect of electrical,
mechanical, thermal and other hazards.



UL EU
Products with the **UL EU** approval mark have
been independently certified by UL (Under-
writers Laboratories Inc.). Representative
samples of this product have been assessed
by UL and comply with the applicable Euro-
pean (EN) or international (IEC) standards.



AK Air ventilation elements
for preventing condensation while
maintaining the high protection
rating IP65.



DLG focus test
for special innovations in machines and
technical products - predominantly in
agriculture and forestry applications.



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



Industrial quality

Pictograms |
e-mobility solutions



**Industrial
Quality**

| Overview of the ambient conditions and mechanical properties of els products | Enclosure with fittings | | | | | | |
|---|-----------------------------------|-----------------------------------|---------------------------------------|--------------------------------|---|--|------|
| | Ambient temperature Minimum value | Ambient temperature Maximum value | Ambient temperature Average 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 | |
| BCS Smart / BCS Pure | -25°C | 40°C | 35°C | 50% | 95% | IP66/IP67 ¹⁾ | IK09 |
| TG BCS | -25°C | 40°C | 35°C | 50% | 95% | IP44 ²⁾ | IK08 |
| AK EMOBIL small distribution boards | -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 glands

²⁾ With closed socket covers

| Overview of the properties of the materials used in els installation systems | | Weak acids | Strong acids | Weak alkalis | Strong alkalis | Alcohol | Petrol | Benzene | Mineral oil | Diesel | Ammonia, gaseous (DLG Focus Test) | Vegetable fats | Animal fats | Halogen-free | Heavy metal-, PVC- and silicon-free | Combustion behaviour in accordance with DIN EN 60695 (VDE 0471) / UL94 |
|--|---|-----------------------|--------------|--------------|----------------|---------|--------|---------|-------------|--------|-----------------------------------|----------------|-------------|--------------|-------------------------------------|--|
| | | Used in the products: | | | | | | | | | | | | | | |
| Polycarbonate, glass-fibre-reinforced | BCS Smart / BCS Pure, AK EMOBIL | O | X | X | X | O | Ø | X | O | Ø | O | O | Ø | yes | yes | 960 °C / V-2 (5 VA*) |
| Polycarbonate, grey | BCS Smart / BCS Pure Cover / door, grey, TG BCS | O | X | X | X | O | Ø | X | O | Ø | O | O | Ø | yes | yes | 960 °C / V-2 (5 VA*) |
| Polycarbonate, transparent | Hinged cover AK EMOBIL | O | X | X | X | Ø | Ø | X | O | Ø | O | O | O | yes | yes | 850°C / V-2 |
| Polyamid 6, glass-fibre-reinforced | cable glands 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 in accordance with UL 746 C (comparable with the requirements in accordance with UL 94, 5VA)


The materials used by Spelsberg have been subjected to a weathering test in accordance with DIN 53 387 (superseded by DIN EN ISO 4892-2) and a 1000-hour test by the State Testing Office in Dortmund. The materials used for the IQ products achieved optimal results as can be seen here. This material also passed the UV resistance test in accordance with UL 746 C unconditionally.

In principle, not only the level of protection but also the climatic conditions and the occurrence of chemical influences should be assessed when selecting the installation site. Details of the material properties and chemical resistance of the materials used can be found in the table **though it should be noted that they are only guide values.**

E-Mobility Solutions

Technical Information

BCS Smart / BCS Pure e-bike charging station






| e-bike charging station | |
|----------------------------|---|
| Input voltage | 230/400 V AC 50 Hz |
| Rated current | 10 – 16 A |
| Charging voltage (sockets) | 230 V AC 50 Hz |
| Charging current (sockets) | 2.5 A |
| Protection rating | IP 54 |
| Protection class | Protection class II  |
| Operating temperature | 0 to +40 °C |
| Ambient temperature | -25 to +40 °C |
| Air humidity | max. 80% |
| Dimensions (w x h x d) | 528 x 530 x 226 mm |
| Weight | 12 kg |

| | Bosch charging plug | Shimano charging plug |
|----------------------|--|--|
| Compatible batteries | Active Line, Active Line Plus, Cargo Line, Performance Line, Performance Line CX | Shimano BT-E6000, BT-E6001, BT-E6010, BT-E8010, BT-E8020 |
| Charging voltage | 36 V DC | 40 V DC / 42 V DC |
| Charging current | 4.0 A | 4.4 A / 4.0 A |

Technical description

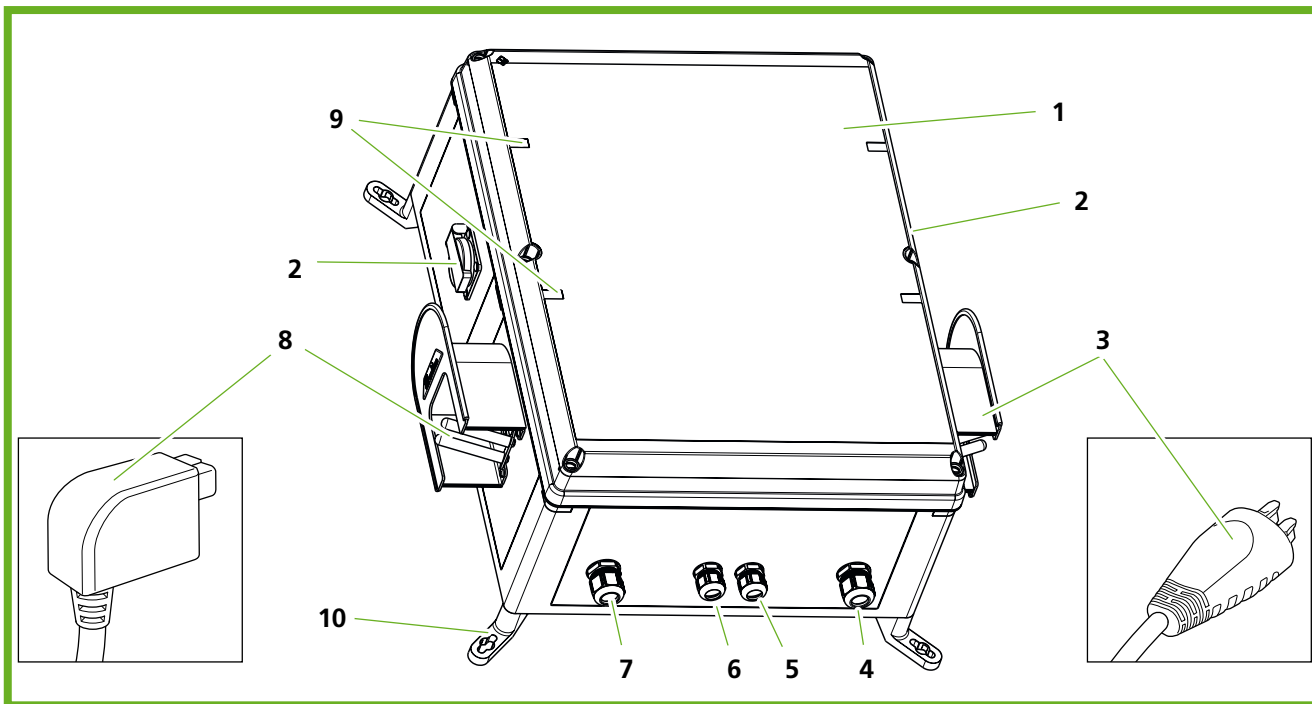
The charge current of both protective contact sockets is limited to max. 2.5 A. The direct connections for the manufacturer-specific rechargeable batteries deliver the supply voltage for the respective LEVs. The cable management for the cable permanently connected supports the correct use with the lines. The e-bike charging station is equipped with a special ventilation and venting system. The station monitors the charging processes and indicates this via LEDs.

The charging station switches off the charging point in case of the following ambient conditions:

-  Overload
-  Temperature too high
-  Temperature too low
-  Humidity too high
-  Sabotage attempts (BCS Smart only)

Below the enclosure cover, there are LEDs that display the status of the respective charging point.

| LED | Status |
|----------------|---|
| Off | Charging point off |
| Green | Charging point ready or charging process finished |
| Green/flashing | Charging process running |
| Red | Fault at charging point |



| Item No. | Description |
|----------|---|
| 1 | Enclosure cover with special head screws (tool enclosed) |
| 2 | 230 V socket with child lock (one on each side) |
| 3 | System connector, e.g. Bosch or Shimano, depending on the equipment |
| 4 | BCS Smart only: supply line for LAN connection |
| 5 | Supply line for rechargeable battery-specific system connector |
| 6 | Supply line for rechargeable battery-specific system connector |
| 7 | Mains connection |
| 8 | System connector, e.g. Bosch or Shimano, depending on the equipment |
| 9 | LED status display |
| 10 | External fixing lugs |

E-Mobility Solutions

Technical Information

AK EMOBIL small distribution boards

For ambient temperatures that differ from the reference temperature values, a correction factor must be applied.

The thermal trips are calibrated at a reference ambient temperature. For the B- and C-characteristic this is 30°C.

The relevant ambient temperature within the enclosure for the equipment installed, during operation of an 11kW wallbox, is approximately 7 K above the ambient temperature outside the enclosure.

| Max. operating currents as a function of the ambient temperature T [A] | | | | | | | | | | | | |
|--|-------|-------|-------|-------|------|------|------|------|------|------|------|------|
| Miniature circuit breaker | -40°C | -30°C | -20°C | -10°C | 0°C | 10°C | 20°C | 30°C | 40°C | 50°C | 60°C | 70°C |
| 16 A | 19.4 | 18.9 | 18.4 | 17.9 | 17.4 | 17.0 | 16.5 | 16.0 | 15.5 | 15.0 | 14.6 | 14.1 |
| C 20 A | 24.2 | 23.6 | 23.0 | 22.4 | 21.8 | 21.2 | 20.6 | 20.0 | 19.4 | 18.8 | 18.2 | 17.6 |
| Residual current circuit breaker (RCCB), In40A | - | - | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 40.0 | 32.4 | 25.0 | - |

| Power dissipation in W at rated current of the equipment used: | |
|--|--|
| Miniature circuit breaker C20A | 2.5 W / pole |
| Residual current circuit breaker (RCCB) Type A, I _n 40A | 3.2 W / pole |
| Residual current circuit breaker (RCCB) Type B, In40A | 1.81 W / pole |
| Three-phase meter | 0.75 W / device (independently of rated current) |

Data may be influenced by the application and the environment and should therefore be considered as typical values.

| The right E-Mobility infrastructure distributor for your wallbox | | | | |
|--|------------------------|-----------------------|-----------------------|--------------------|
| Manufacturer | TYPE | Recommendation Type A | Recommendation Type B | Note |
| VW | ID. Charger | x | | |
| BMW | BMW wallbox | x | | configured for 16A |
| Tesla | WALL CONNECTOR, 32 A | | x | configured for 16A |
| Mennekes | Compact 3.7/11 C2 | x | | |
| Keba | KC-P30-EC22 0112-000 | x | | B-series |
| ABL | eMH1 Basic | x | | |
| Wallbe | wallbe Eco 2.0 - 11kW | x | | |
| Hager | witty home XEV151S7035 | | x | configured for 16A |

If your wallbox is not listed, or if you require advice on E-Mobility installation?

Please contact our our technical sales team.



Whether you run a restaurant, a cafe, or a hotel, we can supply you with fully customised charging stations - whatever suits you best. Add value to the service you offer your guests and put across your own brand. Interested? Please contact us and we'll be happy to assist you further.

Notice on data transfer

We prefer to process vectorised data (eps, ai) - it saves time and money.

Other data formats: TIFF, JPG, PDF

Resolution: minimum 300 dpi for original image size

Colour specifications: HKS, Pantone, RAL

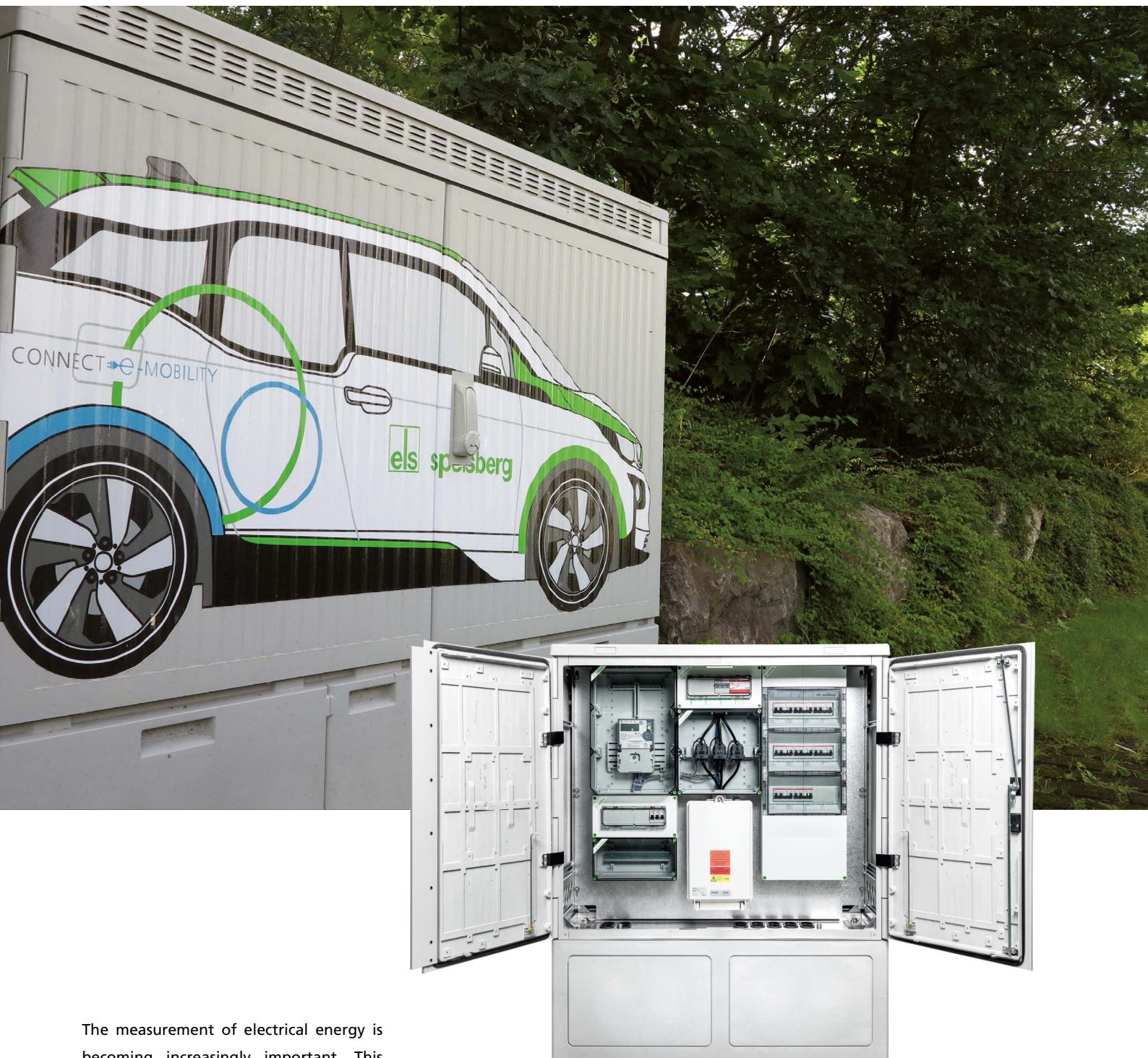
Fonts: must be fully embedded or converted into curves

We also require: Positioning and dimensional information.

Data from programs such as Word, Excel or PowerPoint are not suitable for further processing.



Meter Enclosures / Distributors










The measurement of electrical energy is becoming increasingly important. This may be as a reference measurement of the energy purchased from the utility company or as an internal measurement to differentiate between the consumption of different areas. Spelsberg offers meter housings for internal measurement, which if necessary can be expanded by means of additional empty housings,

pre-wired meter distributions according to DIN EN 61439 for use in harsh environments or outdoor cabinets, and solutions for single-phase mains connection outdoors according to VDE-AR-N 4100 for energy measurements up to a maximum of 4.6kVA.

Meter Enclosures / Distributors

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Meter Enclosures / Distributors

ZKi



- Variants with flat cover for electronic meters with 3-point installation
- Dust- and water-tight for use in harsh environments
- Sealable transparent cover

IP54
IP65

IK08



400V
AC



Industrial
Quality

Meter Enclosures / Distributors

ZKi

ZKi 1

250 x 370 mm



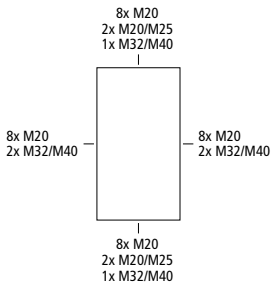
IP54
IP65

IK08

400V
AC

iQ

Meter enclosure - 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



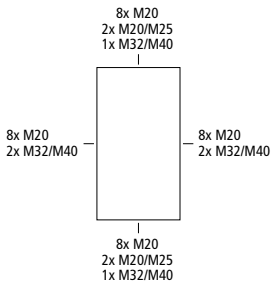
IP54
IP65

IK08

400V
AC

iQ

Meter enclosure - 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 Enclosures / Distributors

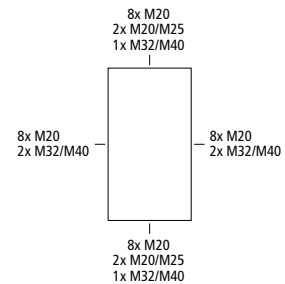
ZKi

ZKi 100

250 x 520 mm



Meter enclosure - 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



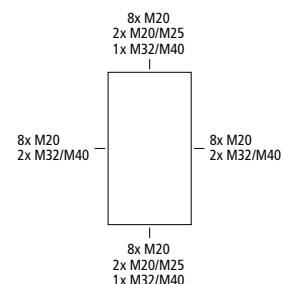
| Description | Height/mm | Order no. |
|--|-----------|-----------|
| ZKi 100 for tri-phase counter | 193 | 74910001 |
| ZKi 100-f Suitable for ripple control receivers according to DIN 43861-2, for meter with three-point mounting and a depth of max. 80 mm | 137 | 74910501 |

ZKi 110

250 x 670 mm



Meter enclosure - 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 Enclosures / Distributors

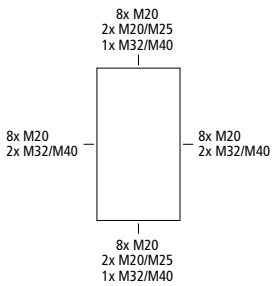
ZKi

ZKi 120

250 x 820 mm



Meter enclosure - 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 |



Meter Enclosures / Distributors

AKi-Z



- Combinable with AKi empty enclosures
- Meter device mounting surface according to DIN 43870-1
- Dust- and watertight, for harsh environments

IP65

IK08



400V
AC



Industrial
Quality

Meter Enclosures / Distributors

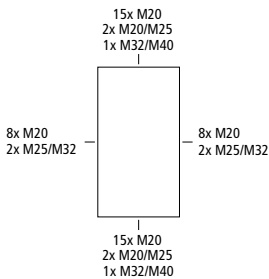
AKi-Z

AKi-Z 2

300 x 300 x 210 mm



Meter enclosure - Industrial Quality -, with transparent cover, standard version sealable, with meter crosspiece fitted for triphase counter and meter fixing screws, With double membrane seals, Sealing and insulating plugs



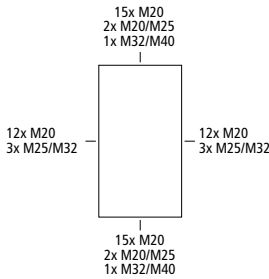
| Description | Order no. |
|-------------|-----------|
| AKi-Z 2 | 75200201 |

AKi-Z 3

300 x 450 x 210 mm



Meter enclosure - Industrial Quality -, meter panel unit installation surface in accordance to DIN 43870-1, with transparent cover, sealable as standard, with mounted meter cross for three-phase meters and meter fixing screws, with double membrane seals, sealing and insulating plugs



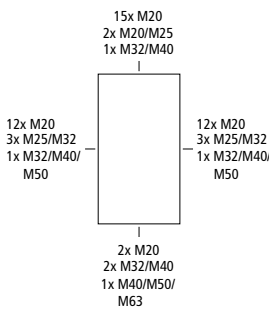
| Description | Order no. |
|-------------|-----------|
| AKi-Z 3 | 75201101 |

AKi-Z 400

300 x 600 x 210 mm



Meter enclosure - Industrial Quality -, with transparent cover, sealable as standard, with mounted meter cross-piece for three-phase meters and meter fixing screws, with 35 mm standard rail in the terminal compartment, with double membrane seals, sealing and insulating plugs



| Description | Order no. |
|-------------|-----------|
| AKi-Z 400 | 75711001 |

Meter Enclosures / Distributors

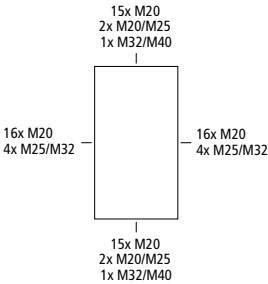
AKi-Z

AKi-Z 401

300 x 600 x 210 mm



Meter enclosure - Industrial Quality -, meter panel device installation surface in accordance to DIN 43870-1, with transparent cover, sealable as standard, with mounted meter cross for three-phase meters and meter fixing screws, separate, additional 150 mm terminal compartment below with 35 mm standard rail, with double membrane seals, sealing and insulating plugs



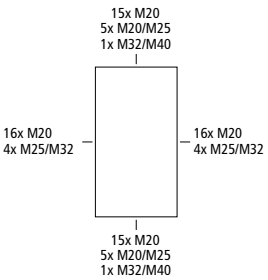
| Description | Order no. |
|-------------|-----------|
| AKi-Z 401 | 75240101 |

AKi-Z 410

300 x 600 x 210 mm



Meter enclosure - Industrial Quality -, with transparent cover, standard version sealable, with meter crosspiece fitted for triphase counter and meter fixing screws, standard version sealable consumer space at the top, with 35 mm standard rails, With double membrane seals, Sealing and insulating plugs



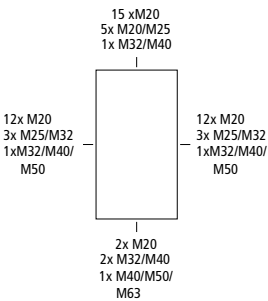
| Description | Order no. |
|-------------|-----------|
| AKi-Z 410 | 75241001 |

AKi-Z 410 K

300 x 600 x 210 mm



Meter enclosure - Industrial Quality -, with transparent cover, sealable as standard, with mounted meter cross-piece for three-phase meters and meter fixing screws, with additional hinged window for operating a selective main switch, with 35 mm standard rail for installation of a selective main switch, incl. 2 single-pole HA terminals 25/16 mm² for N and PE with double membrane seals, sealing and insulating plugs



| Description | Order no. |
|-------------|-----------|
| AKi-Z 410 K | 75741001 |

Meter Enclosures / Distributors

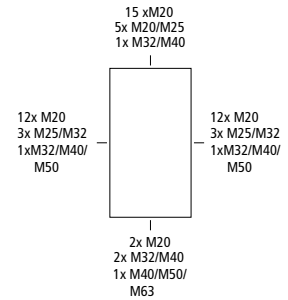
AKi-Z

AKi-Z 410 KK

300 x 600 x 210 mm



Meter enclosure - Industrial Quality -, with grey cover, sealable as standard, with mounted meter cross-piece for three-phase meters and meter fixing screws, with additional hinged window for operating a selective main switch, incl. 2 single-pole HA terminals 25/16 mm² for N and PE, with 35 mm standard rail for installation of a selective main switch, with double membrane seals, sealing and insulating plugs



Description

AKi-Z 410 KK

Order no.

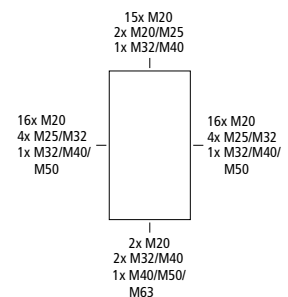
75841001

AKi-Z 502

300 x 750 x 210 mm



Meter enclosure - Industrial Quality -, meter panel device installation surface in accordance to DIN 43870-1, with transparent cover, sealable as standard, with mounted meter cross for three-phase meters and meter fixing screws, separate, additional 300 mm terminal compartment below with 35 mm standard rail, with double membrane seals, sealing and insulating plugs



Description

AKi-Z 502

Order no.

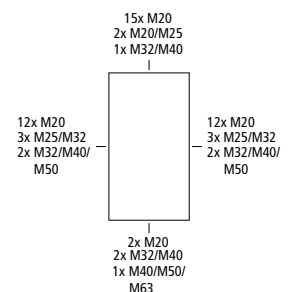
75250201

AKi-Z 511 K

300 x 750 x 210 mm



Meter enclosure - Industrial Quality -, with transparent cover, sealable as standard, with mounted meter cross-piece for three-phase meters and meter fixing screws, with additional hinged window for operating a selective main switch, with 35 mm standard rail for installation of a selective main switch, incl. 2 single-pole HA terminals 25/16 mm² for N and PE, with additional 150 mm terminal compartment above, with 35 mm standard rail, with double membrane seals, sealing and insulating plugs



Description

AKi-Z 511 K

Order no.

75751101

Meter Enclosures / Distributors

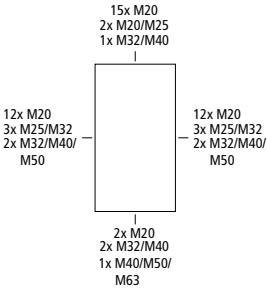
AKi-Z

AKi-Z 511 KK

300 x 750 x 210 mm



Meter enclosure - Industrial Quality -, with transparent cover, sealable as standard, with transparent hinged window, with mounted meter cross-piece for three-phase meters and meter fixing screws, with additional hinged window for operating a selective main switch, incl. 2 single-pole HA terminals 25/16 mm² for N and PE, with 35 mm standard rail for installation of a selective main switch, with additional 150 mm terminal compartment above, with 35 mm standard rail, with double membrane seals, sealing and insulating plugs



| Description | Order no. |
|--------------|-----------|
| AKi-Z 511 KK | 75851101 |

Meter Enclosures / Distributors

ZVi - with three-point installation



Application areas

- Stops
- Pumping stations
- Measuring stations
- Charging stations
- Urban furnishings
- Street lighting
- Allotments

Characteristics

- Insulated, encapsulated housing with a high level of protection
- Type-tested according to DIN EN 61439-2/-3
- Pre-cabled
- Flexible combination options
- Combinable with AKi empty enclosures

Benefits

- No corrosion
- For use in harsh environments
- Easy installation
- Individual adaptation to spatial conditions

IP54
IP65

IK08



400V
AC



Industrial
Quality

Meter Enclosures / Distributors

ZVi

ZVi 9030

300 x 900 x 210 mm



Meter distribution in multiple box-type design according to DIN EN 61439-2/-3, standard version sealable, for the surface mounting in the non-measured area, device installation surfaces according to DIN 43870-1, meter connection lines 5-pole for TN-S networks, use according to the individual release by the responsible operator, with closing and insulating seals, with included ventilation seal (IPx4) to reduce condensate water, with blanking plug, with enclosed ventilation plug IP44 for reduction of condensation water, with insulating seals

Description

ZVi 9030

Upper connection space, 150 mm, equipped with 35 mm standard rail for the support of the main line junction terminal HA 25-53 (accessories), Meter field, 450 mm, with transparent cover, for 1 meter with three-point mounting, with mounted meter crosspiece for three-phase meter and meter fastening screws, fastening dimensions according to DIN 43870-2, Lower connection space, 300 mm, standard version sealable, with 35 mm standard rail for automatic main circuit breakers, with PE/N double terminals, with hinged window 12 modules for layman operation of the automatic main circuit breakers and additional space for overvoltage protection devices, line feed-through via cable gland (IP65, accessories) or stepped nipple M40 (IP55, included)

Order no.

75911001

ZVi 12030

300 x 1200 x 210 mm



Meter distribution in multiple box-type design according to DIN EN 61439-2/-3, standard version sealable, for the surface mounting in the non-measured area, device installation surfaces according to DIN 43870-1, meter connection lines 5-pole for TN-S networks, use according to the individual release by the responsible operator, with closing and insulating seals, with included ventilation seal (IPx4) to reduce condensate water, with blanking plug, with insulating seals, with enclosed ventilation plug IP44 for reduction of condensation water

Description

ZVi 12030

Upper connection space, 300 mm, equipped with 35 mm standard rail for the support of the main line junction terminal HA25-53 (accessories), as well as consumer space with hinged window 12TE for rail-mounted device, incl. screwless PE/N terminal rail with 3 screwable clamping units each, 2.5-16mm², 14 screwless clamping units, 1.5-4mm², Space for additional applications, 150 mm, 12 modules, equipped with 35 mm standard rail for the support of additional operation material of the operator, meter operator or metering service providers, with sealable shock protection and transparent cover, Meter field, 450 mm, with transparent cover, for 1 meter with three-point mounting, with mounted meter crosspiece for three-phase meter and meter fastening screws, fastening dimensions according to DIN 43870-2, Lower connection space, 300 mm, standard version sealable, with 35 mm standard rail for automatic main circuit breakers, with PE/N double terminals, with hinged window 12 modules for layman operation of the automatic main circuit breakers and additional space for overvoltage protection devices, line feed-through via cable gland (IP65, accessories) or stepped nipple M40 (IP55, included)

Order no.

75913001

Meter Enclosures / Distributors

ZVi

ZVi 6060

600 x 600 x 210 mm



Meter distribution in multiple box-type design according to DIN EN 61439-2/-3, standard version sealable, for the surface mounting in the non-measured area, device installation surfaces according to DIN 43870-1, meter connection lines 5-pole for TN-S networks, use according to the individual release by the responsible operator, with closing and insulating seals, with included ventilation seal (IPx4) to reduce condensate water, with blanking plug, with insulating seals, with enclosed ventilation plug IP44 for reduction of condensation water

Description

ZVi 6060

Upper connection space, 150 mm, equipped with 35 mm standard rail for the support of the main line junction terminal HA 25-53 (accessories), Meter field, 450 mm, with transparent cover, for 1 meter with three-point mounting, with mounted meter crosspiece for three-phase meter and meter fastening screws, fastening dimensions according to DIN 43870-2, Lower connection space, 300 mm, standard version sealable, with 35 mm standard rail for automatic main circuit breakers, with PE/N double terminals, with hinged window 12 modules for layman operation of the automatic main circuit breakers and additional space for overvoltage protection devices, line feed-through via cable gland (IP65, accessories) or stepped nipple M40 (IP55, included)

Order no.

75914001

ZVi 9030-W

300 x 900 x 132 mm



Meter distribution in multiple box-type design according to DIN EN 61439-2/-3, standard version sealable, for the surface mounting in the non-measured area, device installation surfaces according to DIN 43870-1, meter connection lines 5-pole for TN-S networks, use according to the individual release by the responsible operator, with closing and insulating seals, with included ventilation seal (IPx4) to reduce condensate water, with blanking plug, with insulating seals, with enclosed ventilation plug IP44 for reduction of condensation water

Description

ZVi 9030-W

Upper connection space, 150 mm, equipped with 35 mm standard rail for the support of the main line junction terminal HA 25-53 (accessories), Converter field 450 mm, with mounting plate made from insulating material, 240 x 240 x 4 mm, for EVU converter, with 35 mm standard rail for the support of the converter terminals, with cable set 5-pole H07V-K 16mm², Lower connection space, 300 mm, standard version sealable, with 35 mm standard rail for automatic main circuit breakers, with PE/N double terminals, with hinged window 12 modules for layman operation of the automatic main circuit breakers and additional space for overvoltage protection devices, line feed-through via cable gland (IP65, accessories) or stepped nipple M40 (IP55, included)

Order no.

75916001

Meter Enclosures / Distributors

ZVi

ZVi 12060-S

600 x 1200 x 210 mm



Meter distribution in multiple box-type design according to DIN EN 61439-2/-3, standard version sealable, for the surface mounting in the non-measured area, device installation surfaces according to DIN 43870-1, meter connection lines 5-pole for TN-S networks, use according to the individual release by the responsible operator, with closing and insulating seals, with included ventilation seal (IPx4) to reduce condensate water, with blanking plug, with insulating seals, with enclosed ventilation plug IP44 for reduction of condensation water

Description

ZVi 12060-S

2 meter panels, each consisting of: Upper connection space, 300 mm, equipped with 35 mm standard rail for the support of the main line junction terminal HA25-53 (accessories), as well as consumer space with hinged window 12TE for rail-mounted device, incl. screwless PE/N terminal rail with 3 screwable clamping units each, 2.5-16mm², 14 screwless clamping units, 1.5-4mm², Space for additional applications, 150 mm, 12 modules, equipped with 35 mm standard rail for the support of additional operation material of the operator, meter operator or metering service providers, with sealable shock protection and transparent cover, Meter field, 450 mm, with transparent cover, for 1 meter with three-point mounting, with mounted meter crosspiece for three-phase meter and meter fastening screws, fastening dimensions according to DIN 43870-2, Lower connection space, 300 mm, standard version sealable, with 5-pole busbar system, 40 mm busbar spacing, CU12x5 mm, rated current 160A, I_{cu}= 2.5 kA (0.2 s), busbar terminal, for N- and PE conductors, for CU conductor 16-35 mm², with hinged window 12TE for layman operation of the automatic main circuit breakers and additional space for surge protection devices, line feed-through via cable gland (IP65, accessories) or stepped nipple M40 (IP55, included)

Order no.

75923001

Meter Enclosures / Distributors

ZVi-eHZ

ZVi 10530-eHZ

300 x 1050 x 210 mm



Meter distribution in multiple box-type design according to DIN EN 61439-2/-3, standard version sealable, for the surface mounting in the non-measured area, device installation surfaces according to DIN 43870-1, meter connection lines 5-pole for TN-S networks, use according to the individual release by the responsible operator, with closing and insulating seals, with included ventilation seal (IPx4) to reduce condensate water, with blanking plug, with insulating seals, with enclosed ventilation plug IP44 for reduction of condensation water

Description

ZVi 10530-eHZ

Upper connection space, 300 mm, equipped with 35 mm standard rail for the support of the main line junction terminal HA25-53 (accessories), a s well as consumer space with hinged window 12TE for rail-mounted device, incl. screwless PE/N terminal rail with 3 screwable clamping units each, 2.5-16mm², 14 screwless clamping units, 1.5-4mm², Space for additional applications, 150 mm, 12 modules, equipped with 35 mm standard rail for the support of additional operation material of the operator, meter operator or metering service providers, with sealable shock protection and transparent cover, Meter field, 300 mm, with transparent cover, with 1 BKE-I for eHZ, can be expanded by another BKE-I (while observing the specifications of the VDE AR 4100), Lower connection space, 300 mm, standard version sealable, with 35 mm standard rail for automatic main circuit breakers, with PE/N double terminals, with hinged window 12 modules for layman operation of the automatic main circuit breakers and additional space for overvoltage protection devices, line feed-through via cable gland (IP65, accessories) or stepped nipple M40 (IP55, included)

Order no.

75932001

ZVi 6060-eHZ

600 x 600 x 210 mm



Meter distribution in multiple box-type design according to DIN EN 61439-2/-3, standard version sealable, for the surface mounting in the non-measured area, device installation surfaces according to DIN 43870-1, meter connection lines 5-pole for TN-S networks, use according to the individual release by the responsible operator, with closing and insulating seals, with included ventilation seal (IPx4) to reduce condensate water, with blanking plug, with insulating seals, with enclosed ventilation plug IP44 for reduction of condensation water

Description

ZVi 6060-eHZ

Upper connection space, 150 mm, equipped with 35 mm standard rail for the support of the main line junction terminal HA 25-53 (accessories), Space for additional applications, 150 mm, 12 modules, equipped with 35 mm standard rail for the support of additional operation material of the operator, meter operator or metering service providers, with sealable shock protection and transparent cover, Meter field, 300 mm, with transparent cover, with 1 BKE-I for eHZ, can be expanded by another BKE-I (while observing the specifications of the VDE AR-N 4100), Lower connection space, 300 mm, standard version sealable, with 35 mm standard rail for automatic main circuit breakers, with PE/N double terminals, with hinged window 12 modules for layman operation of the automatic main circuit breakers and additional space for overvoltage protection devices, line feed-through via cable gland (IP65, accessories) or stepped nipple M40 (IP55, included)

Order no.

75933001

Meter Enclosures / Distributors

ZVi-eHZ

ZVi 10530-S-eHZ

300 x 1050 x 210 mm



Meter distribution in multiple box-type design according to DIN EN 61439-2/-3, standard version sealable, for the surface mounting in the non-measured area, device installation surfaces according to DIN 43870-1, meter connection lines 5-pole for TN-S networks, use according to the individual release by the responsible operator, with closing and insulating seals, with included ventilation seal (IPx4) to reduce condensate water, with blanking plug, with insulating seals, with enclosed ventilation plug IP44 for reduction of condensation water

| Description | Order no. |
|--|-----------|
| <p>ZVi 10530-S-eHZ</p> <p>Upper connection space, 300 mm, equipped with 35 mm standard rail for the support of the main line junction terminal HA25-53 (accessories), as well as consumer space with hinged window 12TE for rail-mounted device, incl. screwless PE/N terminal rail with 3 screwable clamping units each, 2.5-16mm², 14 screwless clamping units, 1.5-4mm², Space for additional applications, 150 mm, 12 modules, equipped with 35 mm standard rail for the support of additional operation material of the operator, meter operator or metering service providers, with sealable shock protection and transparent cover, Meter field, 300 mm, with transparent cover, with 1 BKE-I for eHZ, can be expanded by another BKE-I (while observing the specifications of the VDE AR-N 4100), Lower connection space, 300 mm, standard version sealable, with 5-pole busbar system, 40 mm busbar spacing, CU12x5 mm, rated current 160A, I_{cu}= 2.5kA (0.2 s), busbar terminal, for N- and PE conductors, for CU conductor 16-35 mm², with hinged window 12TE for layman operation of the automatic main circuit breakers and additional space for surge protection devices, line feed-through via cable gland (IP65, accessories) or stepped nipple M40 (IP55, included)</p> | 75942001 |

Meter Enclosures / Distributors

ZVi-K | SVi - Compact design



Application areas

- Stops
- Pumping stations
- Measuring stations
- Telecommunications devices
- Charging stations
- Urban furnishings
- Allotments

Characteristics

- Compact design
- For single-phase AC connections
- **ZVi-K:**
With integrated, VDE-tested grid connection boxes, fully pre-wired and connection-ready, type-tested according to DIN EN 61439-2/3

Benefits

- **SVi:**
flexible combination options, numerous housing variants
- No corrosion
- For use in harsh environments
- Easy installation
- Individual adaptation to spatial conditions
- Application-optimised mains connection solutions, rapid implementation

IP54
IP65

IK07



400V
AC



Industrial
Quality

Meter Enclosures / Distributors

ZVi-K

ZVi 9015-K

150 x 900 x 162 mm



Meter distribution - compact - in multiple box-type design according to DIN EN 61439-2/-3, standard version sealable, for the surface mounting, for direct main connection and alternating current measurement in the non-measured area, use according to the individual release by the responsible operator, with closing and insulating seals, with included ventilation seal (IPx4) for the reduction of condensate water

Description

ZVi 9015-K

Meter distribution - compact -, consisting of: , Main connection enclosure - Industrial Quality -, for 230 V AC grids (L-N-PE / L-PEN) according to VDE-AR-N 4100 (building connection box for single-phase connection), In=25 A, I_{max}=63 A, equipped with 1x NH00 safety element and PE/N terminal with prism terminal, as well as park bay for unused wires, Meter field, with transparent cover, with 1 BKE-I for alternating current eHZ, incl. meter wiring, Automate box equipped with 35 mm standard rails for the support of terminals, as well as consumer space with hinged window for rail-mounted devices (6TE), incl. PE/N terminal rail

Order no.

75951001

ZVi 6030-K

300 x 600 x 162 mm



Meter distribution - compact - in multiple box-type design according to DIN EN 61439-2/-3, standard version sealable, for the surface mounting, for direct main connection and alternating current measurement in the non-measured area, use according to the individual release by the responsible operator, with closing and insulating seals, with included ventilation seal (IPx4) for the reduction of condensate water

Description

ZVi 6030-K

Meter distribution - compact -, consisting of: , Main connection enclosure - Industrial Quality -, for 230 V AC grids (L-N-PE / L-PEN) according to VDE-AR-N 4100 (building connection box for single-phase connection), In=25 A, I_{max}=63 A, equipped with 1x NH00 safety element and PE/N terminal with prism terminal, as well as park bay for unused wires, Meter field, with transparent cover, with 1 BKE-I for alternating current eHZ, incl. meter wiring, Automate box with 2 hinged windows for rail-mounted devices (6 modules), incl. PE/N terminal rail, Empty enclosure for individual expansion with standard rails or mounting plates

Order no.

75952001

Meter Enclosures / Distributors

ZVi-K

ZVi 3045-K

450 x 300 x 162 mm



Meter distribution - compact - in multiple box-type design according to DIN EN 61439-2/-3, standard version sealable, for the surface mounting, for direct main connection and alternating current measurement in the non-measured area, use according to the individual release by the responsible operator, with closing and insulating seals, with included ventilation seal (IPx4) for the reduction of condensate water

| Description | Order no. |
|--|-----------|
| <p>ZVi 3045-K</p> <p>Meter distribution - compact -, consisting of: , Main connection enclosure - Industrial Quality -, for 230 V AC grids (L-N-PE / L-PEN) according to VDE-AR-N 4100 (building connection box for single-phase connection), In=25 A, I_{max}=63 A, equipped with 1x NH00 safety element and PE/N terminal with prism terminal, as well as park bay for unused wires, Meter field, with transparent cover, with 1 BKE-I for alternating current eHZ, incl. meter wiring, Automate box equipped with 35 mm standard rails for the support of terminals, as well as consumer space with hinged window for rail-mounted devices (6TE), incl. PE/N terminal rail</p> | 75953001 |

Meter Enclosures / Distributors

SVi H | SVi A | SVi L

SVi H 12P

150 x 300 x 137 mm



Mains connection box - Industrial Quality -, for 230 V alternating current mains (L-N-PE / L-PEN) according to VDE-AR-N 4100 (domestic junction box for single-phase connection), $I_n=25$ A, $I_{max}=63$ A, equipped with: 1 x NH00 fuse element, 1 x N-terminal, 1 x PE-terminal, 1 x PE-N jumper 10mm², 1 x parking bay for 2 wire connection terminal supply cable: Prism terminal (2.5 - 50 mm² CU, 16 - 50 mm² AL) Connection terminals Outlet: Clamp connection (2x 2.5-50mm² CU)



| Description | Order no. |
|--|-----------|
| SVi H 12P-t Cover, transparent | 59101201 |
| SVi H 12P-g Cover, grey | 59101301 |

SVi H 12R

150 x 300 x 137 mm



Mains connection box - Industrial Quality -, for 230 V alternating current mains (L-N-PE / L-PEN) according to VDE-AR-N 4100 (domestic junction box for single-phase connection), $I_n=25$ A, $I_{max}=63$ A, equipped with: 1 x NH00 fuse element, 1 x N-terminal, 1 x PE-terminal, 1 x PE-N jumper 10mm², 1 x parking bay for 2 wire connection terminal supply cable: Box terminal (6 - 50 mm² CU, 10 - 50 mm² AL) Connection terminals Outlet: Clamp connection (2x 2.5-50mm² CU)



| Description | Order no. |
|--|-----------|
| SVi H 12R-t Cover, transparent | 59301201 |
| SVi H 12R-g Cover, grey | 59301301 |

Meter Enclosures / Distributors

SVi H | SVi A | SVi L

SVi H 21P

150 x 300 x 137 mm



Mains connection box - Industrial Quality -, for 230 V three-phase mains (L1-L2-PE), In=25 A, I_{max}=63 A, equipped with: 2 x NH00 fuse element, 1 x PE-terminal, 1 x parking bay for 2 wire connection terminal supply cable:
Prism terminal (2.5 - 50 mm² CU, 16 - 50 mm² AL)
Connection terminals Outlet:
Clamp connection (2x 2.5-50mm² CU)



| Description | Order no. |
|--|-----------|
| SVi H 21P-t Cover, transparent | 59102101 |
| SVi H 21P-g Cover, grey | 59102301 |

SVi H 21R

150 x 300 x 137 mm



Mains connection box - Industrial Quality -, for 230 V three-phase mains (L1-L2-PE), In=25 A, I_{max}=63 A, equipped with: 2 x NH00 fuse element, 1 x PE-terminal, 1 x parking bay for 2 wire connection terminal supply cable:
Box terminal (6 - 50 mm² CU, 10 - 50 mm² AL)
Connection terminals Outlet:
Clamp connection (2x 2.5-50mm² CU)



| Description | Order no. |
|--|-----------|
| SVi H 21R-t Cover, transparent | 59302101 |
| SVi H 21R-g Cover, grey | 59302301 |

Meter Enclosures / Distributors

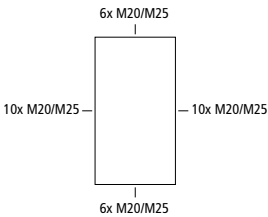
SVi H | SVi A | SVi L

SVi Z-W

150 x 300 x 162 mm



Meter enclosure - Industrial Quality - transparent cover, high, $I_n=25\text{ A}$, $I_{max}=63\text{ A}$, with BKE-I adapter plate for the electric counter for households in AC design with pre-assembled power cords



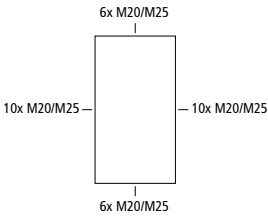
| Description | Order no. |
|-------------|-----------|
| SVi Z-W | 59103201 |

SVi A 6

150 x 300 x 156 mm



Module 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))



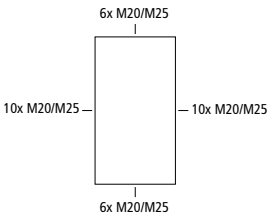
| Description | Order no. |
|-------------|-----------|
| SVi A 6 | 59106101 |

SVi A 2x6

150 x 300 x 156 mm



Module 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 |

Meter Enclosures / Distributors

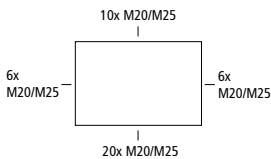
SVi H | SVi A | SVi L

SVi A 12

150 x 300 x 156 mm



Module 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))



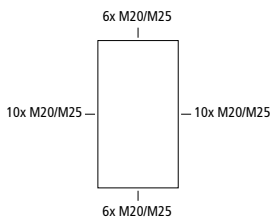
| Description | Order no. |
|-------------|-----------|
| SVi A 12 | 59113201 |

SVi L

150 x 300 mm



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 |

Meter Enclosures / Distributors

SVi H | SVi A | SVi L

SVi LS

150 x 300 x 137 mm



Empty enclosure - Industrial Quality -, with sliding seal and cable clamp



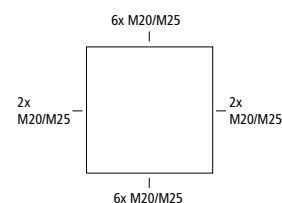
| Description | Height/mm | Order no. |
|-------------|-----------|-----------|
| SVi LS-g | 137 | 59112201 |
| SVi LS-gh | 162 | 59112301 |
| SVi LS-t | 137 | 59111301 |
| SVi LS-th | 162 | 59111401 |

SVi LQ

150 x 150 x 137 mm



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 |

Meter Enclosures / Distributors

Accessories

Cable bushing accessories set



Accessory kit for the feeding of the data line to the APL through the upper connection space

| Description | Order no. |
|--|-----------|
| ZVi DF 150-eHZ for the assembly to the additional space for eHZ application and OAR 150 mm | 75980101 |
| ZVi DF 300-eHZ for the assembly to the additional space for eHZ application and OAR 300 mm | 75980301 |
| ZVi DF 300-3P for the assembly to the three-point meter position and OAR 300 mm | 75983301 |
| ZVi DF 150-3P for the assembly to the three-point meter position and OAR 150 mm | 75983101 |

Customer access accessories set



Accessory kit for the creation of the customer access to the Smart Metering Gateway for HAN applications

| Description | Order no. |
|---|-----------|
| ZVi KVR-KU Cable gland M25 suitable for lines with RJ45 plug, the drill-holes in the cover must be made on site | 75980401 |

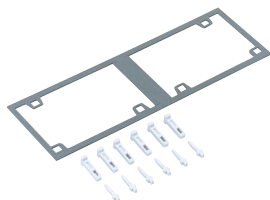
Accessories for eHZ meter support positions



Accessories for eHZ meter support positions

| Description | Order no. |
|---|-----------|
| ZVi BKE-DSS Visual data interface for the installation in BKE-I | 75980601 |
| ZVi BKE-EG Extension kit for second BKE-I | 75981601 |
| ZVi SPV Accessory set for voltage supply in the additional space for eHZ applications, Short-circuit resistant line 2.5 ² incl. terminals, length 700 mm | 75980501 |

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 |

Meter Enclosures / Distributors

Accessories

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 |

Double membrane seals, grey



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

| 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, with locknut



Cable gland, IP68, with strain relief, polyamide, M_ x 1.5 mm, with locknut, grey

| 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 |

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 |

Meter Enclosures / Distributors

Accessories

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 |

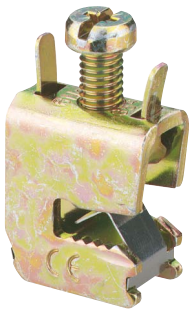
Multiplication terminal potential



Potential multiplication terminal, with 4 screwable clamping points 6 - 16 mm² CU

| Description | Order no. |
|-------------|-----------|
| PVK 416 | 59341601 |

Busbar terminal SKL 5



Bus bar terminals for copper rails 12/20/25/30 x 5 mm

| Description | Order no. |
|---|-----------|
| SKL 516 Connection for Cu 1.5-16 mm² | 07551601 |
| SKL 535 Connection for Cu 1.5-35 mm², Flat copper 160 A | 07553501 |
| SKL 570 Connection for Cu 16-70 mm² | 07557001 |
| SKL 512 Connection for Cu 16-120 mm², Flat copper 250 A | 07551201 |

KLS PE/N



PE/N terminal block for mounting onto 35 mm standard rail, e.g. in meter housings

| Description | Order no. |
|--|-----------|
| KLS PE 35 PE terminal (green) 3 x 25 mm², 2 x 16 mm² | 79080501 |
| KLS N 35 N terminal (blue) 3 x 25 mm², 2 x 16 mm² | 79090501 |

Meter Enclosures / Distributors

Accessories

KLS terminals for GTA



PE/N terminal for installation in GTA distribution boards as additional terminals or for replacement

| Description | Order no. |
|---|-----------|
| KLS PE 35-SL 1 module, Green, 76 A, 2 x 25 mm ² + 14 x 4 mm ² for NS 35 | 07422301 |
| KLS N 35-SL 1 module, blue, 76 A, 2 x 25 mm ² + 14 x 4 mm ² for NS 35 | 07422401 |
| KLS PEN 35-SL 1 module, blue/green, 76 A, 2 x (1 x 25 mm ² + 7 x 4 mm ²) for NS 35 | 07422501 |
| KLS 35-SL 1 module, Grey, 76 A, 2 x 25 mm ² + 14 x 4 mm ² for NS 35 | 07422601 |

HA main cable junction terminal



Main cable junction terminal with cross-sectional area 1x25 mm² per pole and 2 outlets 16 mm² per pole

| Description | Order no. |
|---|-----------|
| HA 25-12 1-pole - 25/16 mm ² | 69112201 |
| HA 25-22 2-pole - 25/16 mm ² | 69122201 |
| HA 25-42 4-pole - 25/16 mm ² | 69142201 |
| HA 25-52 5-pole - 25/16 mm ² | 69152201 |

HA main cable junction terminal



Main line T-piece terminal with connection cross-section 1 x 35 mm² per pole and 2 x 25 mm² outputs per pole

| Description | Order no. |
|---|-----------|
| HA 35-42 4-pole - 35/25 mm ² | 69242201 |
| HA 35-52 5-pole - 35/25 mm ² | 69252201 |

HA main cable junction terminal



Main cable junction terminal with 4 clamping points 25 mm², 1-pole

| Description | Order no. |
|--|-----------|
| HA 25-16 1-pole finger proof | 69113201 |

Meter Enclosures / Distributors

Accessories

HA main cable junction terminal



Main line T-piece terminal with 4 terminal points 1.5-25 mm² per pole

Description

HA 25-43
4-pole - finger proof

Order no.

69143301

HA 25-53
5-pole - finger proof

69153301

Busbar connector



Busbar connector, universal, 250-630 A, for connecting busbars and bus mounting enclosures, for copper rails of 12 x 5 mm - 30 x 10 mm

Description

GSV 56
Set = 5 pieces

Order no.

07505601

Masking off strips



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

Description

AK AS
Width 108 mm for 6 distribution units

Order no.

79901201

AK AS-v
Width 216 mm for 12 distribution units, lockable

79901301

AK AS UL
Width 108 mm for 6 distribution units

79901252

Support NS



Carrier for standard rails acc. to DIN EN 60715, 35 x 7.5 mm, set = 10 pcs.

Description

TR NS35-20

Height/mm

20

Order no.

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

SR NS35
Fixing screws for 1 support set TR NS35/xx

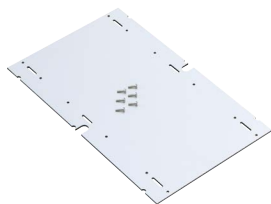
Order no.

79541301

Meter Enclosures / Distributors

Accessories

Assembly plate made from insulating material for SVi series



Assembly plate in melamine-clad insulating material, 4 mm thick, incl. fixing screws, grey

| Description | for cover | Dimensions/mm | Order no. |
|-------------|-----------|---------------|-----------|
| SVI MPI | SVi-L | 240 x 112 x 4 | 59190001 |

Standard rail NS 35 for SVi series



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 |

Meter Enclosures / Distributors

Accessories



Meter Enclosures / Switch
and Fuse Enclosures AKi

Meter housings / distributors

Technical information

Device-side connection space

300 mm version

to take RCCBs, overcurrent switches, RCCB with overcurrent protection (RCBO), for up to 3 AC circuits of a maximum 16A each. Thanks to the hinged window, equipment can be operated by a layman.

Including screwless PE/N terminal rail with, respectively, 3 screwable terminal points, 2,5-16mm², 14 screwless terminal points, 1,5-4mm²

Additional top DIN rail to take the main line branch terminal (Accessories, e.g. HA 25-53)

Space for additional applications

For installation of equipment for metering systems of the network operator or metering service provider or rail-mounted controllers. Sealed on all sides with transparent cover and sealable shock protection

The data line to the customer system can be established with the ZVi KVR-KU, IP65 accessories kit. The drill hole must be created on-site (e.g. using the LFR hole cutter).

Alternative: Transparent cover ZVi OT-RJ45 with RJ45 connector and connection line to the SMG.

Meter panel

Variant with three-point mounting

The meter panel with DIN VDE 0603 fixing dimensions is suitable for AC and DC meters according to DIN 43857-1/-2 or for a BKE-A for use of an eHZ. Incl. meter cabling H07V-K 10mm²

Max. weight of the meter: 5 kg

ZVi



Supply side
connection space

Busbar system version

EMC – compliant, 5-pole busbar system with 40mm busbar spacing as specified by VDE 0603.

Busbar system: CU12x5mm

$I_N = 160A$
 $I_{CW} = 25kA/0.2sec.$
 $I_{Pk} = 52kA$

Compatible SH switch for busbar mounting:

- ABB S750 – Series (2CDS...)
- Hager HTS Series

Includes SKL 516 (CU 4-35mm²) busbar terminals for connection of supply line for N- and PE-wires.

Supply of the outer conductor up to 50mm² takes place via the input terminals of the SH switches. For larger cross-sections, suitable busbar terminals are available as accessories.

12 modules are available. Thus it is, for example, also possible to use an additional surge arrester as required by the network operator.

Device-side connection space

150 mm version

without hinged window to take the main line branch terminal (Accessories, e.g. HA 25-53)

Space for additional applications

For installation of equipment for metering systems of the network operator or metering service provider or rail-mounted controllers. Sealed on all sides with transparent cover and sealable shock protection.

The data line to the customer system can be established with the ZVi KVR-KU, IP65 accessories kit. The drill hole must be created on-site (e.g. using the LFR hole cutter). Alternative: Transparent cover ZVi OT-RJ45 with RJ45 connector and connection line to the SMG.

Meter panel

Version with BKE-I mounting and contacting unit

Equipped as standard with one BKE-I according to DIN 0603-3-2 including 10mm² connection leads to take an electronic household meter. Versions with 16 mm² connection lead similarly possible. Can be retrofitted with ZVi BKE-DSS. data interface. The rated current of the individual BKE-I is, for operating loads according to DIN 18015-1, Curve 1 (in the abovementioned domestic area), 60A. The continuous load (e.g. PV system, charging station, illuminated advertising, etc.) is lower than the permitted rated current of the individual BKE-I. Details are available on the Internet under the product data. Expandable by a further BKE-I (accessories), wherein the load and fitting variants of multiple-field meter panels according to VDE-AR-N 4100 must be taken into account. The basis for this is the loading of both meters according to DIN 18015-1, Curve 1.

Supply side connection space

Version with 35 mm standard rail

Compatible SH switch for top hat rail mounting:

- ABB S750 – Series (2CDH...)
- Hager HTN, HTS Series

With main line branch terminal for N- and PE-wires, 2-pole, 4 terminal points 25 mm² each 12 modules are available.

Thus it is, for example, also possible to use an additional surge arrester as required by the network operator.

Thanks to the hinged window, equipment can be operated by a layman.

Meter Enclosures / Distributors

Technical Information

IP65

Protection rating (IP code)
in accordance with DIN EN 60529
(VDE 0470-1)

IK08

Level of protection (IK code) against
mechanical impact in accordance with
DIN EN 50102 (VDE 0470-100)



Protection class II
Equipment with protective insulation
in accordance with DIN VDE 0100-410

**400V
AC**

Rated voltage
for use in AC voltage systems, maximum
permissible nominal voltage of the
electrical system. The technical data of
the switching device must be taken into
account.



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



Industrial Quality



Maximum number of **modules**



The **VDE symbol** stands for the tested
safety of the product in respect of
electrical, mechanical, thermal and
other hazards.



Suitable for the installation of an
electronic household meter

Pictograms | Meter enclosures / distributors



**Industrial
Quality**

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

| | Enclosure without fittings | | | Enclosure with fittings | | | | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|--------------------------------------|--------------------------------------|--|-----------------------------------|--|--|------|
| | Ambient temperature Minimum value | Ambient temperature Maximum value | Ambient temperature Average over 24 h | Ambient temperature Minimum value | Ambient temperature Maximum value | Ambient temperature Average 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⁾ | |
| AKi, ZVi, ZKi housing | -35°C | 80°C | 60°C | -25°C | 40°C | 35°C | 50% | 95% | IP65 ²⁾ | IK08 |
| SVi | -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 glands

²⁾ Housings with insertion sealing have protection class IP54

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

| Material | Used in the products: | Weak acids | Strong acids | Weak alkalis | Strong alkalis | Alcohol | Petrol | Benzene | Mineral oil | Diesel | Ammonia, gaseous (DLG Focus Test) | Vegetable fats | Animal fats | Halogen-free | Heavy metal-, PVC- and silicon-free | Combustion behaviour in accordance with DIN EN 60695 (VDE 0471) / UL94 |
|--|----------------------------------|------------|--------------|--------------|----------------|---------|--------|---------|-------------|--------|-----------------------------------|----------------|-------------|--------------|-------------------------------------|--|
| Polycarbonate, glass-fibre-reinforced | ZKi, ZVi, SVi, AKi | O | X | X | X | O | Ø | X | O | Ø | O | O | Ø | yes | yes | 960°C / V-2 (5VA*) |
| Polycarbonate | cover ZKi, ZVi, SVi, AKi | O | X | X | X | Ø | Ø | X | O | Ø | O | O | O | yes | yes | 850°C / V-2 |
| Polyamid 6, glass-fibre-reinforced | cable glands 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 in accordance with UL 746 C (comparable with the requirements in accordance with UL 94, 5VA)

O = resistant Ø = partially resistant X = not resistant

The materials used by Spelsberg have been subjected to a weathering test in accordance with DIN 53 387 (superseded by DIN EN ISO 4892-2) and a 1000-hour test by the State Testing Office in Dortmund. The materials used for the IQ products achieved optimal results as can be seen here. This material also passed the UV resistance test in accordance with UL 746 C unconditionally.

In principle, not only the level of protection but also the climatic conditions and the occurrence of chemical influences should be assessed when selecting the installation site. Details of the material properties and chemical resistance of the materials used can be taken from the table **though it should be noted that they are only guide values.**

Power dissipation data for SVi housing

| Type | Transverse mounting | | | | Vertical mounting | | | |
|-------------------------------------|---------------------|---------|---------|---------|-------------------|---------|---------|---------|
| | [W] | | | | [W] | | | |
| | ΔT= 10K | ΔT= 20K | ΔT= 30K | ΔT= 40K | ΔT= 10K | ΔT= 20K | ΔT= 30K | ΔT= 40K |
| SVi housing (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] |
| SVi housing (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] |
| SVi LQ housing (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 P_{per} in watts in accordance with DIN VDE 61439-1 Supplement 2 for **individually surface-mounted small distribution boards and surface-mounted empty housings** with stipulated ΔT. Power loss at 50% of the housing height and [75%] of the housing height.

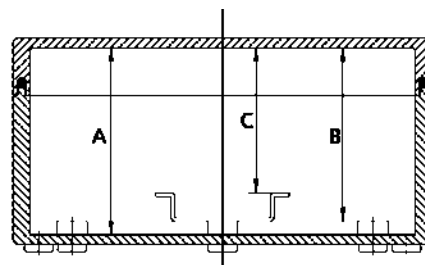
Power dissipation details for SVi empty housings mounted in combination

| Type | Transverse mounting | | | | Vertical mounting | | | |
|-------------------------------------|---------------------|---------|---------|---------|-------------------|---------|---------|---------|
| | [W] | | | | [W] | | | |
| | ΔT= 10K | ΔT= 20K | ΔT= 30K | ΔT= 40K | ΔT= 10K | ΔT= 20K | ΔT= 30K | ΔT= 40K |
| SVi housing (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] |
| SVi housing (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 |
| SVi LQ housing (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 P_{per} in watts in accordance with DIN VDE 61439-1 Supplement 2 for **surface-mounted empty housings mounted in combination** at specified ΔT. Power loss at 50% of the housing height and [75%] of the housing height.

Installation dimensions of the els installation products (installation height clearance)

| | A | B | C |
|------------------------------|-------|-------|-------|
| | [mm] | [mm] | [mm] |
| AKZ- / AKi-Z Meter housing | | | |
| AKZ- / AKi-Z meter space | 194.5 | 191 | 183.5 |
| AKZ / AKi-Z connection space | 117.5 | 114 | 90 |
| SVi empty housing | [mm] | [mm] | [mm] |
| SVi housing height 137 mm | 119 | 111.5 | — |
| SVi housing height 162 mm | 144 | 136.5 | — |



Meter Enclosures / Distributors

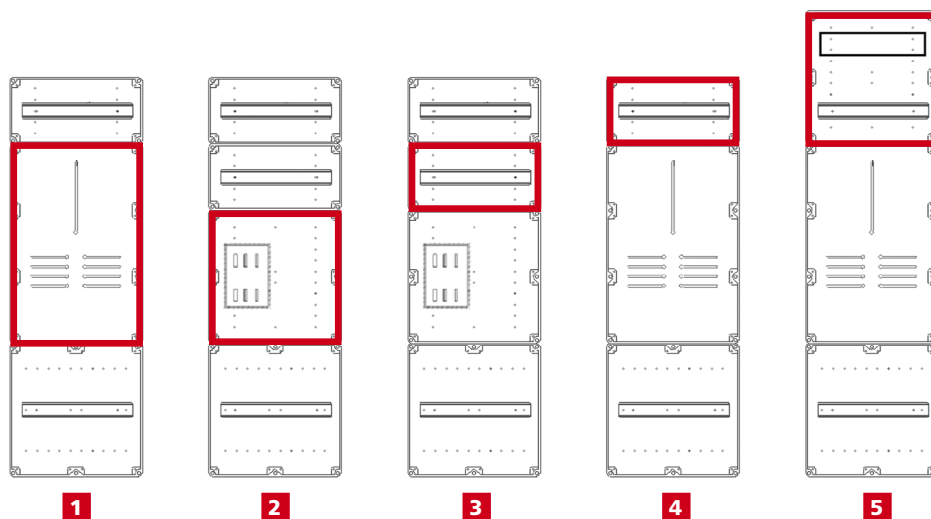
Technical Information

ZVi Meter distributors

Permissible power loss P_{per} in watts in accordance with DIN VDE 61439-1 Supplement 2 for **individually surface-mounted empty housings** at specified ΔT . Power loss at 50% of the housing height and [75%] of the housing height.

For equipment fitted in the top connection space and in the additional space, in connection with the verification process for switchgear combinations with a single compartment according to DIN EN 61439-1, the rated currents of the current circuits of the switchgear combination may not exceed 80% of the rated currents (I_n) of the electrical equipment in the current circuit.

| Housing area | | $\Delta T = 10K$ | $\Delta T = 20K$ | $\Delta T = 30K$ | $\Delta T = 40K$ |
|--------------|---|------------------|------------------|------------------|------------------|
| 1 | Meter panel 450 mm for three-point mounting | 13.7 | 32.4 | 53.8 | 76.9 |
| | | [10.6] | [25.1] | [41.5] | [59.4] |
| 2 | Meter panel 300 mm with BKE-I | 9.9 | 23.4 | 38.9 | 55.6 |
| | | [8.1] | [19.1] | 31.7 | [45.3] |
| 3 | Additional space for eHZ applications | 4.7 | 11.2 | 18.5 | 26.4 |
| | | 4.2 | 9.9 | [16.4] | [23.5] |
| 4 | Device-side connection space 150 mm | 5.7 | 13.4 | 22.2 | 31.7 |
| | | 5.0 | [11.9] | [19.7] | [28.2] |
| 5 | Device-side connection space 300 mm | 8.9 | 21.1 | 35.0 | 50.1 |
| | | [7.3] | [17.2] | [28.5] | [40.8] |



For the equipping of the bottom connection space, adherence to the temperature limits according to DIN EN 61439-1 was demonstrated by testing.

| Housing area | 1x Meter mounting board Three-point meter | 1x Meter mounting board eHZ on BKE-I | 2x Meter mounting boards eHZ on BKE-I |
|--|--|---|--|
| With busbar system: Application according to DIN 18015-1 | 63A | 63A | 50A + 16A 40A + 16A 35A + 20A |
| With standard rails Application according to DIN 18015-1 | 63A | 63A | 50A + 16A 40A + 16A 35A + 20A |

Maximum expansion with 3-pole SH switches in bottom connection space taking into account the maximum permitted heating.

For continuous loads (e.g. PV systems, charging stations) the rated current of the meter mounting board is lower than shown in the table. Corresponding details are available on the Internet under ZVi distributors.

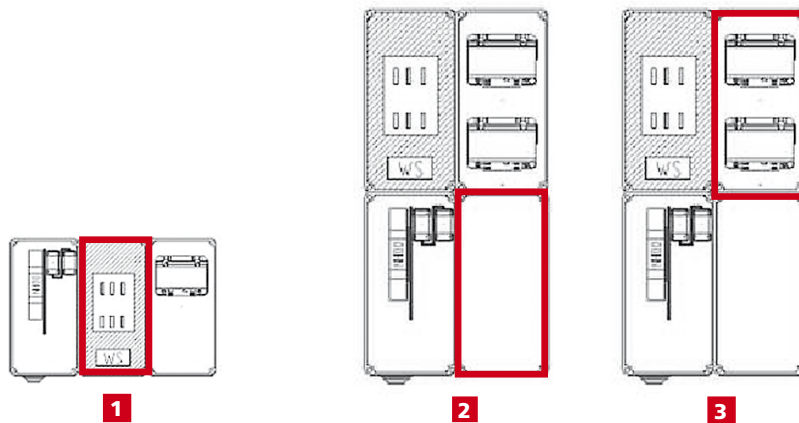
ZVi-K Meter distributors

Permissible power loss P_{per} in watts in accordance with DIN VDE 61439-1 Supplement 2 for **individually surface-mounted empty housings** with stipulated ΔT . Power loss at 50% of the housing height and [75%] of the housing height.

For equipment fitted in the empty housing and in distribution boards, in connection with the verification process for switchgear combinations with a single compartment according to DIN EN 61439-1, the rated currents of the circuits of the switchgear combination may not exceed 80% of the rated currents (I_n) of the electrical equipment in the current circuit.

| Housing area | $\Delta T = 10K$ | $\Delta T = 20K$ | $\Delta T = 30K$ | $\Delta T = 40K$ |
|--------------------------------------|------------------|------------------|------------------|------------------|
| 1 ZVi Meter mounting board AC | 5.4 | 12.7 | 21.1 | 30.1 |
| | [4.0] | [9.6] | [15.9] | [22.7] |
| 2 ZVi empty housing | 5.5 | 12.9 | 21.4 | 30.6 |
| | [4.1] | 9.7 | [16.1] | 23.0 |
| 3 ZVi – distribution boards | 6.0 | 14.3 | 23.6 | 33.8 |
| | [4.5] | [10.7] | [17.8] | [25.5] |

The SVI-H grid connection box has been type-tested for a constant operating current of $I_n = 25$ A, $I_{max} = 63$ A.



SVi Single housing

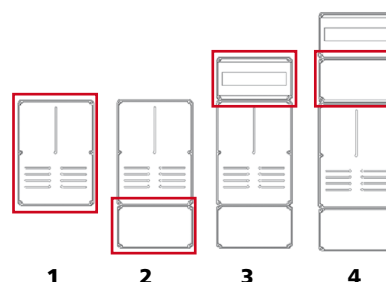
The dissipation details of the SVi single housing for the installation of individual ZVi-K meter distributors can be downloaded from the Internet under SVi housings.

ZKi Meter housing

Permissible power loss P_{per} in watts in accordance with DIN VDE 61439-1 Supplement 2 for **individually surface-mounted empty housings** at specified ΔT . Power loss at 50% of the housing height and [75%] of the housing height.

| Housing area | $\Delta T = 10K$ | $\Delta T = 20K$ | $\Delta T = 30K$ | $\Delta T = 40K$ |
|---|------------------|------------------|------------------|------------------|
| 1) Meter mounting board with high cover (193 mm) | 11.3 [8.7]* | 26.7 [20.7]* | 44.2 [34.2]* | 63.2 [48.9]* |
| 1) Meter mounting board with flat cover (137 mm) | 9.4 [7.3]* | 22.4 [17.3]* | 37.0 [28.7]* | 53 [41.0]* |
| 2) Bottomconnection space | 4.3 [3.7]* | 10.1 [8.8]* | 16.7 [14.6]* | 24 [20.8]* |
| 3) Topconsumer's compartment | 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 power dissipations should arise as a maximum in the connection area (red marking) of the meter housing.



Switch and Fuse Enclosures

AKi



Switch and fuse enclosures - weather-resistant IP 54/65









With our AKi Series switch disconnecter and fuse enclosures you will always be on the safe side.

These industrial quality housings are suitable, for example, for use in industrial production areas.



Switch and Fuse Enclosures AKi

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| | Technical Information | Switch and fuse enclosure | 284 |

Switch and Fuse Enclosures AKi

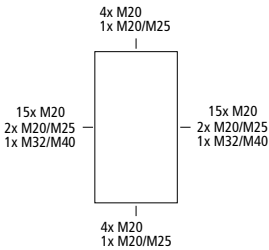
AKi-TE

AKi-TE 106

150 x 300 x 132 mm



Switch disconnecter enclosure - Industrial Quality - with external actuation, lockable, IP65 (when using the corresponding cable infeeds), 1 x load disconnecter switch 63A, 3-pole switching, Cage-type terminal 2.5 - 35 mm², PE/N terminal 16 mm², with IP54 attachment bushes, with insulating seals



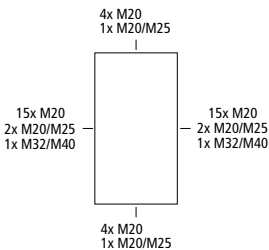
| Description | Order no. |
|---|-----------|
| AKi-TE 106 with transparent cover | 78910601 |

AKi-TE 108

150 x 300 x 132 mm



Switch disconnecter enclosure - Industrial Quality - with external actuation, lockable, IP65 (when using the corresponding cable infeeds), 1 x load disconnecter switch 80A, 3-pole switching, Cage-type terminal 2.5 - 35 mm², PE/N terminal 35 mm², with IP54 attachment bushes, with insulating seals



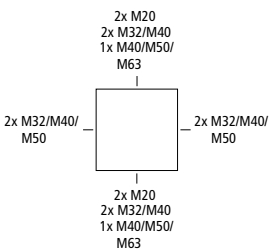
| Description | Order no. |
|---|-----------|
| AKi-TE 108 with transparent cover | 78910801 |

AKi-TE 210

300 x 300 x 132 mm



Switch disconnecter enclosure - Industrial Quality - with external actuation, lockable, IP65 (when using the corresponding cable infeeds), 1 x load disconnecter switch 100A, 3-pole switching, Cage-type terminal 2.5 - 35 mm², PE/N terminal 35 mm², with IP54 attachment bushes, with insulating seals



| Description | Order no. |
|---|-----------|
| AKi-TE 210 with transparent cover | 78921001 |

Switch and Fuse Enclosures AKi

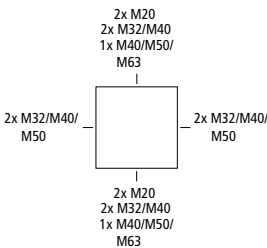
AKi-TE

AKi-TE 216

300 x 300 x 132 mm



Switch disconnecter enclosure - Industrial Quality - with external actuation, lockable, IP65 (when using the corresponding cable infeeds), 1 x load disconnecter switch 160A, 3-pole switching, Cage-type terminal 10 - 70 mm², PE/N terminal 2 x 50 mm², with IP54 attachment bushes, with insulating seals



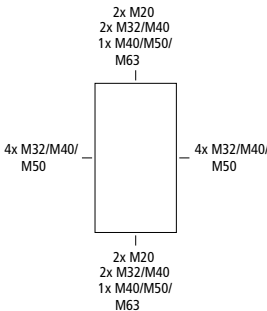
| Description | Order no. |
|--------------------------------------|-----------|
| AKi-TE 216 with transparent cover | 78921601 |

AKi-TE 425

300 x 600 x 210 mm



Switch disconnecter enclosure - Industrial Quality - with external actuation, lockable, 1 x load disconnecter switch 250A, 3-pole switching, Screw connection M10, PE/N terminal M10, with insulating seals



| Description | Order no. |
|--------------------------------------|-----------|
| AKi-TE 425 with transparent cover | 78942501 |

Switch and Fuse Enclosures AKi

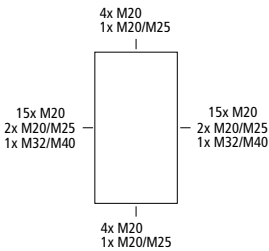
AKi-T

AKi-T 101

150 x 300 x 132 mm



NH fuse enclosure - Industrial Quality-, IP65 (when using the corresponding cable infeeds), 1 x NH 00 fuse switch disconnecter, assembled on mounting plate, Rated current 100 A, Clamp connection 1.5 - 70 mm², N terminal 2 x 50 mm², with IP54 attachment bushes, with insulating seals



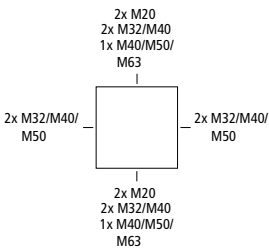
| Description | Order no. |
|-------------------------------------|-----------|
| AKi-T 101 with transparent cover | 78610101 |

AKi-T 201

300 x 300 x 132 mm



NH fuse enclosure - Industrial Quality-, IP65 (when using the corresponding cable infeeds), 1 x NH 00 fuse switch disconnecter, assembled on mounting plate, Rated current 125 A, Clamp connection 1.5 - 70 mm², N terminal 2 x 50 mm², with IP54 attachment bushes, with insulating seals



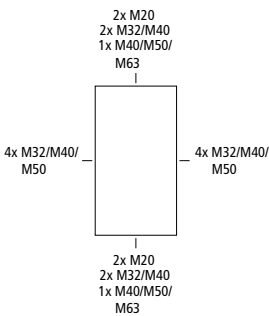
| Description | Order no. |
|-------------------------------------|-----------|
| AKi-T 201 with transparent cover | 78620101 |

AKi-T 411

300 x 600 x 210 mm



NH fuse enclosure - Industrial Quality-, IP65 (when using the corresponding cable infeeds), 1 x NH 1-fuse switch disconnecter, assembled on mounting plate, Rated current 224 A, Screw connection M10, N terminal M10, with IP54 attachment bushes, with insulating seals



| Description | Order no. |
|-------------------------------------|-----------|
| AKi-T 411 with transparent cover | 78641101 |

Switch and Fuse Enclosures AKi

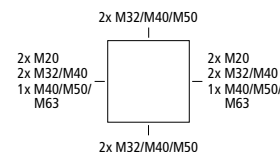
AKi-SS

AKi-SS 21

300 x 300 x 210 mm



NH fuse base enclosure - Industrial Quality -, 1 x NH 00 bus-mounting fuse base, Rated current 125 A, Clamp connection 1.5 - 70 mm², Output on top, on 5-pole busbar, with 5 busbar terminals 16 - 70 mm², N terminal 4 - 35 mm², PE terminal 4 - 35 mm², with insulating seals



Description

AKi-SS 21

on busbar system 250 A, with transparent cover

Order no.

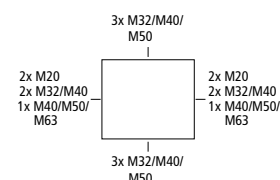
76221501

AKi-SS 32

450 x 300 x 210 mm



NH fuse base enclosure - Industrial Quality -, 2 x NH 00 bus-mounting fuse base, Rated current 100 A, Clamp connection 1.5 - 70 mm², Output on top, on 5-pole busbar, with 5 busbar terminals 16 - 70 mm², N terminal 4 - 35 mm², PE terminal 4 - 35 mm², with insulating seals



Description

AKi-SS 32

on busbar system 250 A, with transparent cover

Order no.

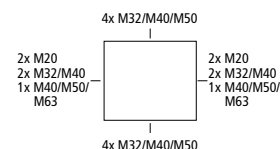
76232501

AKi-SS 43

600 x 300 x 210 mm



NH fuse base enclosure - Industrial Quality -, 3 x NH 00 bus-mounting fuse base, Rated current 100 A, Clamp connection 1.5 - 70 mm², Output on top, on 5-pole busbar, with 5 busbar terminals 16 - 70 mm², N terminal 4 - 35 mm², PE terminal 4 - 35 mm², with insulating seals



Description

AKi-SS 43

on busbar system 250 A, with transparent cover

Order no.

76243501

Switch and Fuse Enclosures AKi

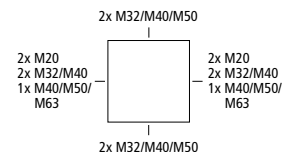
AKi-ST

AKi-ST 21

300 x 300 x 210 mm



NH bus-mounting fuse empty enclosure for switchgear - Industrial Quality -, 1 x NH 00 fuse switch disconnect enclosure, Rated current 125 A, Clamp connection 1.5 - 70 mm², Universal output, on 5-pole busbar, with 5 busbar terminals 16 - 70 mm², N terminal 4 - 35 mm², PE terminal 4 - 35 mm², with insulating seals



Description

AKi-ST 21

on busbar system 250 A, with transparent cover

Order no.

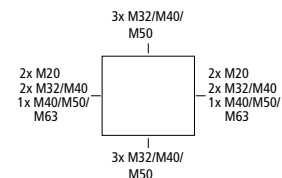
76621501

AKi-ST 32

450 x 300 x 210 mm



NH bus-mounting fuse empty enclosure for switchgear - Industrial Quality -, 2 x NH 00 fuse switch disconnect enclosure, Rated current 100 A, Clamp connection 1.5 - 70 mm², Universal output, on 5-pole busbar, with 5 busbar terminals 16 - 70 mm², N terminal 4 - 35 mm², PE terminal 4 - 35 mm², with insulating seals



Description

AKi-ST 32

on busbar system 250 A, with transparent cover

Order no.

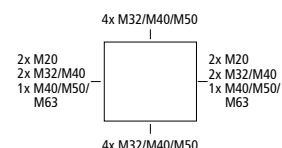
76632501

AKi-ST 43

600 x 300 x 210 mm



NH bus-mounting fuse empty enclosure for switchgear - Industrial Quality -, 3 x NH 00 fuse switch disconnect enclosure, Rated current 100 A, Clamp connection 1.5 - 70 mm², Universal output, on 5-pole busbar, with 5 busbar terminals 16 - 70 mm², N terminal 4 - 35 mm², PE terminal 4 - 35 mm², with insulating seals



Description

AKi-ST 43

on busbar system 250 A, with transparent cover

Order no.

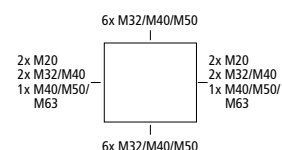
76643501

AKi-ST 64

900 x 300 x 210 mm



NH bus-mounting fuse empty enclosure for switchgear - Industrial Quality -, 4 x NH 00 fuse switch disconnect enclosure, Rated current 100 A, Clamp connection 1.5 - 70 mm², Universal output, on 5-pole busbar, with 5 busbar terminals 16 - 70 mm², N terminal 4 - 35 mm², PE terminal 4 - 35 mm², with insulating seals



Description

AKi-ST 64

on busbar system 250 A, with transparent cover

Order no.

76664501

Switch and Fuse Enclosures AKi

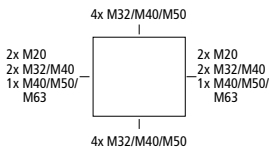
AKi-SK

AKi-SK 451

600 x 300 x 210 mm



Combined fuse enclosure - Industrial Quality -, 1 x NH 00 fuse switch disconnecter enclosure, Rated current 100 A, Clamp connection 1.5 - 70 mm², Universal output, 5 x 3-pole D02 bus-mounting fuse base, E 18 thread, Rated current 63 A, Screw connection 1.5 - 25 mm², on 5-pole busbar, with 5 busbar terminals 16 - 70 mm², N terminal 4 - 35 mm², PE terminal 4 - 35 mm², N terminal 1.5 - 16 mm², PE terminal 1.5 - 16 mm²



| Description | Order no. |
|---|-----------|
| AKi-SK 451 on busbar system 250 A, with transparent cover | 76700101 |

Switch and Fuse Enclosures AKi

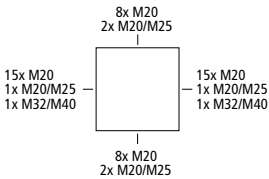
AKi-SN

AKi-SN 25

300 x 300 x 210 mm



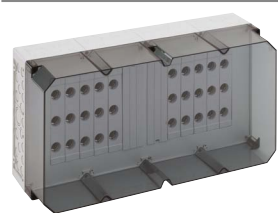
NEOZED® fuse enclosure - Industrial Quality -, 5 x 3-pole D02 bus-mounting fuse base, E 18 thread, Rated current 63 A, Screw connection 1.5 - 25 mm², on 5-pole busbar, N terminal 1.5 - 16 mm², PE terminal 1.5 - 16 mm²



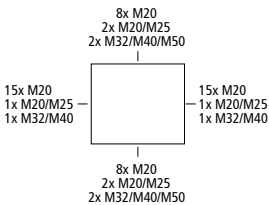
| Description | Order no. |
|--|-----------|
| AKi-SN 25 on busbar system 250 A, with transparent cover | 76720501 |

AKi-SN 410

600 x 300 x 210 mm



NEOZED® fuse enclosure - Industrial Quality -, 10 x 3-pole D02 bus-mounting fuse base, E 18 thread, Rated current 63 A, Screw connection 1.5 - 25 mm², on 5-pole busbar, N terminal 1.5 - 16 mm², PE terminal 1.5 - 16 mm²



| Description | Order no. |
|---|-----------|
| AKi-SN 410 on busbar system 250 A, with transparent cover | 76741001 |

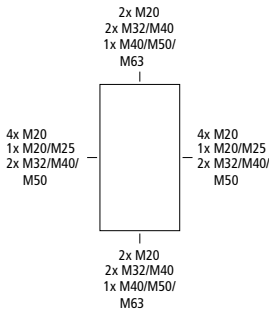
Switch and Fuse Enclosures AKi

AKi-SBZ

AKi-SBZ 352-40 300 x 450 x 150 mm



Lightning protection enclosure - Industrial Quality -, 5-pole, 40 mm busbar distance, with copper rails, L1...L3: 12 x 5 mm, PE/N: 12 x 5 mm, with 10 bus bar terminals for CU conductors 4 - 35 mm², with 6 module width hinged window

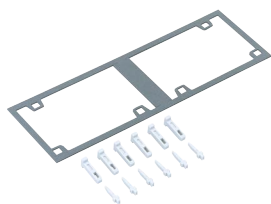


| Description | Order no. |
|--|-----------|
| AKi-SBZ 352-40 with transparent cover, sealable, with lightning current and surge arrester type 1+2 according to EN 61643-11 for main power supply systems, TT/TNS network, for use in buildings with exterior lightning protection, Lightning current: (10/350) 7.5/30kA, highest continuous voltage: 255 V AC, max. per. backup fuse: 160A gG, installed ready for connection on busbar system | 76735201 |

Switch and Fuse Enclosures AKi

AKi Accessories

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 |

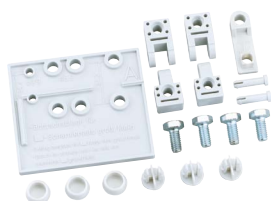
AK combi set



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 |

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 | 19000501 |

External hinge set large, from TK PS/PC 1811 and from AKL/AKi 1

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 | 79300401 |

Set = 4 pcs.

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 |

Switch and Fuse Enclosures AKi

AKi 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 |

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 |

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 |

Switch and Fuse Enclosures AKi

AKi Accessories

Busbar terminal SKL 1



Busbar terminal, for copper rails 12/20/25/30 x 10 mm

| Description | Order no. |
|---|-----------|
| SKL 116 for CU conductor 1x (1.5-16mm ²) re/rm/rf+AE | 07511601 |
| SKL 135 for CU conductor 1x (4-35mm ²) re/rm/sm/rf+AE, lam. Flat copper 3x9x0.8mm, 6x9x0.8mm | 07513501 |
| SKL 112 for CU-wire 1x (16-120mm ²) re/rm/sm/rf+AE, lam. Flat copper 6x16x0.8mm, 10x16x0.8mm | 07511201 |
| SKL 170 for CU conductor 1x (16-70mm ²) re/rm/sm/rf+AE, lam. Flat copper 6x9x0.8mm | 07517001 |
| SKL 118 for CU conductor 1x (50-185mm ²) re/rm/sm/rf+AE | 07511801 |

Busbar terminal



Busbar terminal, for copper rails 12/20/25/30 x 10 mm

| Description | Order no. |
|--|-----------|
| SKLAL 116 for connection of AL/CU conductors 1.5-16mm ² | 07611601 |
| SKLAL 135 for connection of AL/CU conductors 4-35mm ² | 07613501 |
| SKLAL 170 for connection of AL/CU conductors 16-70mm ² | 07617001 |
| SKLAL 112 for connection of AL/CU conductors 16-120mm ² | 07611201 |
| SKLAL 118 for AL/CU-Conductors 1x (50-185mm ²) re/rm/rf+AE, 1x (50-185mm ²) SM | 07611801 |

Busbar terminal SKL 0



Busbar terminal, for rails 12 x 5 mm / 12 x 10 mm, for aluminium and copper conductors

| Description | Order no. |
|---|-----------|
| SKL 015 for AL/CU conductors 1x (16-50)re, 1x (16-150)rm, 1x (50-150)se, 1x (35-150)sm | 07501501 |
| SKL 024 for AL/CU conductors 1x (35-50)re, 1x (35-240)rm, 1x (50-185)se, 1x (35-240)sm | 07502401 |
| SKL 052 for AL/CU conductors 1x (16-50)re, 1x (16-95)rm, 1x (50-95)se, 1x (35-95)sm, 2x (16-35)re/rn, 2x 35sm/se | 07505201 |
| SKL 092 for AL/CU conductors 1x (25-50)re, 1x (25-150)rm, 1x (50-150)se, 1x (35-150)sm, 2x (25-50)re, 2x (25-70)rm, 2x (50-70)se, 2x (35-70)sm | 07509201 |

Switch and Fuse Enclosures AKi

AKi Accessories



Switch and Fuse Enclosures AKi

Technical Information

IP65

Protection rating (IP code)
in accordance with DIN EN 60529
(VDE 0470-1)

IK08

Level of protection (IK code) against
mechanical impact in accordance with
DIN EN 50102 (VDE 0470-100)



Protection class II
Equipment with protective insulation in
accordance with DIN VDE 0100-410

**690V
AC**

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

250A

Maximum possible rated current



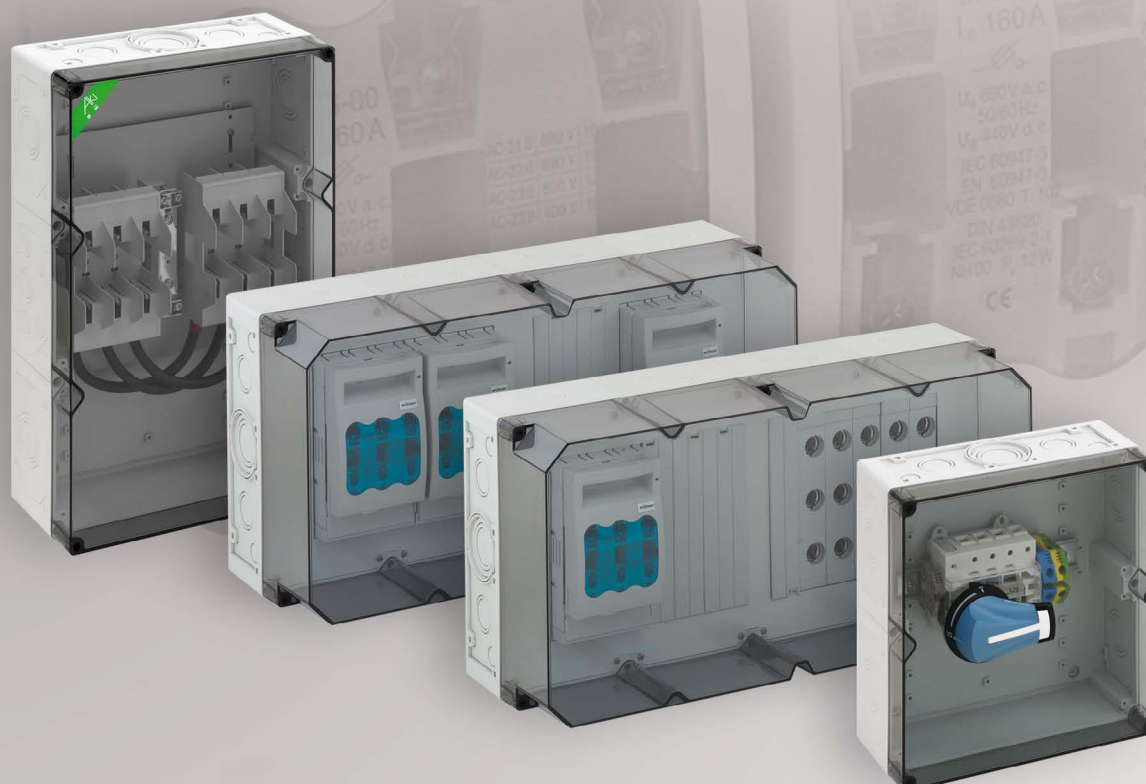
Halogen-free housing, without halogens
such as fluorine, chlorine and bromine.



Industrial quality

Pictograms | Switch and fuse enclosures

**Industrial
Quality**



Switch and Fuse Enclosures AKi

Technical Information

| Overview of the properties of the materials used in els installation systems | | Weak acids | Strong acids | Weak alkalis | Strong alkalis | Alcohol | Petrol | Benzene | Mineral oil | Diesel | Ammonia, gaseous (DLG Focus Test) | Vegetable fats | Animal fats | Halogen-free | Heavy metal-, PVC- and silicon-free | Combustion behaviour in accordance with DIN EN 60695 (VDE 0471) / UL94 |
|--|--------------------------------|------------|--------------|--------------|----------------|---------|--------|---------|-------------|--------|--------------------------------------|----------------|-------------|--------------|--|---|
| Material | Used in the products: | | | | | | | | | | | | | | | |
| Polycarbonate, glass-fibre-reinforced | AKi system box | O | X | X | X | O | Ø | X | O | Ø | O | O | Ø | yes | yes | 960 °C / V-2 (5 VA*) |
| Polyurethane | All types with foamed lid seal | Ø | Ø | Ø | Ø | Ø | Ø | Ø | X | Ø | O | O | O | yes | yes | 650°C / --- |
| Polyamid 6, glasfaserverstärkt | Cover screws | X | X | O | O | O | O | Ø | O | O | O | O | O | yes | yes | 750°C / HB/V-2 |
| Polycarbonate, transparent | AKi 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 in accordance with UL 746 C (comparable with the requirements in accordance with UL 94, 5VA)

The materials used by Spelsberg have been subjected to a weathering test in accordance with DIN 53 387 (superseded by DIN EN ISO 4892-2) and a 1000-hour test by the State Testing Office in Dortmund. The materials used for the IQ products achieved optimal results as can be seen here. This material also passed the UV resistance test in accordance with UL 746 C unconditionally.

In principle, not only the level of protection but also the climatic conditions and the occurrence of chemical influences should be assessed when selecting the installation site. Details of the material properties and chemical resistance of the materials used can be taken from the table **though it should be noted that they are only guide values.**

Switch and Fuse Enclosures AKi

Technical Information

| Power dissipation data for individually mounted AKi enclosures | Transverse mounting | | | | Vertical mounting | | | |
|--|---------------------|------------------|------------------|------------------|-------------------|------------------|------------------|------------------|
| | [W] | | | | [W] | | | |
| Dimensions | $\Delta T = 10K$ | $\Delta T = 20K$ | $\Delta T = 30K$ | $\Delta T = 40K$ | $\Delta T = 10K$ | $\Delta T = 20K$ | $\Delta T = 30K$ | $\Delta T = 40K$ |
| 300 x 150 x 132 mm | 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] |
| 300 x 300 x 132 mm | 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] |
| 300 x 300 x 210 mm | 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] |
| 300 x 450 x 132 mm | 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] |
| 300 x 450 x 210 mm | 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] |
| 300 x 600 x 132 mm | 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] |
| 300 x 600 x 210 mm | 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 P_{per} in watts in accordance with DIN VDE 61439-1 Supplement 2 for **individually surface-mounted small distribution boards and surface-mounted empty enclosures** with stipulated ΔT . Power loss at 50% of the housing height and [75%] of the housing height.

| Power dissipation details for AKi empty enclosures mounted in combination | Transverse mounting | | | | Vertical mounting | | | |
|---|---------------------|------------------|------------------|------------------|-------------------|------------------|------------------|------------------|
| | [W] | | | | [W] | | | |
| Dimensions | $\Delta T = 10K$ | $\Delta T = 20K$ | $\Delta T = 30K$ | $\Delta T = 40K$ | $\Delta T = 10K$ | $\Delta T = 20K$ | $\Delta T = 30K$ | $\Delta T = 40K$ |
| 300 x 150 x 132 mm | 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] |
| 300 x 300 x 132 mm | 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] |
| 300 x 300 x 210 mm | 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] |
| 300 x 450 x 132 mm | 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] |
| 300 x 450 x 210 mm | 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] |
| 300 x 600 x 132 mm | 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] |
| 300 x 600 x 210 mm | 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 P_{per} in watts in accordance with DIN VDE 61439-1 Supplement 2 for **surface-mounted empty enclosures mounted in combination** with stipulated ΔT . Power loss at 50% of the housing height and [75%] of the housing height.

Switch and Fuse Enclosures AKi

Technical Information

| AKi Switching device (fitted in) | Size | Rated current | Power dissipation at 100% rated current (without fuses) | Max. permitted power dissipation per fuse insert | Cable connection | Tightening torque | Rated operational voltage |
|---|-------|-----------------------|---|--|--|-------------------|------------------------------|
| Fuse base (AKi-S) | NH 00 | $I_e = 160 \text{ A}$ | 12.5 W | 12 W | Clamp-type terminal 1.5-70 mm ² | 3 Nm | $U_e = 690 \text{ V}$ |
| | NH 1 | $I_e = 250 \text{ A}$ | 16.4 W | 32 W | Flat terminal M10 | 20 Nm | $U_e = 690 \text{ V}$ |
| | NH 2 | $I_e = 400 \text{ A}$ | 36 W | 45 W | Flat terminal M10 | 20 Nm | $U_e = 690 \text{ V}$ |
| Fuse switch-disconnector (AKi-T) | NH 00 | $I_e = 160 \text{ A}$ | 7 W | 12 W | Clamp-type terminal 1.5-70 mm ² | 3 Nm | $U_e = 690 \text{ V}$ |
| | NH 1 | $I_e = 250 \text{ A}$ | 14.1 W | 23 W | Flat terminal M10 | 25 Nm | $U_e = 690 \text{ V}$ |
| | NH 2 | $I_e = 400 \text{ A}$ | 28 W | 34 W | Flat terminal M10 | 35 Nm | $U_e = 690 \text{ V}$ |
| Bar-mounting fuse base (AKi-SS) | NH 00 | $I_e = 160 \text{ A}$ | 14 W | 12 W | Clamp-type terminal 1.5-70 mm ² | 3 Nm | $U_e = 690 \text{ V}$ |
| Bar-mounting fuse switch-disconnector (AKi-ST) | NH 00 | $I_e = 160 \text{ A}$ | 17.7 W | 12 W | Clamp-type terminal 1.5-70 mm ² | 3 Nm | $U_e = 690 \text{ V}$ |
| D-Bar-mounting fuse mount (GSN/GSD) | D02 | $I_e = 63 \text{ A}$ | 3 W | 5.5 W | Box terminal 1.5-25 mm ² | 2.6 Nm | $U_e = 400 \text{ V}$ |
| | DII | $I_e = 25 \text{ A}$ | 1.5 W | 4 W | Box terminal 1.5-25 mm ² | 2.6 Nm | $U_e = 500 \text{ V}$ |
| | DIII | $I_e = 63 \text{ A}$ | 6.5 W | 7 W | Box terminal 1.5-25 mm ² | 2.6 Nm | $U_e = 690 \text{ V}$ |
| Fuse switch-disconnector (AKi-TE) | - | $I_e = 63 \text{ A}$ | 4.5 W | - | Cage clamp terminal 2.5-35 mm ² | 3.5 Nm | $U_e = 690 \text{ V}$ |
| | - | $I_e = 80 \text{ A}$ | 7.2 W | - | Cage clamp terminal 2.5-35 mm ² | 3.5 Nm | $U_e = 690 \text{ V}$ |
| | - | $I_e = 100 \text{ A}$ | 10.8 W | - | Cage clamp terminal 10-70 mm ² | 4 Nm | $U_e = 690 \text{ V}$ |
| | - | $I_e = 160 \text{ A}$ | 24.9 W | - | Cage clamp terminal 10 - 70 mm ² | 4 Nm | $U_e = 690 \text{ V}$ |
| | - | $I_e = 250 \text{ A}$ | 17.4 W | - | Flat terminal M10 | 20 Nm | $U_e = 690 \text{ V}$ |

Loading factor for switchgear combinations

Example calculation:

9 NH 00 fuses with a power loss of 9 W
per device

The loading factor per EN 61439-2,
Table 101 is 0.7.

$$P_{\text{vred.}} = P_v \cdot \text{Rated loading factor}^2 \\ = 9 \text{ W} \cdot 0.7 \cdot 0.7 = \mathbf{4.41 \text{ W}} \text{ (per fuse)}$$

Because 9 fuses are installed this gives:

$$P_{\text{vges}} = 4.41 \text{ W} \cdot 9 \\ = \mathbf{36.69 \text{ W}}$$

DIN EN 61439-2, 5.4

If there is no agreement between the manufacturer of the switchgear combination and the user with regard to the actual load currents, the assumed loading of the output circuits or a group of output circuits of the switchgear combination shall be based on the values in the following table.

| Type of loading | Assumed loading factor |
|---------------------|------------------------|
| 2 and 3 circuits | 0.9 |
| 4 and 5 circuits | 0.8 |
| 6 and 9 circuits | 0.7 |
| 10 or more circuits | 0.6 |

Universal Accessories

Universal Accessories

Twist plug, grey



Twist plug, IP54, M_ x 1.5 mm, with closed sealing membrane, 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, IP54, M_ x 1.5 mm, with closed sealing membrane, black

| 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, IP54, 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, IP54, M_ x 1.5 mm with open sealing membrane, polyethylene, black

| 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 NEW | 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, for sealing of metric housing apertures that are not required

| 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, IP68, M_ x 1.5 mm, polyamide, grey, for housing with internal thread. When using locknuts, maximum housing wall thickness of 3 mm

| Description | Thread length/mm | Order no. |
|-------------|------------------|-----------|
| VSS PA M16 | 6 | 21111601 |
| VSS PA M20 | 6 | 21112001 |
| VSS PA M25 | 7 | 21112501 |
| VSS PA M32 | 8 | 21113201 |

Attachment bushes, grey



Attachment bushes, IP54, with open sealing membrane, thermoplastic elastomer (TPE), for wall thicknesses of 1.5 - 4.0 mm, grey

| 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), for wall thicknesses 1.5 - 4.5 mm, grey

| 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, IP66, with two sealing membranes, closed, thermoplastic elastomer (TPE), for wall thicknesses 1.5 - 4.5 mm, black

| 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, IP66, 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, IP55, with closed sealing membrane, can be cut into multiple steps, thermoplastic elastomer (TPE), grey, for wall thicknesses from 1.5 - 4 mm

| 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 NEW | 14 - 54 | 21646301 |

Ventilation plug



Ventilation Plug, IP44, with labyrinth seal to avoid condensation formation in enclosures, flow rate 100 l/min. at 0.1 bar overpressure, thermoplastic elastomer, recommended for insertion on the left and right enclosure sides in different heights (see Technical Appendix - protection against condensate water), for 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 locknut, grey

| 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, long thread



Cable gland, IP68, with strain relief, long thread, M₂₀ x 1.5 mm, without locknut, 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, with locknut



Cable gland, IP68, with strain relief, polyamide, M₂₀ x 1.5 mm, with locknut, grey

| 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, with locknut, long thread



Cable gland, IP68 with strain relief, long connection thread, M₂₀ 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 |

Universal Accessories

Universal Accessories

Cable gland, black, with locknut



Cable gland, IP68, with strain relief, polyamide, M_x 1.5 mm, with locknut, black

| 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, with locknut, long thread



Cable gland, IP68, with strain relief, long thread, M_x 1.5 mm, with locknut, 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 |

Universal Accessories

Universal Accessories

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

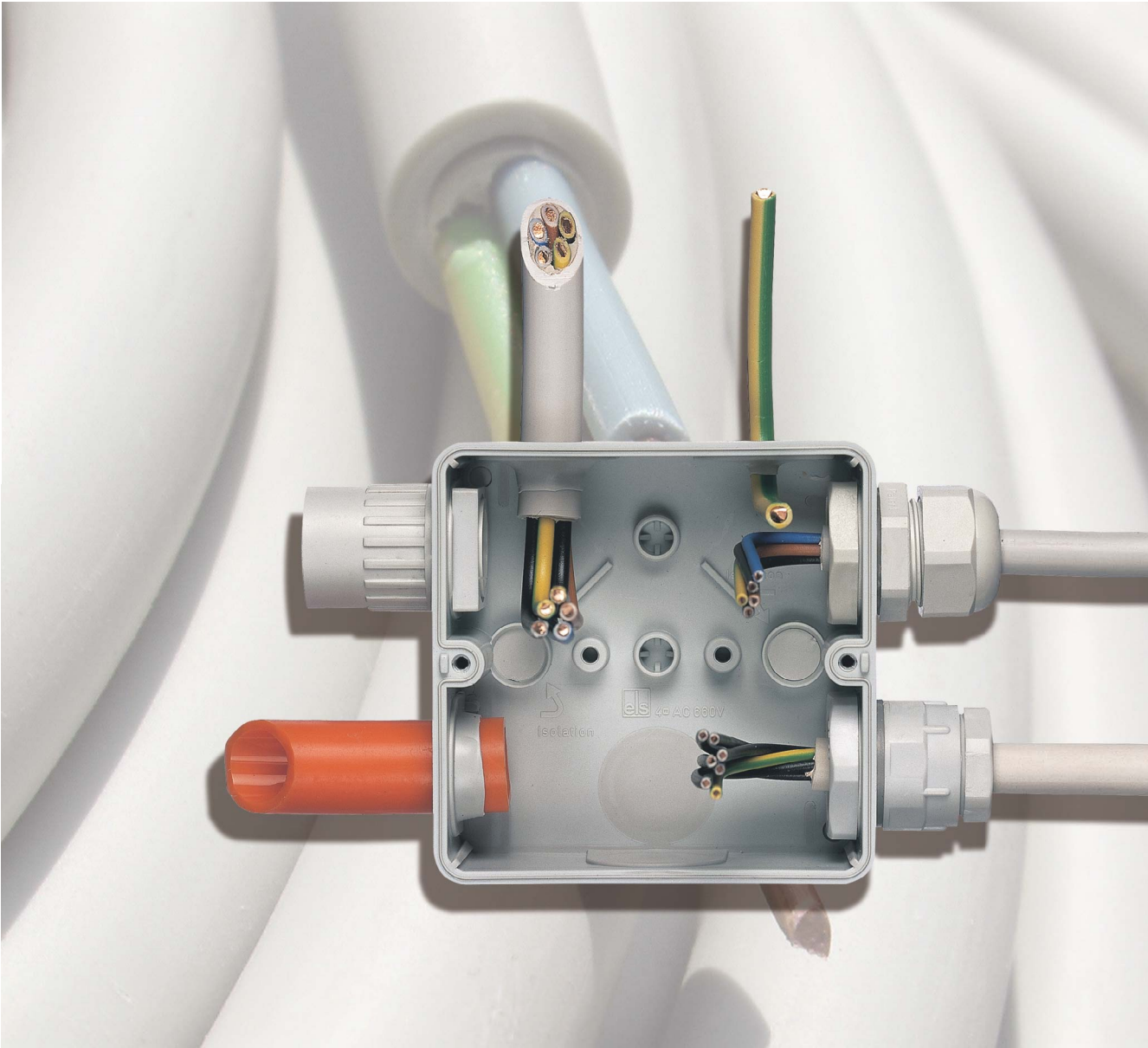


Sealing washers for twist nipple and cable gland with metric thread, polyethylene

| Description | Order no. |
|---|-----------|
| ADR M12 natural, internal diameter 12 mm, external diameter 16 mm, thickness 1.5 mm | 24901201 |
| ADR M16 natural, internal diameter 16 mm, external diameter 20 mm, thickness 1.5 mm | 24901601 |
| ADR M20 natural, internal diameter 20 mm, external diameter 25 mm, thickness 1.5 mm | 24902001 |
| ADR M25 natural, internal diameter 25 mm, external diameter 30 mm, thickness 2 mm | 24902501 |
| ADR M32 natural, internal diameter 32 mm, external diameter 38 mm, thickness 2 mm | 24903201 |
| ADR M40 natural, internal diameter 40 mm, external diameter 45 mm, thickness 2 mm | 24904001 |
| ADR M50 natural, internal diameter 50 mm, external diameter 56 mm, thickness 2 mm | 24905001 |
| ADR M63 natural, internal diameter 63 mm, external diameter 70 mm, thickness 2 mm | 24906301 |

Universal Accessories

Universal Accessories



Combination possibilities | with combi connector IP54



Combinations **vertical** | AKL / AKi-L / AKe



Combinations **vertical** | AK





Combinations **horizontal** | **AKL / AKi-L / AKe**



Combinations **horizontal** | **AK**




















Combination possibilities | with combi connector IP54

| | | | | | | | |
|--|----------------|--------------------|--------------------------------|------------|---|------------------------------|---------------------------|
| | | 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 Compact



| | | | | | |
|--|---|---|--|---|--|
|  | |  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 Compact**





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Technical Appendix

Industrial Quality

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 up to 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



Technical Appendix

Definition of Terms as per DIN EN 61439-1

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 (SCPD¹⁾) 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

Technical Appendix

Assembly and Installation Notes

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.



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Assembly and Installation Notes

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.**

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Assembly and Installation Notes

3.5 Protection against condensation

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 to be expected. These effects are intensified by the power loss generated in the enclosures.

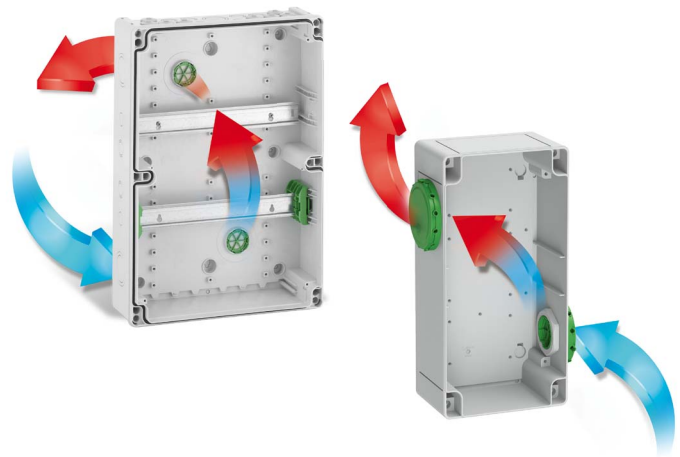
Owing to the differences in temperature, a difference also arises in the pressure conditions, which causes the enclosure to draw in air when the temperature changes. The next time the temperature increases, the humidity in this air condenses on the cold surface of the enclosure, for example on the lid. 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 no longer discharges this water with the result that its seal actually has a negative impact. Severe damage will be the result.

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 back of the enclosure or mounting surfaces. These should be opened in such a way that when installed they are on the bottom side of the enclosure 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 enclosure, for example IP3X, we recommend use of air 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 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 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 a 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 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 enclosure 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 enclosure without changing the type of protection.

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Assembly and Installation Notes

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 enclosures, or the enclosures 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.

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Assembly and Installation Notes

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 (SELV¹) 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.

¹) SELV = (Safety Extra Low Voltage)



Protection class I

(only symbolises the earthing, protection class I itself does not have a symbol)



Protection class II



Protection class III

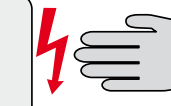
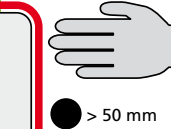
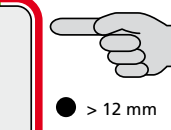
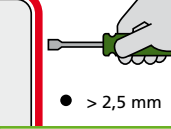
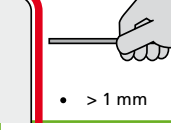
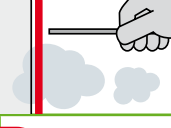
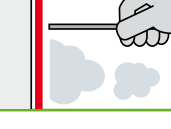
According to DIN EN 61140 (VDE 0140-1) equipment is classified into protection classes according to its construction.

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Assembly and Installation Notes

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 |
| | | | | | | | | | | | | | | x6 |
| 6x | | | | | | | | | | | | | | x5 |
| 5x | | | | | | | | | | | | | | x4 |
| 4x | | | | | | | | | | | | | | x3 |
| 3x | | | | | | | | | | | | | | x2 |
| 2x | | | | | | | | | | | | | | x1 |
| 1x | | | | | | | | | | | | | | x0 |
| 0x | | | | | | | | | | | | | | |
| IP | 21 | 22 | 55 | 24 | 55 | 66 | 66 | 53 | 67 | 68 | 54 | 54 | 54 | |



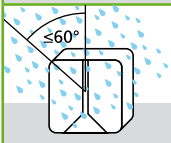

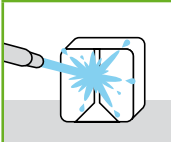
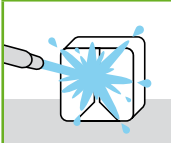

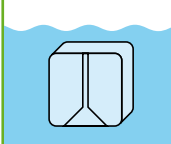

Interpretationrule

Technical Appendix

Assembly and Installation Notes

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 |

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Assembly and Installation Notes

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 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 | --- | --- | --- |

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Assembly and Installation Notes

Outside diameter of average cable cross-sections

| Cable cross section mm² | NYM mm Ø | NYN 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 | NYN 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 | - |

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Overview of the Installation Areas and the recommended els Installation Systems

| | 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 bathtubs 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⁾ | ● | ● ▲ | ● | ● | ● ▲ | ● | ● ▲ | ● ▲ | ● ▲ | | | ● ▲ ■ |
| 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.

Technical Appendix

Overview Installation Areas

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 SELV¹ or PELV² 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 SELV¹ or PELV². 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 SELV¹ or PELV².

Electrical equipment must have the following type of protection as a minimum:

In area 0: IPX7;

In area 1: IPX4;

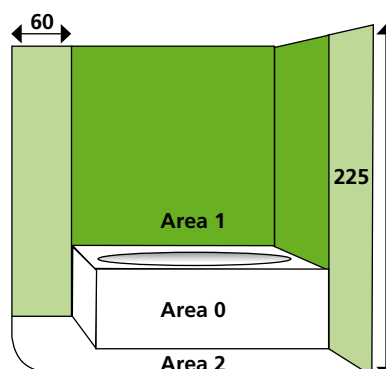
In area 2: IPX4.

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



Technical Appendix

Overview Installation Areas

Swimming pool basins and other basins according to DIN VDE 0100-702

Important protection requirements:

- When using SELV¹, 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.

- Electrical equipment must comply with the following types of protection as a minimum:

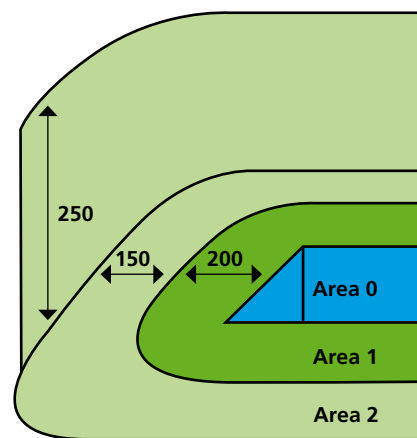
| Area | Outdoors, for cleaning work with water jet | Outdoors, without water jet | Indoors, for cleaning work with water jet | Indoors, without water jet |
|------|--|-----------------------------|---|----------------------------|
| 0 | IPX5/IPX8 | IPX8 | IPX5/IPX8 | IPX8 |
| 1 | IPX5 | IPX4 | IPX5 | IPX4 |
| 2 | IPX5 | IPX4 | IPX5 | IPX2 |

- 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 SELV¹ are permitted.

Particularly suitable:

Abox-i, the STV range as well as the AK, AKi, GTi, TK-PC, TG-PC and GEOS enclosure systems.

1) SELV = Safety Extra Low Voltage



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 (RCD²) with a trip current = 30 mA

In all other circuits, excluding those that supply distributors, fault-current circuit breakers (RCD²) with a trip current = 300 mA.

Fault-current circuit breakers (RCD²) with a trip current = 300 mA must be set up for fire protection. The fault-current circuit breakers (RCD²) must disconnect all live conductors. In cases where improved maintenance of supply is required, these fault-current circuit breakers (RCD²) 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 enclosure system.

2) RCD = Residual Current Device

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

Technical Appendix

Overview Installation Areas

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

Technical Appendix

Overview Installation Areas

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.



Technical Appendix

Overview Installation Areas

Electrical systems for water sport vehicles or houseboats, marinas and similar areas per DIN VDE 0100-709

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,). AF3, should be used if exposure to hydrocarbons is possible.

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 DSO² 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 (RCD³) 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.

- 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

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



Technical Appendix

Overview Installation Areas

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!!



Technical Appendix

Tests and Test Methods according to IEC-/EN-Standard

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)

Technical Appendix

Tests and Test Methods according to IEC-/EN-Standard

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 $70 \pm 2^\circ\text{C}$. 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:

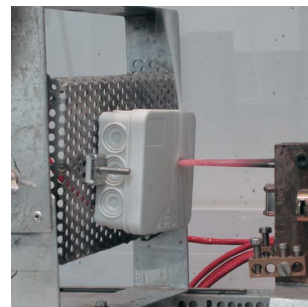
DIN EN 61439-1:

DIN EN 62208:

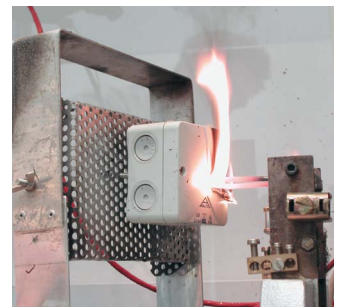
The resistance is determined by the glow wire test. The equipment under test is brought into contact with the hot filament for 30 seconds. The temperature amounts to:

- $960 \pm 15^\circ\text{C}$ for parts containing live components,
- $850 \pm 15^\circ\text{C}$ for cavity wall parts,
- $650 \pm 15^\circ\text{C}$ 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 der Prüfung



Ende der Prüfung

Technical Appendix

Tests and Test Methods according to IEC-/EN-Standard

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] |
|---|----------------------------------|----------------------------------|
| $U_i < 60$ | 1000 | 1415 |
| $60 < U_i < 300$ | 1500 | 2120 |
| $300 < U_i < 690$ | 1890 | 2670 |
| $690 < U_i < 800$ | 2000 | 2830 |
| $800 < U_i < 1000$ | 2200 | 3110 |
| $1000 < U_i < 1500$ | 2700 | 3820 |

| Rated isolation voltage Auxiliary circuits (Ladder against ladder) [V] | Insulation test voltage (AC) [V] | Isolation test voltage (DC) [V] |
|--|----------------------------------|---------------------------------|
| $U_i < 12$ | 250 | 355 |
| $12 < U_i < 60$ | 500 | 710 |
| $60 < U_i$ | see table Main circuits | see table Main circuits |

Technical Appendix

Tests and Test Methods according to IEC-/EN-Standard

Proof of clearances and creepage distances and distances through casting compound

DIN EN 60670-22:

DIN EN 61439-1:

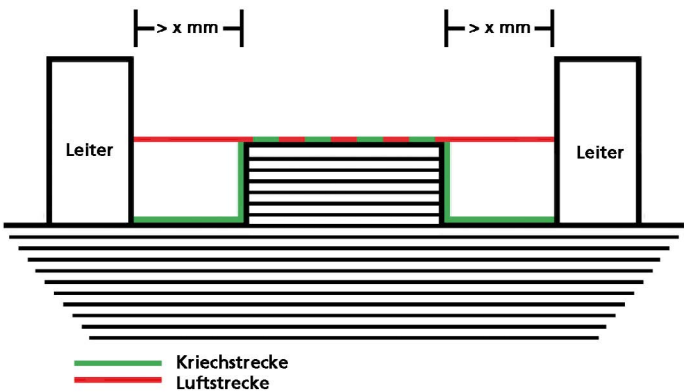
The intervals may not be less than described in table 21 and are measured between live parts of different polarity, live parts and metal caps or sockets without insulation and live parts and the base mounting surface.

| 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 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 |

The clearances and creepage distances are evaluated as follows:



Technical Appendix

Tests and Test Methods according to UL – Underwriters Laboratories

Tests and test methods UL – Underwriters Laboratories



**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 / UL 50E

“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”

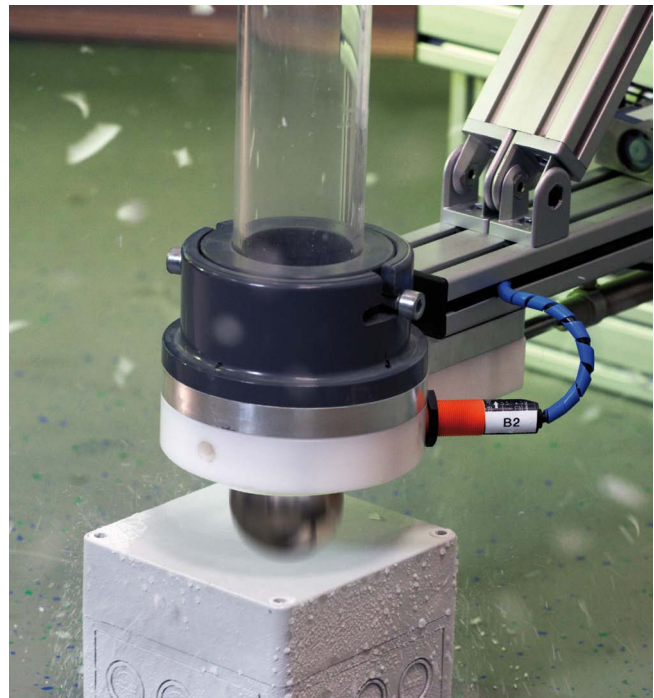
This regulation sets standards for materials made of polymer, for use in electrical equipment.

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 $-35 \pm 2^{\circ}\text{C}$ 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 .

Technical Appendix

Tests and Test Methods according to UL – Underwriters Laboratories

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 |

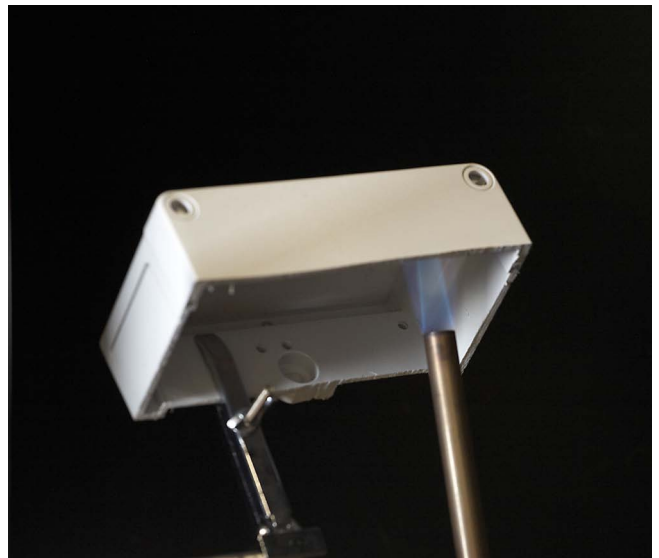
A material sample is placed vertically above a 500 W flame with a height of 125 mm ± 10 mm.

| Classification | Conditions |
|----------------|--|
| 5VB | Self-extinguishing, no burning drops, burn holes are permitted |
| 5VA | Self-extinguishing, no burning drops, burn holes are not permitted |

Note:

In accordance with UL50, an end product made of insulating material must pass the UL 746C, Chapter 17 „Flammability - 127 mm (5 inch) flame“ flame test.

It is therefore possible that an end product manufactured from material with a material qualification lower than 5VA, can achieve certification/qualification to UL 50.



Technical Appendix

Conformity to Specifications and Standards

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)

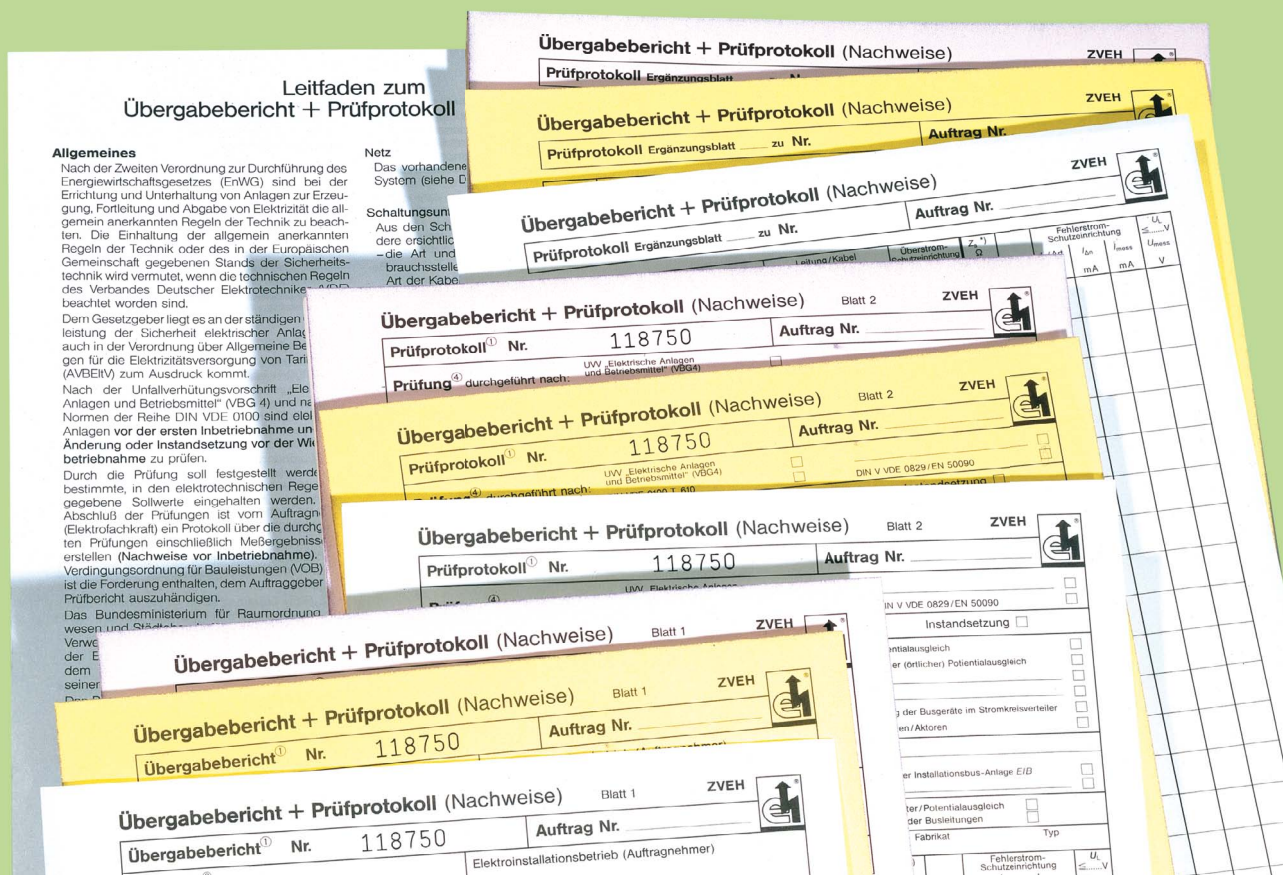
DIN EN 61439-7 (VDE 0660-600-7)

Switchgear assemblies for certain applications e.g. marinas, campsites, marketplaces, charging stations for electric vehicles



Technical Appendix

Test Report - Handover to end-user



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.

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[illegible]

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 standards, 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 protection Act).



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