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With vision into a secure future generation
“Sustainability” for Hensel means being responsible in the sense of preserving resources and avoiding the use of hazardous materials (RoHS). An environmental management system is exactly the same practice as restraining company practices due to associated risks by using a risk management system.

Happy customers are the best reference

Due to its consistent quality philosophy, Hensel-brand products have established themselves in a wide variety of industries. They are standard products in all types of installations, due not only to their stable design and resistance especially in difficult environments. The positive resonance of the market and satisfaction of our customers speak for themselves.

The high quality of Hensel products offers the highest level of protection against corrosion and accidents involving electric current. They are resistant to UV radiation, impacts, dust and water. Regardless of whether the air is impaired because of heat, cold, moisture or dirt; Hensel-brand products can be easily used in extreme environments and under tough conditions.

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(800) 677-8942 / (303) 680-5159
ENYCASE®
DK Cable Junction Boxes
1.5 up to 240 mm², IP 54-67
Pages 15-136

ENYBOARD
KV Small Distribution Boards up to 63 A
IP 54-65
3 - 54 modules
Pages 137-206

ENYSTAR®
Distribution Boards with Door up to 250 A
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ENYMOD
Mi Power Distribution Boards up to 630 A
IP 65
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ENYFIT
Cable Entry Systems
Pages 337-362

Technical Data
Pages 363-382

List of Types
Pages 383-392

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Leading through innovation and quality

An innovative program of modern electrical installation and distribution systems has made Hensel into a market leader in branching, fusing and distributing of electrical power. We guarantee our users highest benefits with customized products especially developed for the requirements of national and international applications. Customer satisfaction is the key for our success.

To guarantee our customers’ competitive advantage in the future, Hensel constantly invests in development, production and employee training. We meet the continuously expanding requirements placed on computer systems in the age of the internet, including faster reaction times and more extensive availability with new investments to guarantee constant system availability.

We are always contributing to the development of national and international standards at critical points and are thus able to have valuable expertise to flow into our development work. It helps assure the high quality of our products and guarantees it for the future.

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Always one important step ahead

The products Hensel develops, manufactures and sells for electrical installation and distribution systems can be used for operating equipment to fulfill many challenging installation tasks for electrical equipment: In commercial and industrial buildings, for outdoor use and standard-conforming photovoltaic installations. Through our close customer contacts and active cooperation with standard-setting bodies, we are always able to find new and up-to-date applications for our products, such as ship building, distribution technology for electric vehicle filling stations or meter distribution boards for residential complexes in China.

With vision into a secure future generation

„Sustainability“ for Hensel means being responsible in the sense of preserving resources and avoiding the use of hazardous materials (RoHS). An environmental management system is exactly the same practice as restraining company practices due to associated risks by using a risk management system. We have signed the “Code of Conduct” by the German Electrical and Electronic Manufacturers’ Association (ZVEI) for socially responsible company management. We have put in place a compliance system for the openness and transparency in our social decision making.

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(800) 677-8942 / (303) 680-5159
Happy customers are the best reference

Due to its consistent quality philosophy, Hensel-brand products have established themselves in a wide variety of industries. They are standard products in all types of installations, due not only to their stable design and resistance especially in difficult environments. The positive resonance of the market and satisfaction of our customers speak for themselves.

The high quality of Hensel products offers the highest level of protection against corrosion and accidents involving electric current. They are resistant to UV radiation, impacts, dust and water. Regardless of whether the air is impaired because of heat, cold, moisture or dirt; Hensel-brand products can be easily used in extreme environments and under tough conditions.

References
Hensel products installed in demanding areas of application, see www.hensel-electric.de

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Hensel products guarantee safety in

- Agriculture and Farming
- Automotive Industries
- Banks and Insurance Offices
- Cement Factories
- Coldstorage Facilities
- Gas Stations and Pipelines
- Hospitals and Clinics
- Hotels and Cinema Complexes
- Industrial, Commercial and Company Buildings
- Leisure and Commercial Centres (Malls)
- Marine Environments
- Metal, Wood and Paper Processors
- Mining
- Photovoltaic Plants
- Power Stations
- Residential and Non-residential Buildings
- Schools and Universities
- Stadia and Sport Centres
- Telecommunications
- Traffic Infrastructure Buildings
- Tunnels and Road Construction
- Water and Waste Water Treatment Plants

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State of the art technology, Clever logistics

To guarantee optimum production conditions, Hensel has four German production sites with an extensive range of state-of-the-art machinery and equipment. It includes high-performance plastic injection-molding machinery and state-of-the-art metal-working technology. Surface coating and assembly equipment meet the highest quality requirements.

High performance tool design and highly qualified employees guarantee state-of-the-art injection mould and metal working tools.

Refined logistics assures optimal and low-cost customer care.

Made in Germany
Call for a Quote!
(800) 677-8942 / (303) 680-5159
Customized solutions

Enclosures on customer request for individual applications
Production beyond of our series production can meet special technical requirements for cable junction boxes.
Planning, engineering and manufacturing of these individual solutions is our part.
As a matter of course our customized products comply to the valid standards.

Your advantages:
- Individual cutouts - round or angular - in enclosure walls
- Enclosures with pre-mounted cable glands
- Pre-mounted individual terminal assignment in enclosures

Minimum number of copies for special productions:
100 pieces for each order.

Example:
Low voltage halogen lighting - 5 drillings for grommets M 12 in lower box wall

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Always one important step ahead

In your region Hensel and its Agents can organize local trainings and seminars, where the main technical features and highlights are shown, discussed, explained and sometimes also mounted.

Highly qualified staff with practical experience, sometimes small product exhibitions, applications and references from all over the world, gives you the chance to learn many details and advantages within a short period of time.

You can ask your questions and sometimes even practical problems are being solved during the training.

Hensel seminars and trainings are a very good opportunity for you to increase your knowledge and to be one step ahead of your competition.

Ask your local supplier about the next planned seminars in your region.

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Locally rooted, internationally underway

Trade fairs

Participation in trade fairs and exhibitions is part of successful customer care.

In addition to the Light + Building show in Frankfurt, the regional electrotechnical trade shows in Germany and abroad are very important to both electrical specialists and ourselves.

We look forward to your visit!

InfoMobil: Mobile exhibitions

We are also pleased to inform you about our system solutions and new products on site in our mobile exhibitions.

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Communication, always well informed

Internet
The aim of our media presence is to provide at any time the latest information about our company and its products for the electrician, the employee in the electrical wholesale trade, the industrial electrician or the planner.

News and Information:
www.hensel-electric.de

Hitech News on Facebook
https://www.facebook.com/HiTechControls

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Contents:
- Products with technical details
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- Noticing list
- High-speed search of products
- On-line purchase order forms for catalogues and service offers
- Download of
  - price lists
  - advertisement texts
  - conformity declarations
  - further documentation

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Professional project engineering

ENYGUIDE - the professional planning aid, with which the electrical specialist can provide himself fast and easily layouts and parts lists without any time-consuming program installation at the computer.

ENYGUIDE Configurator ENYGUIDE supports project engineering with ENYSTAR and Mi Distribution boards
- online via InterNet
- or offline

With the new configuration software the electrical specialist can provide himself fast and easily layouts and parts lists without any time-consuming program installation at the computer.
The professional planning aid plots the distribution board as precise 3-dimensional image or final customers and/or the user or as 2-dimensional drawing for the assembler.
ENYGUIDE figures out independently the necessary accessories like the number of wall separators or closing plates for enclosure walls.

www.enyguide.eu

All planning aids can be ordered in the Internet under www.hensel-electric.de under the column "service" or also directly at

Gustav Hensel GmbH & Co. KG
Industrial Electrical Power Distribution Systems
Altenhundem, Gustav-Hensel-Str. 6, D-57368 Lennestadt, Germany
Telefon: +49 - (0) 2723/609-0, Telefax: +49 - (0) 2723/60052
E-Mail: info@hensel-electric.de, www.hensel-electric.de

Call for a Quote!
(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes

- 1.5 up to 240 mm²
- Degree of protection IP 54-67
- Cable Junction Boxes are VDE tested in accordance with IEC 60670-22

Call for a Quote!
(800) 677-8942 / (303) 680-5159
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**Criteria for selecting**

Box walls

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**With FIXCONNECT® plug-in technology for copper conductors**
- from 1.5 up to 16 mm²
- IP 65/IP 55
- cable entry via metric knockouts

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**With or without terminals**
- from 1.5 up to 240 mm²
- IP 65/IP 55
- cable entry via metric knockouts
- with terminals for copper conductors
- without terminals

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**Box walls without knockouts**
- from 1.5 up to 50 mm²
- IP 65
- box walls without knockouts, can be drilled individually for customized requirements
- without terminals
- without terminals, for electrical equipment up to 63 A
- Accessories

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**Cable entry via metric knockouts for armoured cables or conduit entries**
- from 1.5 up to 35 mm²
- IP 65
- without terminals
- with terminals for copper conductors

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**Cable entry via elastic membranes and integrated M20 thread**
- up to 4 mm²
- IP 55
- without terminals
- with terminals for copper conductors

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**Cable entry via cable, cable trunking and conduits**
- from 1.5 up to 4 mm²
- IP 54
- with terminals for copper conductors
- without terminals, Accessories

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**Cable entry via elastic membranes**
- from 1.5 up to 4 mm²
- IP 55
- with terminals for copper conductors, grey RAL 7035
- without terminals, grey RAL 7035
- with terminals for copper conductors, white RAL 9016
- without terminals, white RAL 9016, Accessories

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**Cable entry via elastic membranes from the rear and by box walls and lid**
- from 1.5 up to 2.5 mm²
- IP 55
- for the clip-on attachment
- with terminals for copper conductors, grey RAL 7035
- without terminals, grey RAL 7035
- with terminals for copper conductors, white RAL 9016
- without terminals, white RAL 9016

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**For aluminium- (Alu) and copper (Cu) conductors**
- from 1.5 up to 240 mm²
- IP 65/55
- cable entry via metric knockouts
- with terminal blocks for aluminium- (Alu) and copper (Cu) conductors

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**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
**DK Cable Junction Boxes**

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Additional information and planning tools (e.g. CAD parts libraries) can be found on the Internet at www.hensel-electric.de

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(800) 677-8942 / (303) 680-5159
## DK Cable Junction Boxes
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Assignment of box walls:
The assignment of box walls is effected via wall symbols that are
assigned to each product. The individual figures give an indication,
which wall is concerned.

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<td>1 x Removable-system</td>
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<td>1 x M 20/25</td>
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<td>7 x Removable-system</td>
<td>7 x Removable-system</td>
<td>7 x Removable-system</td>
</tr>
</tbody>
</table>

All box walls are listed in the fold-out of the cover pages.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
with Terminals in Plug-in Technology
Cable Entry via Metric Knockout

- Plenty of space for the wiring:
  Wiring facilities both below the DIN rails and between the terminals.

- Different conductor types - rigid (r) and flexible (f) without treatment of conductors - can be connected in one terminal.

- Conduits can be directly connected and disconnected with installed terminal.

- Stainless steel cover screws with quick fastening metric thread. Reducing cover fixing time.

- Labelling system for circuit description
  Label template on the Internet at www.hensel-electric.de - in the ‘Downloads’ area.

- Conduits can be directly connected and disconnected with installed terminal.

- Burning behaviour:
  Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing.

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DK Cable Junction Boxes
with Terminals in Plug-in Technology
Cable Entry via Metric Knockout

**KC 9045**
1.5-4 mm², Cu 3～
- FIXCONNECT® plug-in terminal technology
- 5-pole per pole 4 x 1 x 1.5-4 mm² sol/f, terminal technology, see annex DK Cable junction boxes
- included cable entry: 4 ESM 25, sealing range Ø 9-17 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th></th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>rated insulation voltage</td>
<td>32 A</td>
</tr>
<tr>
<td>current carrying capacity</td>
<td></td>
</tr>
</tbody>
</table>

**KC 9255**
2.5-10 mm², Cu 3～
- FIXCONNECT® plug-in terminal technology
- 5-pole per pole 4 x 1 x 2.5-10 mm² r/f
- included cable entry: 3 ESM 32, sealing range Ø 9-23 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th></th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>rated insulation voltage</td>
<td>50 A</td>
</tr>
<tr>
<td>current carrying capacity</td>
<td></td>
</tr>
</tbody>
</table>

**KC 9355**
2.5-16 mm², Cu 3～
- FIXCONNECT® plug-in terminal technology
- 5-pole per pole 4 x 1 x 2.5-16 mm² r/f
- included cable entry: 3 ESM 40, sealing range Ø 17-30 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th></th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>rated insulation voltage</td>
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<tr>
<td>current carrying capacity</td>
<td></td>
</tr>
</tbody>
</table>
Hi-Tech Controls, Inc.

OK Cable Junction Boxes

Cable Entry via Metric Knockout

- Variable terminal mounting positions (5 positions) and new terminal technology
- Stainless steel cover screws with quick fastening metric thread. Reducing cover fixing time.
- Included accessories as listed: grommets ESM = IP 55
- Labelling system for circuit description
  - Label template on the Internet at www.hensel-electric.de - in the 'Downloads' area.
- Hensel cable junction boxes can in general also be used in poor environmental conditions by using IP 65 cable glands AKM/ASM.
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C / 960 °C, flame-retardant, self-extinguishing

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DK Cable Junction Boxes
Cable Entry via Metric Knockout

D 9025
1.5-2.5 mm², Cu 3-
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- included cable entry: 4 ESM 20, sealing range Ø 6-13 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

D 9125
1.5-2.5 mm², Cu 3-
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- included cable entry: 4 ESM 20, sealing range Ø 6-13 mm
- with external fixing
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

D 9145
1.5-4 mm², Cu 3-
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol, 2 x 6 mm² sol
- included cable entry: 4 ESM 20, sealing range Ø 6-13 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

D 9045
1.5-4 mm², Cu 3-
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol, 2 x 6 mm² sol
- included cable entry: 4 ESM 25, sealing range Ø 9-17 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

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(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes
Cable Entry via Metric Knockout

**K 9065**
2.5-6 mm², Cu 3~
- with terminals
- 5-pole per pole 4 x 2.5 mm² sol, 4 x 4 mm² sol, 3 x 6 mm² sol, 2 x 10 mm² sol
- included cable entry: 3 ESM 32, sealing range Ø 9-23 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.5 Nm</td>
</tr>
</tbody>
</table>

**K 9105**
4-10 mm², Cu 3~
- with terminals
- 5-pole per pole 6 x 2.5 mm² sol, 4 x 4 mm² sol, 4 x 6 mm² sol, 4 x 10 mm² sol, 2 x 16 mm² sol
- included cable entry: 3 ESM 32, sealing range Ø 9-23 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
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</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>63 A</td>
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<tr>
<td>tightening torque for terminal</td>
<td>2.0 Nm</td>
</tr>
</tbody>
</table>

**K 9255**
10-25 mm², Cu 3~
- with terminals
- 5-pole per pole 6 x 10 mm² sol, 4 x 16 mm² sol, 4 x 25 mm² sol, 2 x 35 mm² sol
- included cable entry: 3 ESM 40, sealing range Ø 17-30 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>102 A</td>
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<tr>
<td>tightening torque for terminal</td>
<td>3.0 Nm</td>
</tr>
</tbody>
</table>

**K 9502**
10-35 mm², Cu 3~
- with terminals
- 5-pole per pole 4 x 10 mm² sol, 4 x 16 mm² sol, 4 x 25 mm² sol, 2 x 35 mm² sol
- included cable entry: 3 ESM 40, sealing range Ø 17-30 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
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</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>102 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>3.0 Nm</td>
</tr>
</tbody>
</table>

Call for a Quote!
(800) 677-8942 / (303) 680-5159
**DK Cable Junction Boxes**

**Cable Entry via Metric Knockout**

### K 9355

16-35 mm², Cu 3–

- with terminals
- 5-pole per pole 6 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s, 2 x 50 mm² s
- included cable entry: 3 ESM 40, sealing range Ø 17-30 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 690 V</td>
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<td>Current carrying capacity</td>
<td>125 A</td>
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<tr>
<td>Tightening torque for terminal</td>
<td>12.0 Nm</td>
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</table>

### K 9504

16-50 mm², Cu 3–

- with terminals
- 4-pole per pole 6 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s, 4 x 50 mm² s
- cable entry via knockouts, order AKM/ASM separately (refer to index cable entry systems)
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Parameter</th>
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<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 690 V</td>
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<tr>
<td>Current carrying capacity</td>
<td>150 A</td>
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<tr>
<td>Tightening torque for terminal</td>
<td>12.0 Nm</td>
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</tbody>
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### K 9505

16-50 mm², Cu 3–

- with terminals
- 5-pole per pole 6 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s, 4 x 50 mm² s
- cable entry via knockouts, order AKM/ASM separately (refer to index cable entry systems)
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 690 V</td>
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<tr>
<td>Current carrying capacity</td>
<td>150 A</td>
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<tr>
<td>Tightening torque for terminal</td>
<td>12.0 Nm</td>
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</tbody>
</table>

### K 7055

16-50 mm², Cu 3–

- with terminals
- 5-pole per pole 6 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s, 4 x 50 mm² s
- sealable
- order cable glands, flanges and other accessories separately as required
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
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<tbody>
<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 690 V</td>
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<td>Current carrying capacity</td>
<td>150 A</td>
</tr>
<tr>
<td>Tightening torque for terminal</td>
<td>12.0 Nm</td>
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</table>

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HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
Cable Entry via Metric Knockout

K 7004
16-70 mm², Cu 3~
- with terminals
- 4-pole per pole 4 x 16-70 mm²
- sealable
- order cable glands, flanges and other accessories separately as required
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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<tbody>
<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 690 V</td>
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<tr>
<td>Current carrying capacity</td>
<td>216 A</td>
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<tr>
<td>Tightening torque for terminal</td>
<td>10.0 Nm</td>
</tr>
</tbody>
</table>

K 7005
16-70 mm², Cu 3~
- with terminals
- 5-pole per pole 4 x 16-70 mm²
- sealable
- order cable glands, flanges and other accessories separately as required
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>Current carrying capacity</td>
<td>216 A</td>
</tr>
<tr>
<td>Tightening torque for terminal</td>
<td>10.0 Nm</td>
</tr>
</tbody>
</table>

K 1204
16-150 mm², Cu/Alu 3~
- with terminals
- 4-pole per pole 2 x 16-150 mm², 4 x 16-70 mm², conductors can be inserted from the front into the clamping unit, terminal technology, see annex DK Cable junction boxes
- sealable
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife, (please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
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<tbody>
<tr>
<td>Rated insulation voltage</td>
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<td>Current carrying capacity</td>
<td>250 A</td>
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<tr>
<td>Tightening torque for terminal</td>
<td>20.0 Nm</td>
</tr>
</tbody>
</table>
DK Cable Junction Boxes
Cable Entry via Metric Knockout

K 1205
16-150 mm², Cu/Alu 3~

- with terminals
- 5-pole per pole 2 x 16-150 mm², 4 x 16-70 mm², conductors can be inserted from the front into the clamping unit, terminal technology, see annex DK Cable junction boxes
- sealable
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bare conductor end carefully by scraping off the oxide film, for example with a knife, (please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.
- for normal environment and protected outdoor

| rated insulation voltage | AC/DC 690 V |
| current carrying capacity | 250 A |
| tightening torque for terminal | 20.0 Nm |

K 2404
25-240 mm², Cu/Alu 3~

- with terminals
- 4-pole per pole 2 x 25-185/240 mm², 4 x 25-120 mm², conductors can be inserted from the front into the clamping unit, terminal technology, see annex DK Cable junction boxes
- sealable
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bare conductor end carefully by scraping off the oxide film, for example with a knife, (please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.
- for normal environment and protected outdoor

| rated insulation voltage | AC/DC 690 V |
| current carrying capacity | 400 A |
| tightening torque for terminal | 40.0 Nm |

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HI-TECH CONTROLS, INC.

**DK Cable Junction Boxes**

**Cable Entry via Metric Knockout**

**K 2405**

25-240 mm², Cu/Al 3-

- with terminals
- 5-pole per pole 2 x 25-185/240 mm², 4 x 25-120 mm², conductors can be inserted from the front into the clamping unit, terminal technology, see annex DK Cable Junction boxes
- sealable
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife, (please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.
- for normal environment and protected outdoor

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>current carrying capacity</td>
<td>400 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>40.0 Nm</td>
</tr>
</tbody>
</table>

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DK Cable Junction Boxes
Cable Entry via Metric Knockout

**D 9020**
- without terminals
- included cable entry: 4 ESM 20, sealing range Ø 6-13 mm
- for normal environment and protected outdoor

**D 9120**
- without terminals
- with external fixing
- included cable entry: 4 ESM 20, sealing range Ø 6-13 mm
- for normal environment and protected outdoor

**D 9140**
- without terminals
- included cable entry: 4 ESM 20, sealing range Ø 6-13 mm
- for normal environment and protected outdoor

**D 9040**
- without terminals
- included cable entry: 4 ESM 25, sealing range Ø 9-17 mm
- for normal environment and protected outdoor

**K 9060**
- without terminals
- included cable entry: 3 ESM 32, sealing range Ø 9-23 mm
- for normal environment and protected outdoor

**K 9100**
- without terminals
- included cable entry: 3 ESM 32, sealing range Ø 9-23 mm
- for normal environment and protected outdoor

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DK Cable Junction Boxes
Cable Entry via Metric Knockout

**K9250**
- without terminals
- included cable entry: 3 ESM 40, sealing range Ø 17-30 mm
- for normal environment and protected outdoor

**K9350**
- without terminals
- included cable entry: 3 ESM 40, sealing range Ø 17-30 mm
- for normal environment and protected outdoor

**K9500**
- without terminals
- cable entry via knockouts, order AKM/ASM separately (refer to index cable entry systems)
- for normal environment and protected outdoor

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HI-TECH CONTROLS, INC.

OK Cable Junction Boxes
Box Walls without Knockouts

Cable entries can be drilled individually.

- Labelling system for circuit description
- Label template on the Internet at www.hensel-electric.de - in the 'Downloads' area.
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing
- Stainless steel cover screws with quick fastening metric thread. Reducing cover fixing time.

Call for a Quote!
(800) 677-8942 / (303) 680-5159

www.hitechcontrols.com
### DK Cable Junction Boxes

**Box Walls without Knockouts**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Dimensions</th>
<th>IP Rating</th>
<th>Paint Code</th>
</tr>
</thead>
</table>
| **D 8020** | - without terminals  
- box walls without knockouts  
- wall surface can be drilled individually for cable entry max. M 20  
- for normal environment and protected outdoor | ![Dimensions](Image) | IP 65 | RAL 7035 |
| **D 8120** | - without terminals  
- with external fixing  
- box walls without knockouts  
- wall surface can be drilled individually for cable entry max. M 20  
- for normal environment and protected outdoor | ![Dimensions](Image) | IP 65 | RAL 7035 |
| **D 8040** | - without terminals  
- box walls without knockouts  
- wall surface can be drilled individually for cable entry max. M 20  
- for normal environment and protected outdoor | ![Dimensions](Image) | IP 65 | RAL 7035 |
| **K 8060** | - without terminals  
- box walls without knockouts  
- wall surface can be drilled individually for cable entry max. M 32  
- for normal environment and protected outdoor | ![Dimensions](Image) | IP 65 | RAL 7035 |
| **K 8100** | - without terminals  
- box walls without knockouts  
- wall surface can be drilled individually for cable entry max. M 32  
- for normal environment and protected outdoor | ![Dimensions](Image) | IP 65 | RAL 7035 |

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HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
Box Walls without Knockouts

**K 8250**
- without terminals
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 40
- for normal environment and protected outdoor

wall thickness of the bottom part: 3 mm

**K 8350**
- without terminals
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 50
- for normal environment and protected outdoor

wall thickness of the bottom part: 3 mm

**K 8500**
- without terminals
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 50
- for normal environment and protected outdoor

wall thickness of the bottom part: 3 mm

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**Hi-Tech Controls, Inc.**

**DK Cable Junction Boxes**

**Box Walls without Knockouts**

---

**K 0100**

- with transparent lid
- lid fasteners for tool operation
- box walls without knockouts
- please order DIN rails or mounting plates additionally
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated current</th>
<th>for electrical devices up to 63 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>wall thickness of the bottom part</td>
<td>3.5 mm</td>
</tr>
</tbody>
</table>

---

**K 0200**

- with transparent lid
- lid fasteners for tool operation
- box walls without knockouts
- please order DIN rails or mounting plates additionally
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated current</th>
<th>for electrical devices up to 63 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>wall thickness of the bottom part</td>
<td>3.5 mm</td>
</tr>
</tbody>
</table>

---

**K 0300**

- with transparent lid
- lid fasteners for tool operation
- box walls without knockouts
- please order DIN rails or mounting plates additionally
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated current</th>
<th>for electrical devices up to 63 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>wall thickness of the bottom part</td>
<td>3.5 mm</td>
</tr>
</tbody>
</table>

---

**K 0400**

- with transparent lid
- lid fasteners for tool operation
- box walls without knockouts
- please order DIN rails or mounting plates additionally
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated current</th>
<th>for electrical devices up to 63 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>wall thickness of the bottom part</td>
<td>3.5 mm</td>
</tr>
</tbody>
</table>

---

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HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
Box Walls without Knockouts

K 0101
- with opaque lid
- lid fasteners for tool operation
- box walls without knockouts
- please order DIN rails or mounting plates additionally
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated current</th>
<th>for electrical devices up to 63 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>wall thickness of the bottom part</td>
<td>3.5 mm</td>
</tr>
</tbody>
</table>

K 0201
- with opaque lid
- lid fasteners for tool operation
- box walls without knockouts
- please order DIN rails or mounting plates additionally
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated current</th>
<th>for electrical devices up to 63 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>wall thickness of the bottom part</td>
<td>3.5 mm</td>
</tr>
</tbody>
</table>

K 0301
- with opaque lid
- lid fasteners for tool operation
- box walls without knockouts
- please order DIN rails or mounting plates additionally
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated current</th>
<th>for electrical devices up to 63 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>wall thickness of the bottom part</td>
<td>3.5 mm</td>
</tr>
</tbody>
</table>

K 0401
- with opaque lid
- lid fasteners for tool operation
- box walls without knockouts
- please order DIN rails or mounting plates additionally
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated current</th>
<th>for electrical devices up to 63 A</th>
</tr>
</thead>
<tbody>
<tr>
<td>wall thickness of the bottom part</td>
<td>3.5 mm</td>
</tr>
</tbody>
</table>

Call for a Quote!
(800) 677-8942 / (303) 680-5159
<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Dimensions</th>
<th>Material Details</th>
<th>Compatibility</th>
<th>Mounting Method</th>
</tr>
</thead>
</table>
| Mi TS 15 | DIN rail, length 134 mm              |            |                 | in accordance with DIN EN 60 715 | for Mi Empty box size 1
|         |                                      |            |                 |                   | for equipment or terminals with clip-on mounting | with fixing screws |
| Mi TS 30 | DIN rail, length 284 mm              |            |                 | in accordance with DIN EN 60 715 | for Mi Empty box sizes 1 to 8
|         |                                      |            |                 |                   | for equipment or terminals with clip-on mounting | with fixing screws |
| Mi TS 45 | DIN rail, length 434 mm              |            |                 | in accordance with DIN EN 60 715 | for Mi Empty box size 3
|         |                                      |            |                 |                   | for equipment or terminals with clip-on mounting | with fixing screws |
| Mi TS 60 | DIN rail, length 584 mm              |            |                 | in accordance with DIN EN 60 715 | for Mi Empty box sizes 4 and 8
|         |                                      |            |                 |                   | for equipment or terminals with clip-on mounting | with fixing screws |
| Mi MP 1  | Mounting plate, W 259 x H 115 mm     |            |                 | Material thickness 4 mm | for Mi Empty boxes sizes 1, 2, 3, 4
|         |                                      |            |                 |                   | with fixing screws |
| Mi MP 2  | Mounting plate, W 265 x H 265 mm     |            |                 | Material thickness 4 mm | for Mi Empty boxes sizes 2 to 8
|         |                                      |            |                 |                   | with fixing screws |
HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
Empty Boxes
Accessories for Cable Junction Boxes K0x0x

Mi MP 3
Mounting plate
W 265 x H 415 mm
- material thickness 4 mm
- for Mi-Empty boxes sizes 3, 4
- with fixing screws

Mi MP 4
Mounting plate
W 265 x H 565 mm
- material thickness 4 mm
- for Mi-Empty boxes sizes 4, 8
- with fixing screws

Mi ZS 30
Hinge for lids
- for empty boxes K0xxx
- with lamellar plugs for 2 lid fixing tubes
- The lid keeps permanently connected to the box

Mi PL 2
Sealing cap
- 2 sealing caps for converting the lid fasteners

Mi SR 4
Conversion set
for manual operation on tool operation
- 4 fastening covers

Mi SN 4
Conversion set
for converting lid fasteners from tool to manual operation
- 4 manual actuators

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(800) 677-8942 / (303) 680-5159
**Mi DV 01**
Locking device insertion
- only in connection with Mi PL 2, Mi SR 4 or Mi SN 4

**Mi ZS 11**
Lid lock with locking device I
- is being used instead of fasteners for hand or tool operation in order to prevent unauthorised opening of the lids
- consisting of: cylinder lock, keys, locking device insertion, dust cover

**Mi ZS 12**
Lid lock with locking device II
- is being used instead of fasteners for hand or tool operation in order to prevent unauthorised opening of the lids
- consisting of: cylinder lock, keys, locking device insertion, dust cover

**Mi DR 04**
Lid fastener for tool operation triangle 8 mm
- is used instead of fasteners for hand- or tool operation, in order to make unauthorized opening of lids more difficult
- 4 locking devices with triangle 8 mm and key

**DS 1**
Triangular key 8 mm

**Mi AL 40**
4 stainless steel external brackets
- for external fixing of enclosures

Call for a Quote!
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HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
Cable/Conduit Entry via Metric Knockouts

Application: Cable junction box using entries for conduits.

Labelling system for circuit description
Label template on the Internet at www.hensel-electric.de - in the 'Downloads' area.

Application: Cable junction box using special cable entries for armoured cables.

Stainless steel cover screws with quick fastening metric thread. Reducing cover fixing time.

Hensel cable junction boxes with armoured cables according to British Standard.

Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing

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CONTROLS, INC.

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DK Cable Junction Boxes
Cable/Conduit Entry via Metric Knockouts

DM 9020
- without terminals
- cable entry via knockouts, cable entry to be ordered separately
- for normal environment and protected outdoor

DM 9140
- without terminals
- cable entry via knockouts, cable entry to be ordered separately
- for normal environment and protected outdoor

DM 9040
- without terminals
- cable entry via knockouts, cable entry to be ordered separately
- for normal environment and protected outdoor

KM 9060
- without terminals
- cable entry via knockouts, cable entry to be ordered separately
- for normal environment and protected outdoor

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DK Cable Junction Boxes
Cable/Conduit Entry via Metric Knockouts

DM 9025
1.5-2.5 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- cable entry via metric knockouts
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

DM 9145
1.5-4 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol, 2 x 6 mm² sol
- cable entry via metric knockouts
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

DM 9045
1.5-4 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol, 2 x 6 mm² sol
- cable entry via metric knockouts
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

KM 9065
2.5-6 mm², Cu 3–
- with terminals
- 5-pole per pole 4 x 2.5 mm² sol, 4 x 4 mm² sol, 3 x 6 mm² sol, 2 x 10 mm² sol
- cable entry via metric knockouts
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.5 Nm</td>
</tr>
</tbody>
</table>

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HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
Cable/Conduit Entry via Metric Knockouts

K 8105
4-10 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 2.5 mm² sol, 4 x 4 mm² sol, 4 x 6 mm² sol, 4 x 10 mm² sol, 2 x 16 mm² sol
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 32
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>63 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>2.0 Nm</td>
</tr>
<tr>
<td>wall thickness of the bottom part</td>
<td>2.8 mm</td>
</tr>
</tbody>
</table>

K 8255
10-25 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 10 mm² sol, 4 x 16 mm² sol, 4 x 25 mm² sol, 2 x 35 mm² sol
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 40
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>102 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>3.0 Nm</td>
</tr>
<tr>
<td>wall thickness of the bottom part</td>
<td>3 mm</td>
</tr>
</tbody>
</table>

Call for a Quote!
(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes
Cable Entry via Elastic Membranes and Integrated M20 Thread

- IP 55 with cable entry via elastic membranes.
- IP 65 with ADM 20 cable gland without locknut. The gland is secured by an integrated M 20 thread.
- Captive cover screws with quick-release lock.

Burning behaviour:
Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing

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DK Cable Junction Boxes
Cable Entry via Elastic Membranes and Integrated M20 Thread

**DN 2035**
1.5-2.5 mm², Cu 3-
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- cable entry via elastic membranes and integrated M20 thread
- 8 elastic membranes, closed, sealing range Ø 3-12 mm
- included cable entry: 3 ADM 20, sealing range Ø 6.5-13.5 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

**DN 2005**
1.5-2.5 mm², Cu 3-
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- cable entry via elastic membranes and integrated M20 thread
- 8 elastic membranes, closed, sealing range Ø 3-12 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

**DN 2030**
- without terminals
- cable entry via elastic membranes and integrated M20 thread
- 8 elastic membranes, closed, sealing range Ø 3-12 mm
- included cable entry: 3 ADM 20, sealing range Ø 6.5-13.5 mm

**DN 2000**
- without terminals
- cable entry via elastic membranes and integrated M20 thread
- 8 elastic membranes, closed, sealing range Ø 3-12 mm
- for normal environment and protected outdoor

**ADM 20**
ISO thread M 20 x 1.5
- sealing range Ø 6.5-13.5 mm
- with strain relief
- for indoor - normal environment and (or) protected outdoor installation
- ambient temperature - 25° to +35° C
- glow wire test IEC 60 695-2-11: 750° C

| tightening torque | 2.0 Nm |

**Call for a Quote!**
(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes
Cable Entry via Knockouts
for Cable Trunking and Conduit Installation

- Simply cut out cable trunking wall to the required width.
- The cables can be inserted from the front! No threading of cables necessary!
- Supplied accessory grommets DPS 02 = IP 54
- The clean installation solution for cable trunking!
- Removable trunking adapters for connection of cable trunkings to junction boxes.
- Labelling system for circuit description
- Label template on the Internet at www.hensel-electric.de - in the "Downloads" area.
- Stainless steel cover screws with quick fastening metric thread. Reducing cover fixing time.
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing

Call for a Quote!
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HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
Cable Entry via Knockouts
for Cable Trunking and Conduit Installation

**DP 9025**

1.5-2.5 mm², Cu 3–

- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- for cable trunking and conduit installation
- included cable entry: 4 DPS 02, sealing range Ø 10-13.5 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

**DP 9221**

1.5-2.5 mm², Cu 3–

- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- for cable trunking and conduit installation
- included cable entry: 7 DPS 02, sealing range Ø 10-13.5 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

**DP 9222**

1.5-2.5 mm², Cu 3–

- with 2 terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- for cable trunking and conduit installation
- included cable entry: 7 DPS 02, sealing range Ø 10-13.5 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

**DPC 9225**

1.5-2.5 mm², Cu 3–

- FIXCONNECT® plug-in terminal technology
- 5-pole per pole 4 x 1 x 1.5–2.5 mm² sol, terminal technology, see annex DK Cable junction boxes
- for cable trunking and conduit installation
- included cable entry: 4 DPS 02, sealing range Ø 10-13.5 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>32 A</td>
</tr>
</tbody>
</table>

---

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HI·TECH CONTROLS, INC.

DK Cable Junction Boxes
Cable Entry via Knockouts
for Cable Trunking and Conduit Installation

DP 9020
- without terminals
- for cable trunking and conduit installation
- included cable entry: 4 DPS 02, sealing range Ø 10-13.5 mm
- for normal environment and protected outdoor

DP 9220
- without terminals
- for cable trunking and conduit installation
- included cable entry: 7 DPS 02, sealing range Ø 10-13.5 mm
- for normal environment and protected outdoor

DPS 02
Removable grommet
- degree of protection: IP 54 sealing range Ø 10-13.5 mm
- for retrofitting
- for cable junction boxes DP 9020, DP 9220, DP 9025, DP 9221, DP 9222, DP 9026, DPC 9225

ERA 20
Removable conduit adapter
- degree of protection: IP 54 sealing range Ø 10-13.5 mm
- for wiring conduits M 20
- for cable junction boxes DP 9020, DP 9220, DP 9025, DP 9221, DP 9222, DP 9026, DPC 9225

EKA 20
Removable trunking adapter
- degree of protection: IP 54 sealing range Ø 10-13.5 mm
- for mini trunking up to 20 x 20 mm
- for cable junction boxes DP 9020, DP 9220, DP 9025, DP 9221, DP 9222, DP 9026, DPC 9225

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HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
Cable Entry via Elastic Membranes

- No punching tool required - insert the conductor and it's done
- Degree of protection IP 55
- Box wall with 3 cable entries
- Grommet supplied for sealing membranes in case of modifications.
- Labelling system for circuit description
- Stainless steel cover screws with quick fastening metric thread. Reducing cover fixing time.
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing

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# HI-TECH CONTROLS, INC.

**DK Cable Junction Boxes**

**Cable Entry via Elastic Membranes**

---

### DE 9325

**1.5-2.5 mm², Cu 3-**

- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- 10 elastic membranes, closed cable entries, sealing range Ø 6.5-16 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Rated Insulation Voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tightening Torque for Terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

---

### DE 9345

**1.5-4 mm², Cu 3-**

- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol, 2 x 6 mm² sol
- 10 elastic membranes, closed cable entries, sealing range Ø 6.5-18 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Rated Insulation Voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tightening Torque for Terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

---

### DE 9335

**1.5-4 mm², Cu 3-**

- terminals with wire protection
- 5-pole per pole 4 x 1.5 mm² sol/s/f, 4 x 2.5 mm² sol/s/f, 2 x 4 mm² sol/s/f
- 10 elastic membranes, closed cable entries, sealing range Ø 6.5-16 mm
- with cable retention (2 pc.) for cable tie up to 6.5 mm width
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Rated Insulation Voltage</th>
<th>AC/DC 500 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Current</td>
<td>32 A</td>
</tr>
<tr>
<td>Tightening Torque for Terminal</td>
<td>0.8 Nm</td>
</tr>
<tr>
<td>Dismantling Length</td>
<td>6 mm</td>
</tr>
</tbody>
</table>
DK Cable Junction Boxes
Cable Entry via Elastic Membranes

DE 9320
- without terminals
- 10 elastic membranes, closed cable entries, sealing range Ø 6.5-16 mm
- for normal environment and protected outdoor

DE 9330
- without terminals
- 10 elastic membranes, closed cable entries, sealing range Ø 6.5-16 mm
- with cable retention (2 pc.) for cable tie up to 6.5 mm width
- for normal environment and protected outdoor

DE 9340
- without terminals
- 10 elastic membranes, closed cable entries, sealing range Ø 6.5-18 mm
- for normal environment and protected outdoor

DE 9350
- without terminals
- 10 elastic membranes, closed cable entries, sealing range Ø 6.5-18 mm
- with cable retention (2 pc.) for cable tie up to 6.5 mm width
- for normal environment and protected outdoor

Call for a Quote!
(800) 677-8942 / (303) 680-5159
## DE 9326

1.5-2.5 mm², Cu 3-

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>with terminals</td>
<td></td>
</tr>
<tr>
<td>5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol</td>
<td></td>
</tr>
<tr>
<td>10 elastic membranes, closed cable entries</td>
<td></td>
</tr>
<tr>
<td>sealing range Ø 6.5-16 mm</td>
<td></td>
</tr>
<tr>
<td>for normal environment and protected outdoor</td>
<td></td>
</tr>
<tr>
<td>rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

## DE 9346

1.5-4 mm², Cu 3-

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>with terminals</td>
<td></td>
</tr>
<tr>
<td>5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol, 2 x 6 mm² sol</td>
<td></td>
</tr>
<tr>
<td>10 elastic membranes, closed cable entries</td>
<td></td>
</tr>
<tr>
<td>sealing range Ø 6.5-18 mm</td>
<td></td>
</tr>
<tr>
<td>for normal environment and protected outdoor</td>
<td></td>
</tr>
<tr>
<td>rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

## DE 9336

1.5-2.5 mm², Cu 3-

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>terminals with wire protection</td>
<td></td>
</tr>
<tr>
<td>5-pole per pole 4 x 1.5 mm² sol/s/f, 4 x 2.5 mm² sol/s/f, 2 x 4 mm² sol/s/f</td>
<td></td>
</tr>
<tr>
<td>10 elastic membranes, closed cable entries</td>
<td></td>
</tr>
<tr>
<td>sealing range Ø 6.5-16 mm</td>
<td></td>
</tr>
<tr>
<td>with cable retention (2 pc.) for cable tie up to 6.5 mm width</td>
<td></td>
</tr>
<tr>
<td>for normal environment and protected outdoor</td>
<td></td>
</tr>
<tr>
<td>rated insulation voltage</td>
<td>AC/DC 600 V</td>
</tr>
<tr>
<td>rated current</td>
<td>32 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>0.8 Nm</td>
</tr>
<tr>
<td>Dismantling length</td>
<td>11 mm</td>
</tr>
</tbody>
</table>

## DE 9321

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>without terminals</td>
<td></td>
</tr>
<tr>
<td>10 elastic membranes, closed cable entries</td>
<td></td>
</tr>
<tr>
<td>sealing range Ø 6.5-16 mm</td>
<td></td>
</tr>
<tr>
<td>for normal environment and protected outdoor</td>
<td></td>
</tr>
</tbody>
</table>

Call for a Quote!

(800) 677-8942 / (303) 680-5159
HI-TECH CONTROLS, INC.

OK Cable Junction Boxes
Cable Entry via Elastic Membranes

DE 9341
- without terminals
- 10 elastic membranes, closed cable entries, sealing range Ø 6.5-18 mm
- for normal environment and protected outdoor

DE 9331
- without terminals
- 10 elastic membranes, closed cable entries, sealing range Ø 6.5-16 mm
- with cable retention (2 pc.) for cable tie up to 6.5 mm width
- for normal environment and protected outdoor

DE 9351
- without terminals
- 10 elastic membranes, closed cable entries, sealing range Ø 6.5-18 mm
- with cable retention (2 pc.) for cable tie up to 6.5 mm width
- for normal environment and protected outdoor

KHR 01
Cable retention for cable diameter 6.5 - 14 mm
- set with 10 x 6 cable retention rings
- 30 pieces for cable diameter 6.5 - 10 mm
- 30 pieces for cable diameter 10 - 14 mm

KHR 02
Cable retention for cable diameter 10 - 16 mm
- set with 10 x 6 cable retention rings
- 30 pieces for cable diameter 10 - 14 mm
- 30 pieces for cable diameter 13 - 16 mm

DK ZE 10
Cable retention
- set with 10 pieces
- for fixing in the bottom part of DK-cable junction boxes
- cable retention with cable clip up to 6.5 mm

Call for a Quote!
(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes
Cable Entry via Elastic Membranes in Bottom and Box Walls

- Cable entry from the rear via elastic membranes in the bottom
- Lid for clip-on attachment. Reducing cover fixing time
- Cable entry via elastic membranes in box walls

- Flexible elastic membranes - no cable glands required. Push through and tight!
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing

Call for a Quote!
(800) 677-8942 / (303) 680-5159
HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
Cable Entry via Elastic Membranes in Bottom and Box Walls

DE 9225
1.5-2.5 mm², Cu 3-
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- box walls with 10 elastic membranes, closed,
  sealing range Ø 3-14 mm,
  bottom with 2 elastic membranes, closed
- lid with clip-on attachment
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

DE 9220
- without terminals
- box walls with 10 elastic membranes, closed,
  sealing range Ø 3-14 mm,
  bottom with 2 elastic membranes, closed
- lid with clip-on attachment
- with cable retention (2 pc.) for cable tie up to 6.5 mm width
- for normal environment and protected outdoor

DK ZE 10
Cable retention
- set with 10 pieces
- for fixing in the bottom part of DK-cable junction boxes
- cable retention with cable clip up to 6.5 mm

KHR 01
Cable retention
for cable diameter 6.5 - 14 mm
- set with 10 x 6 cable retention rings
- 30 pieces for cable diameter 6.5 - 10 mm
- 30 pieces for cable diameter 10 - 14 mm

KHR 02
Cable retention
for cable diameter 10 - 16 mm
- set with 10 x 6 cable retention rings
- 30 pieces for cable diameter 10 - 14 mm
- 30 pieces for cable diameter 13 - 16 mm

DE MB 10
Assembly bracket
- external brackets 10 units
- material: thermoplastics
- for quick installation of cable junction boxes DE 922. and DIN 20...

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HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
Cable Entry via Elastic Membranes in Bottom and Box Walls

DE 9226
1.5-2.5 mm², Cu 3-
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- box walls with 10 elastic membranes, closed,
  sealing range Ø 3-14 mm,
  bottom with 2 elastic membranes, closed
- lid with clip-on attachment
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

DE 9221
- without terminals
- box walls with 10 elastic membranes, closed,
  sealing range Ø 3-14 mm,
  bottom with 2 elastic membranes, closed
- lid with clip-on attachment
- with cable retention (2 pc.) for cable tie up to 6.5 mm width
- for normal environment and protected outdoor

DK ZE 10
Cable retention
- set with 10 pieces
- for fixing in the bottom part of DK-cable junction boxes
- cable retention with cable clip up to 6.5 mm

KHR 01
Cable retention
for cable diameter 6.5 - 14 mm
- set with 10 x 6 cable retention rings
- 30 pieces for cable diameter 6.5 - 10 mm
- 30 pieces for cable diameter 10 - 14 mm

KHR 02
Cable retention
for cable diameter 10 - 16 mm
- set with 10 x 6 cable retention rings
- 30 pieces for cable diameter 10 - 14 mm
- 30 pieces for cable diameter 13 - 16 mm

DE MB 10
Assembly bracket
- external brackets 10 units
- material: thermoplastics
- for quick installation of cable junction boxes DE 922, and DN 20..

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HI-TECH CONTROLS, INC.

OK Cable Junction Boxes
with Terminals for Aluminum and Copper Conductors
Cable Entry via Metric Knockouts

- Degree of protection up to IP 65. In the case of twisted cables, cable glands are required in principle to achieve the degree of protection IP 54.

- Separate clamping units for aluminium and copper conductors

- Stainless steel cover screws with quick fastening metric thread. Reducing cover fixing time.

- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing

- Labelling system for circuit description.

Call for a Quote!
(800) 677-8942 / (303) 680-5159

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DK Cable Junction Boxes
with Terminals for Aluminum and Copper Conductors
Cable Entry via Metric Knockouts

**D 9041**

1.5-2.5 mm², Cu/Alu 3-

- with terminals
- 5-pole per pole 4 x 1.5 mm² sol/f, 4 x 2.5 mm² sol/f, conductors are inserted into the screw-type terminal, terminal technology, see annex DK Cable junction boxes
- included cable entry: 4 ESM 25, sealing range Ø 9-17 mm
- In the case of twisted cables, cable glands are required in principle to achieve the degree of protection IP 54.
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife, (Please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 250 V</td>
</tr>
<tr>
<td>Current carrying capacity</td>
<td>20 A</td>
</tr>
<tr>
<td>Tightening torque for terminal</td>
<td>0,5 Nm</td>
</tr>
</tbody>
</table>

**K 9061**

1.5-4 mm², Cu/Alu 3-

- with terminals
- 5-pole per pole 4 x 1.5 mm² sol/f, 4 x 2.5 mm² sol/f, 4 x 4 mm² sol/f, conductors are inserted into the screw-type terminal, terminal technology, see annex DK Cable junction boxes
- included cable entry: 3 ESM 32, sealing range Ø 9-23 mm
- In the case of twisted cables, cable glands are required in principle to achieve the degree of protection IP 54.
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife, (Please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 400 V</td>
</tr>
<tr>
<td>Current carrying capacity</td>
<td>20 A</td>
</tr>
<tr>
<td>Tightening torque for terminal</td>
<td>0,6 Nm</td>
</tr>
</tbody>
</table>
**DK Cable Junction Boxes**

with **Terminals for Aluminum and Copper Conductors**

Cable Entry via Metric Knockouts

---

**K 9351**

6-16 mm², Cu/Alu 3-

- with terminals
- 5-pole per pole 4 x 6 mm² sol/t, 4 x 10 mm² sol/t, 4 x 16 mm² sol/s/f, conductors are inserted into the screw-type terminal, terminal technology, see annex DK Cable junction boxes
- included cable entry: 3 ESM 40, sealing range Ø 17-30 mm
- In the case of twisted cables, cable glands are required in principle to achieve the degree of protection IP 54.
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife, (Please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.

- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>76 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>3.0 Nm</td>
</tr>
</tbody>
</table>

**KF 9251**

1.5-50 mm², Cu/Alu 3-

- with connecting terminal
- 5-pole per pole 2 x 1 x 1.5-50 mm², conductors are inserted into the screw-type terminal, terminal technology, see annex DK Cable junction boxes
- included cable entry: 2 EDK 40, sealing range Ø 11-30 mm
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife, (Please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.

- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>150 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>1.5 Nm 1.5-2.5 mm², 5.0 Nm 4-10 mm²</td>
</tr>
</tbody>
</table>
DK Cable Junction Boxes
with Terminals for Aluminum and Copper Conductors
Cable Entry via Metric Knockouts

**KF 9501**

1.5-50 mm², Cu/Alu 3–

- with connecting terminal
- 5-pole per pole 2 x 1 x 1.5-50 mm², conductors are inserted into the screw-type terminal, terminal technology, see annex DK Cable junction boxes
- included cable entry: 2 EDK 40, sealing range Ø 11-30 mm
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife, (Please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>rated insulation voltage</td>
<td>AC/DC 600 V</td>
</tr>
<tr>
<td>current carrying capacity</td>
<td>150 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>1.5 Nm 1.5-2.5 mm²</td>
</tr>
<tr>
<td></td>
<td>5.0 Nm 4-10 mm²</td>
</tr>
</tbody>
</table>

**K 7051**

2.5-50 mm², Cu/Alu 3–

- with terminals
- 5-pole per pole 4 x 2.5-50 mm², conductors are inserted into the screw-type terminal, terminal technology, see annex DK Cable junction boxes
- sealable
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor and carefully by scraping off the oxide film, for example with a knife, (Please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.

<p>| | |</p>
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>rated insulation voltage</td>
<td>AC/DC 750 V</td>
</tr>
<tr>
<td>current carrying capacity</td>
<td>Cu, 150 A</td>
</tr>
<tr>
<td></td>
<td>Alu, 120 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>10.0 Nm</td>
</tr>
</tbody>
</table>

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**K 7042**

**10-95 mm² Cu/Alu 3-**

- with terminals
- 4-pole per pole 2 x 10-95 mm², conductors can be inserted from the front into the clamping unit, terminal technology, see annex DK Cable junction boxes
- sealable
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife, (Please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>current carrying capacity</td>
<td>160 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>20.0 Nm</td>
</tr>
</tbody>
</table>

---

**K 7052**

**10-95 mm² Cu/Alu 3-**

- with terminals
- 5-pole per pole 2 x 10-95 mm², conductors can be inserted from the front into the clamping unit, terminal technology, see annex DK Cable junction boxes
- sealable
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife, (Please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
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</thead>
<tbody>
<tr>
<td>rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>current carrying capacity</td>
<td>160 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>20.0 Nm</td>
</tr>
</tbody>
</table>
DK Cable Junction Boxes
with Terminals for Aluminum and Copper Conductors
Cable Entry via Metric Knockouts

K 9951
6-95 mm², Cu/Alu 3~
- with terminals
- 5-pole per pole 4 x 6-95 mm², conductors are inserted into the screw-type terminal, terminal technology, see annex DK Cable junction boxes
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife, (Please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>490 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>12.0 Nm 6-25 mm²</td>
</tr>
<tr>
<td></td>
<td>22.0 Nm 36-95 mm²</td>
</tr>
</tbody>
</table>

K 1204
16-150 mm², Cu/Alu 3~
- with terminals
- 4-pole per pole 2 x 16-150 mm², 4 x 16-70 mm², conductors can be inserted from the front into the clamping unit, terminal technology, see annex DK Cable junction boxes
- sealable
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife, (Please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>250 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>20.0 Nm</td>
</tr>
</tbody>
</table>

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HI-TECH CONTROLS, INC.

OK Cable Junction Boxes
with Terminals for Aluminum and Copper Conductors
Cable Entry via Metric Knockouts

K 1205
16-150 mm², Cu/Alu 3-

- with terminals
- 5-pole per pole 2 x 16-150 mm², 4 x 16-70 mm², conductors can be inserted from the front into the clamping unit, terminal technology, see annex DK Cable junction boxes
- sealable
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife. (Please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>250 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>20.0 Nm</td>
</tr>
</tbody>
</table>

K 2404
25-240 mm², Cu/Alu 3-

- with terminals
- 4-pole per pole 2 x 25-185/240 mm², 4 x 25-120 mm², conductors can be inserted from the front into the clamping unit, terminal technology, see annex DK Cable junction boxes
- sealable
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife. (Please do not use rasps, emery paper or brushes!).
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The prementioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>400 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>40.0 Nm</td>
</tr>
</tbody>
</table>
K 2405

25-240 mm², Cu/Alu 3-

- with terminals
- 5-pole per pole 2 x 25-185/240 mm², 4 x 25-120 mm², conductors can be inserted from the front into the clamping unit, terminal technology, see annex DK Cable junction boxes
- sealable
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife. (Please do not use rasps, emery paper or brushes!)
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The mentioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>current carrying capacity</td>
<td>400 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>40.0 Nm</td>
</tr>
</tbody>
</table>

K 2401

35-240 mm², Cu/Alu 3-

- with terminals
- 5-pole per pole 4 x 35-240 mm², conductors are inserted into the screw-type terminal, terminal technology, see annex DK Cable junction boxes
- sealable
- order cable glands, flanges and other accessories separately as required
- Reference to the preparation of aluminum conductors:
  1. Clean the bared conductor end carefully by scraping off the oxide film, for example with a knife. (Please do not use rasps, emery paper or brushes!)
  2. Immediately after removing the oxide film the conductor end is to rub in with acid and alkali free fat for example vaseline, and immediately to be connected in the terminal.
  3. The mentioned processing steps are to be repeated, if the conductor was disconnected and connected again.
  4. Due to the disposition to flowing of aluminum the terminals are to be re-tightened before start-up and after the first 200 operation hours.
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>current carrying capacity</td>
<td>850 A</td>
</tr>
</tbody>
</table>
| tightening torque for terminal  | 26.0 Nm 35-120 mm²
                                      | 55.0 Nm 150-240 mm²
HI·TECH CONTROLS, INC.

DK Cable Junction Boxes
“Weatherproof” for Outdoor Installation
Cable Entry via Metric Knockouts

- Degree of protection IP 66
- Flame retardant, self-extinguishing, made of high-grade material: PC-GFS, glass-fibre reinforced thermoplastics, impact proof
- Stainless steel cover screws with quick fastening metric thread. Reducing cover fixing time.
- Burning behaviour: Glow-wire test 960°C according to IEC 60 695-2-11, UL Subject 94; V-0 flame-retardant, self-extinguishing

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www.hitechcontrols.com
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**KF 9025**
1.5-2.5 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- cable entry via knockouts, order ASM separately
- "Outdoor - harsh environment and (or) outdoor"

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>Tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

**KF 9045**
1.5-4 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 2 x 6 mm² sol
- cable entry via knockouts, order ASM separately
- "Outdoor - harsh environment and (or) outdoor"

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>Tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

**KF 9065**
2.5-6 mm², Cu 3–
- with terminals
- 5-pole per pole 4 x 2.5 mm² sol, 3 x 6 mm² sol, 2 x 10 mm² sol
- cable entry via knockouts, order ASM separately
- "Outdoor - harsh environment and (or) outdoor"

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>Tightening torque for terminal</td>
<td>1.5 Nm</td>
</tr>
</tbody>
</table>

**KF 9105**
4-10 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 2.5 mm² sol, 2 x 6 mm² sol, 4 x 10 mm² sol, 2 x 16 mm² sol
- cable entry via knockouts, order ASM separately
- "Outdoor - harsh environment and (or) outdoor"

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>Current carrying capacity</td>
<td>63 A</td>
</tr>
<tr>
<td>Tightening torque for terminal</td>
<td>2.0 Nm</td>
</tr>
</tbody>
</table>

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FK 9255
10-25 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 10 mm² s, 4 x 16 mm² s, 4 x 25 mm² s,
  2 x 35 mm² s
- cable entry via knockouts, order ASM separately
  (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>102 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>3.0 Nm</td>
</tr>
</tbody>
</table>

FK 9355
16-35 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s,
  2 x 50 mm² s
- cable entry via knockouts, order ASM separately
  (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>125 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>12.0 Nm</td>
</tr>
</tbody>
</table>

FK 9505
16-50 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s,
  4 x 50 mm² s
- cable entry via knockouts, order ASM separately
  (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>150 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>12.0 Nm</td>
</tr>
</tbody>
</table>

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DK Cable Junction Boxes

“Weatherproof” for Outdoor Installation
Cable Entry via Metric Knockouts

**KF 9020**
- without terminals
- cable entry via knockouts, order ASM separately
- "Outdoor - harsh environment and (or) outdoor"

**KF 9040**
- without terminals
- cable entry via knockouts, order ASM separately
- "Outdoor - harsh environment and (or) outdoor"

**KF 9060**
- without terminals
- cable entry via knockouts, order ASM separately
- "Outdoor - harsh environment and (or) outdoor"

**KF 9100**
- without terminals
- cable entry via knockouts, order ASM separately
- "Outdoor - harsh environment and (or) outdoor"

**KF 9250**
- without terminals
- cable entry via knockouts, order ASM separately
- "Outdoor - harsh environment and (or) outdoor"

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KF 9350
- without terminals
- cable entry via knockouts, order ASM separately (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

KF 9500
- without terminals
- cable entry via knockouts, order ASM separately (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"
**HI-TECH CONTROLS, INC.**

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**“Weatherproof” for Outdoor Installation**

**Cable Entry via Metric Knockouts**

---

**KF 5025**

1.5-2.5 mm², Cu 3-

- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

---

**KF 5045**

1.5-4 mm², Cu 3-

- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol, 2 x 6 mm² sol
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

---

**KF 5065**

2.5-6 mm², Cu 3-

- with terminals
- 5-pole per pole 4 x 2.5 mm² sol, 4 x 4 mm² sol, 3 x 6 mm² sol, 2 x 10 mm² sol
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.5 Nm</td>
</tr>
</tbody>
</table>

---

**KF 5105**

4-10 mm², Cu 3-

- with terminals
- 5-pole per pole 6 x 2.5 mm² sol, 4 x 4 mm² sol, 4 x 6 mm² sol, 4 x 10 mm² sol, 2 x 16 mm² sol
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>63 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>2.0 Nm</td>
</tr>
</tbody>
</table>

---

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---

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Cable Entry via Metric Knockouts

**KF 5255**
10-25 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 10 mm² s, 4 x 16 mm² s, 4 x 25 mm² s, 2 x 35 mm² s
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>current carrying capacity</td>
<td>102 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>3.0 Nm</td>
</tr>
</tbody>
</table>

**KF 5355**
16-35 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s, 2 x 50 mm² s
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>current carrying capacity</td>
<td>125 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>12.0 Nm</td>
</tr>
</tbody>
</table>

**KF 5505**
16-50 mm², Cu 3–
- with terminals
- 5-pole per pole 6 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s, 4 x 50 mm² s
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
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<tbody>
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<td>rated insulation voltage</td>
<td>AC/DC 690 V</td>
</tr>
<tr>
<td>current carrying capacity</td>
<td>150 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>12.0 Nm</td>
</tr>
</tbody>
</table>

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DK Cable Junction Boxes
“Weatherproof” for Outdoor Installation
Cable Entry via Metric Knockouts

**KF 5020**
- without terminals
- cable entry via knockouts, order ASS separately
  (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

**KF 5040**
- without terminals
- cable entry via knockouts, order ASS separately
  (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

**KF 5060**
- without terminals
- cable entry via knockouts, order ASS separately
  (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

**KF 5100**
- without terminals
- cable entry via knockouts, order ASS separately
  (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"

**KF 5250**
- without terminals
- cable entry via knockouts, order ASS separately
  (refer to index cable entry systems)
- "Outdoor - harsh environment and (or) outdoor"
DK Cable Junction Boxes
“Weatherproof” for Outdoor Installation
Cable Entry via Metric Knockouts

**KF 5350**
- without terminals
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- “Outdoor - harsh environment and (or) outdoor”

**KF 5500**
- without terminals
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- “Outdoor - harsh environment and (or) outdoor”

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DK Cable Junction Boxes
“Weatherproof” for Outdoor Installation
Box Walls without Knockouts

- Cable entries can be drilled individually
- Labelling system for circuit description.
- Label template on the Internet at www.hensel-electric.de - in the "Downloads" area.
- Stainless steel cover screws with quick fastening metric thread. Reducing cover fixing time.
- Burning behaviour:
  Glow-wire test 960 °C
  according to IEC 60 695-2-11,
  UL Subject 94: V-0
  flame-retardant, self-extinguishing

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HI-TECH
CONTROLS, INC.

DK Cable Junction Boxes
“Weatherproof” for Outdoor Installation
Box Walls without Knockouts

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Wall Thickness of the Bottom Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>KF 8020</td>
<td>without terminals, box walls without knockouts, wall surface can be drilled individually for cable entry max. M 20, &quot;Outdoor - harsh environment and (or) outdoor&quot;</td>
<td>2.3 mm</td>
</tr>
<tr>
<td>KF 8040</td>
<td>without terminals, box walls without knockouts, wall surface can be drilled individually for cable entry max. M 20, &quot;Outdoor - harsh environment and (or) outdoor&quot;</td>
<td>2.3 mm</td>
</tr>
<tr>
<td>KF 8060</td>
<td>without terminals, box walls without knockouts, wall surface can be drilled individually for cable entry max. M 32, &quot;Outdoor - harsh environment and (or) outdoor&quot;</td>
<td>2.6 mm</td>
</tr>
<tr>
<td>KF 8100</td>
<td>without terminals, box walls without knockouts, wall surface can be drilled individually for cable entry max. M 32, &quot;Outdoor - harsh environment and (or) outdoor&quot;</td>
<td>2.8 mm</td>
</tr>
</tbody>
</table>

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DK Cable Junction Boxes
“Weatherproof” for Outdoor Installation
Box Walls without Knockouts

**KF 8250**
- without terminals
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 40
- “Outdoor - harsh environment and (or) outdoor”
- wall thickness of the bottom part 3 mm

**KF 8350**
- without terminals
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 50
- “Outdoor - harsh environment and (or) outdoor”
- wall thickness of the bottom part 3 mm

**KF 8500**
- without terminals
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 50
- “Outdoor - harsh environment and (or) outdoor”
- wall thickness of the bottom part 3 mm

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# HI-TECH CONTROLS, INC.

**OK Cable Junction Boxes**

"Weatherproof" for Outdoor Installation

**Box Walls without Knockouts**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Box Walls without Knockouts</th>
<th>Wall Surface Can Be Drilled Individually for Cable Entry Max.</th>
<th>Wall Thickness of the Bottom Part</th>
</tr>
</thead>
</table>
| KF 4020 | - without terminals  
- *Outdoor - harsh environment and (or) outdoor*  
- wall surface can be drilled individually for cable entry max. M 20  
- box walls without knockouts | | | 2.3 mm |
| KF 4040 | - without terminals  
- *Outdoor - harsh environment and (or) outdoor*  
- wall surface can be drilled individually for cable entry max. M 20  
- box walls without knockouts | | | 2.3 mm |
| KF 4060 | - without terminals  
- *Outdoor - harsh environment and (or) outdoor*  
- wall surface can be drilled individually for cable entry max. M 32  
- box walls without knockouts | | | 2.6 mm |
| KF 4100 | - without terminals  
- *Outdoor - harsh environment and (or) outdoor*  
- wall surface can be drilled individually for cable entry max. M 32  
- box walls without knockouts | | | 2.8 mm |

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**DK Cable Junction Boxes**

"Weatherproof" for Outdoor Installation
Box Walls without Knockouts

**KF 4250**
- without terminals
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 40
- "Outdoor - harsh environment and (or) outdoor"

| wall thickness of the bottom part | 3 mm |

**KF 4350**
- without terminals
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 50
- "Outdoor - harsh environment and (or) outdoor"

| wall thickness of the bottom part | 3 mm |

**KF 4500**
- without terminals
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 50
- "Outdoor - harsh environment and (or) outdoor"

| wall thickness of the bottom part | 3 mm |
HI-TECH CONTROLS, INC.

OK Cable Junction Boxes
“Weatherproof” for Outdoor Installation
Box Walls without Knockouts (Approved for United States and Canada (UL/CSA))

- Cable junction boxes with external brackets made of stainless steel.
- Cable entries can be drilled individually.
- Labelling system for circuit description.
- Label template on the Internet at www.hensel-electric.de - in the 'Downloads' area.
- Burning behaviour: Glow-wire test 960 °C according to IEC 60 695-2-11, UL Subject 94: V-0 flame-retardant, self-extinguishing

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(800) 677-8942 / (303) 680-5159
## KF 7020
- without terminals
- with UL/CSA approval
- box walls without knockouts
- wall surface can be drilled individually for cable entry M 20, NPT 3/8" and NPT 1/2"

<table>
<thead>
<tr>
<th>Wall thickness of the bottom part</th>
<th>2.3 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>External brackets</td>
<td>2</td>
</tr>
</tbody>
</table>

## KF 7040
- without terminals
- with UL/CSA approval
- box walls without knockouts
- wall surface can be drilled individually for cable entry M 20, NPT 3/8" and NPT 1/2"

<table>
<thead>
<tr>
<th>Wall thickness of the bottom part</th>
<th>2.3 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>External brackets</td>
<td>2</td>
</tr>
</tbody>
</table>

## KF 7060
- without terminals
- with UL/CSA approval
- box walls without knockouts
- wall surface can be drilled individually for cable entry M 20/25/32, NPT 3/8", NPT 1/2" and NPT 3/4"

<table>
<thead>
<tr>
<th>Wall thickness of the bottom part</th>
<th>2.6 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>External brackets</td>
<td>2</td>
</tr>
</tbody>
</table>

## KF 7100
- without terminals
- with UL/CSA approval
- box walls without knockouts
- wall surface can be drilled individually for cable entry M 20/25/32, NPT 3/8", NPT 1/2", NPT 3/4" and 1"

<table>
<thead>
<tr>
<th>Wall thickness of the bottom part</th>
<th>2.8 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>External brackets</td>
<td>2</td>
</tr>
</tbody>
</table>
DK Cable Junction Boxes
“Weatherproof” for Outdoor Installation
Box Walls without Knockouts (Approved for United States and Canada (UL/CSA))

KF 7250

- without terminals
- with UL/CSA approval
- box walls without knockouts
- wall surface can be drilled individually for cable entry M 20/25/32, NPT 3/8", NPT 1/2", NPT 3/4" and 1"

<table>
<thead>
<tr>
<th>wall thickness of the bottom part</th>
<th>3 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>external brackets</td>
<td>4</td>
</tr>
</tbody>
</table>

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(800) 677-8942 / (303) 680-5159
HI-TECH CONTROLS, INC.

DK Cable Junction Boxes for Offshore Applications
Cable Entry via Metric Knockouts

- Degree of protection: IP 66 / IP 67
- Cable entries can be drilled individually
- Stainless steel cover screws with quick fastening metric thread. Reducing cover fixing time.
- Saltwater-proof
- UV-resistant
- Labelling system for circuit description.
- Material:
  - halogen free
  - impact resistant
  - low toxicity
- Burning behaviour: UL Subject 94 = 5V

www.hitechcontrols.com

Call for a Quote!
(800) 677-8942 / (303) 680-5159
### KD 5025
1.5-2.5 mm², Cu 3-
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- cable entry via knockouts, order ASS separately
  (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960°C; UL Subject 94: 5 V

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

### KD 5125
1.5-2.5 mm², Cu 3-
- with external fixing
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- cable entry via knockouts, order ASS separately
  (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960°C; UL Subject 94: 5 V

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</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

### KD 5045
1.5-4 mm², Cu 3-
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol, 2 x 6 mm² sol
- cable entry via knockouts, order ASS separately
  (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960°C; UL Subject 94: 5 V

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</tr>
</tbody>
</table>
HI-TECH
CONTROLS, INC.

OK
Cable Junction Boxes
for Offshore Applications
Cable Entry via Metric Knockouts

**KD 5065**
2.5-6 mm², Cu 3~
- with terminals
- 5-pole per pole 4 x 2.5 mm² sol, 4 x 4 mm² sol, 3 x 6 mm² sol, 2 x 10 mm² sol
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960° C; UL Subject 94: 5 V

<table>
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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.5 Nm</td>
</tr>
</tbody>
</table>

**KD 5105**
4-10 mm², Cu 3~
- with terminals
- 5-pole per pole 6 x 2.5 mm² sol, 4 x 4 mm² sol, 4 x 6 mm² sol, 4 x 10 mm² sol, 2 x 16 mm² sol
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960° C; UL Subject 94: 5 V

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>63 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>2.0 Nm</td>
</tr>
</tbody>
</table>

**KD 5255**
10-25 mm², Cu 3~
- with terminals
- 5-pole per pole 6 x 10 mm² sol, 4 x 16 mm² sol, 4 x 25 mm² sol, 2 x 35 mm² sol
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960° C; UL Subject 94: 5 V

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>102 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>3.0 Nm</td>
</tr>
</tbody>
</table>

Call for a Quote!
(800) 677-8942 / (303) 680-5159
KD 5355
16-35 mm², Cu 3~

- with terminals
- 5-pole per pole 6 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s, 2 x 50 mm² s
- cable entry via knockouts, order ASS separately
- “Offshore applications”
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960° C; UL Subject 94: 5 V

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>125 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>12.0 Nm</td>
</tr>
</tbody>
</table>

Call for a Quote!
(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes
for Offshore Applications
Cable Entry via Metric Knockouts

**KD 5020**
- without terminals
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960°C; UL Subject 94: 5 V

**KD 5120**
*with external fixing*
- without terminals
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960°C; UL Subject 94: 5 V

**KD 5040**
- without terminals
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960°C; UL Subject 94: 5 V

**KD 5060**
- without terminals
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960°C; UL Subject 94: 5 V

Call for a Quote!
(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes for Offshore Applications Cable Entry via Metric Knockouts

**KD 5100**
- without terminals
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960°C; UL Subject 94: 5 V

**KD 5250**
- without terminals
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960°C; UL Subject 94: 5 V

**KD 5350**
- without terminals
- cable entry via knockouts, order ASS separately (refer to index cable entry systems)
- "Offshore applications"
- saltwater-proof
- acid-resistant lid screws made of stainless steel
- burning behaviour 960°C; UL Subject 94: 5 V

Call for a Quote!
(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes
for Offshore Applications
Box Walls without Knockouts

**KD 4020**
- without terminals
- "Offshore applications"
- acid-resistant lid screws made of stainless steel
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 20
- burning behaviour 960° C; UL Subject 94: 5 V

Wall thickness of the bottom part: 2.3 mm

**KD 4120**
with external fixing
- without terminals
- "Offshore applications"
- acid-resistant lid screws made of stainless steel
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 20
- burning behaviour 960° C; UL Subject 94: 5 V

Wall thickness of the bottom part: 2.3 mm

**KD 4040**
- without terminals
- "Offshore applications"
- acid-resistant lid screws made of stainless steel
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 20
- burning behaviour 960° C; UL Subject 94: 5 V

Wall thickness of the bottom part: 2.3 mm

**KD 4060**
- without terminals
- "Offshore applications"
- acid-resistant lid screws made of stainless steel
- box walls without knockouts
- wall surface can be drilled individually for cable entry max. M 32
- burning behaviour 960° C; UL Subject 94: 5 V

Wall thickness of the bottom part: 2.6 mm

Call for a Quote!
(800) 677-8942 / (303) 680-5159
COMMENTS

Call for a Quote!
(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes Tested for Intrinsic Fire Resistance with Included Grommets

Cable junction boxes IP 65 / IP 66 according to IEC 60670-22, tested for intrinsic fire resistance.

FK Cable junction boxes comply with these requirements when used together with type-approved cables as well as suitable cable clamps or mounting devices.

- Cable junction boxes tested for intrinsic fire resistance
- Intrinsic fire resistance according to DIN 4102 part 12 (German standard) together with function-retaining cables of 0.5-16 mm²
- Cover with 4 captive screws
- Pastel orange RAL 2003

Material: Insulating material / Duroplast

Special characteristics:
- Degree of protection: IP 65
- Impact strength: IK 06 (1 Joule)
- Mounting via internal fixing with approved universal anchors (included)
- Halogen-free
- Protection against electric shock: insulated

Material: Sheet steel, powder-coated

Special characteristics:
- Degree of protection: IP 66
- Impact strength: IK 10 (20 Joule)
- Mounting via external brackets for use with fixings approved by the building authorities
- Halogen-free
- Protection against electric shock: earthed
- No additional fire load, no toxic or corrosive emissions
- Protection against direct contact also maintained due to the box

Call for a Quote!
(800) 677-8942 / (303) 680-5159
FK 7045

Cable junction box Ø 0.8 mm / 0.5-1.5 mm², Cu
Connection box Ø 0.8 mm / 0.5-4 mm², Cu

- 5-pole per pole 4 x Ø 0.8 mm / 0.5 mm² sol, 4 x 1.5 mm² sol, 2 x 2.5 mm² sol, 2 x 4 mm² sol
- connecting terminal made from ceramic with resistance to high temperatures
- included cable entry 4 EDKF 32, sealing range Ø 8-23 mm
- Intrinsic fire resistance in accordance with DIN 4102 part 12 in combination with function-retaining cables
- Tested with the cable manufacturers Dätwyler, Eupen, Studer, Prysmian and Nexans for the intrinsic fire resistance E30 and E90, see test certificate no.: P-MPA-E-08-021, valid till July 27, 2014, download available from www.hensel-electric.de
- The enclosed screw anchors can be used for concrete C20/25, limestone blocks KSV 12, building bricks MZ 12 and clinker bricks KS 12.
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 400 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>32 A</td>
</tr>
</tbody>
</table>

FK 7105

Cable junction box 1.5-4 mm², Cu
Connection box 1.5-10 mm², Cu

- 5-pole per pole 4 x 1.5 mm² sol, 4 x 2.5 mm² sol, 4 x 4 mm² sol, 2 x 6 mm² sol, 2 x 10 mm² sol
- connecting terminal made from ceramic with resistance to high temperatures
- included cable entry 4 EDKF 40, sealing range Ø 11-30 mm
- Intrinsic fire resistance in accordance with DIN 4102 part 12 in combination with function-retaining cables
- Tested with the cable manufacturers Dätwyler, Eupen, Studer, Prysmian and Nexans for the intrinsic fire resistance E30 and E90, see test certificate no.: P-MPA-E-08-021, valid till July 27, 2014, download available from www.hensel-electric.de
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- for normal environment and protected outdoor

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<tr>
<th>rated insulation voltage</th>
<th>AC/DC 400 V</th>
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</thead>
<tbody>
<tr>
<td>current carrying capacity</td>
<td>40 A</td>
</tr>
</tbody>
</table>
FK 7165
Cable junction box 1.5-6 mm², Cu
Connection box 1.5-16 mm², Cu
- 5-pole per pole 4 x 1.5 mm² sol, 4 x 2.5 mm² sol, 4 x 4 mm² sol,
  4 x 6 mm² sol, 2 x 10 mm² sol, 2 x 16 mm² r
  (remove cable protection)
- connecting terminal made from ceramic with resistance to high
  temperatures
- included cable entry 4 EDKF 40, sealing range Ø 11-30 mm
- Intrinsic fire resistance in accordance with DIN 4102 part 12 in
  combination with function-retaining cables
- Tested with the cable manufacturers Dätwyler, Eupen, Studer,
  Prysmian and Nexans for the intrinsic fire resistance E30 and E90,
  see test certificate no.: P-MPA-E-08-021, valid till July 27, 2014,
  download available from www.hensel-electric.de
- The enclosed screw anchors can be used for concrete C20/25,
  limestone blocks KSV 12, building bricks MZ 12 and clinker bricks
  KS 12.
- for normal environment and protected outdoor

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<tbody>
<tr>
<td>current carrying capacity</td>
<td>63 A</td>
</tr>
</tbody>
</table>
FK 9025
Cable junction box Ø 0.8 mm / 0.5-1.5 mm², Cu
Connection box Ø 0.8 mm / 0.5-4 mm², Cu
- 5-pole per pole 4 x Ø 0.8 mm / 0.5 mm² sol, 4 x 1.5 mm² sol, 2 x 2.5 mm² sol, 2 x 4 mm² sol
- connecting terminal made from ceramic with resistance to high temperatures
- mounted grommets 4 EDKF 32, sealing range: Ø 8-23 mm, closed
- Intrinsic fire resistance in accordance with DIN 4102 part 12 in combination with function-retaining cables
- Tested with cable manufacturers Dätwyler, Eupen, Nexans, Studer, Pirelli and Lynenwerk for the intrinsic fire resistance E30 and E90, see test certificate no.: P-MPA-E-02-032, valid till March 20, 2018, download available from www.hensel-electric.de
- mounted using exterior wall fixings (for dowels refer to technical data)
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
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<tr>
<td>current carrying capacity</td>
<td>32 A</td>
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</table>

FK 9105
Cable junction box 1.5-4 mm², Cu
Connection box 1.5-10 mm², Cu
- 5-pole per pole 4 x 1.5 mm² sol, 4 x 2.5 mm² sol, 4 x 4 mm² sol, 2 x 6 mm² sol, 2 x 10 mm² sol
- connecting terminal made from ceramic with resistance to high temperatures
- mounted grommets 4 EDKF 32, sealing range: Ø 8-23 mm, closed
- Intrinsic fire resistance in accordance with DIN 4102 part 12 in combination with function-retaining cables
- Tested with cable manufacturers Dätwyler, Eupen, Nexans, Studer, Pirelli and Lynenwerk for the intrinsic fire resistance E30 and E90, see test certificate no.: P-MPA-E-02-032, valid till March 20, 2018, download available from www.hensel-electric.de
- mounted using exterior wall fixings (for dowels refer to technical data)
- for normal environment and protected outdoor

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<tbody>
<tr>
<td>current carrying capacity</td>
<td>40 A</td>
</tr>
</tbody>
</table>
FK 9255

**Cable junction box 1.5-6 mm², Cu**

**Connection box 1.5-16 mm², Cu**

- 5-pole per pole 4 x 1.5 mm² sol, 4 x 2.5 mm² sol, 4 x 4 mm² sol, 4 x 6 mm² sol, 2 x 10 mm² sol, 2 x 16 mm² r
  (remove cable protection)
- connecting terminal made from ceramic with resistance to high temperatures
- mounted grommets 4 EDKF 40,
  sealing range Ø 11-30 mm, closed
- Intrinsic fire resistance in accordance with DIN 4102 part 12
  in combination with function-retaining cables
- Tested with cable manufacturers Dätwyler, Eupen, Nexans, Studer, Pirelli and Lynenwerk for the intrinsic fire resistance E30 and E90,
  see test certificate no.: P-MPA-E-02-032, valid till March 20, 2018,
  download available from www.hensel-electric.de
- mounted using exterior wall fixings
  (for dowels refer to technical data)
- for normal environment and protected outdoor

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<tr>
<td>current carrying capacity</td>
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</table>
DK Cable Junction Boxes
Tested for Intrinsic Fire Resistance
Cable Entry via Mounted Grommets

**FK 9259**

**Cable junction box 1.5-10 mm², Cu**

- cable junction box with fused outgoing unit
- D 01 neozed fuse base
- 5-pole terminal with 2 connecting terminals, 2 junction terminals and 2 PE terminals, each 1.5-10 mm² sol
- terminal block made from ceramic with resistance to high temperatures
- mounted grommets 4 EDKF 40, sealing range Ø 11-30 mm, closed
- intrinsic fire resistance E 30 in accordance with DIN 4102 part 12
- The use of this equipment requires the approval from the planning and building control office for individual cases
- Tested with cable manufacturers Dätwyler and Nexans for the intrinsic fire resistance E30, see test certificate no.: P-MPA-E-02-032, valid till March 20, 2018, download available from www.hensel-electric.de
- mounted using exterior wall fixings (for dowels refer to technical data)
- for normal environment and protected outdoor

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<th>Rated insulation voltage</th>
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<tbody>
<tr>
<td>Current carrying capacity</td>
<td>40 A</td>
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</table>

**FK 9259, with fused outgoing circuit**

Can be used in emergency lighting in installations that cover a large area (e.g. tunnels). The use of a fused branch circuit makes it possible to supply a group of emergency luminaires with one supply lead.

If one or several emergency luminaires are damaged during a fire, the back-up fuse is tripped and ensures that the power supply of the common supply lead is maintained.

The use of this equipment requires approval from the planning department and building control office for individual cases.

---

**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
**DK Cable Junction Boxes**
**Tested for Intrinsic Fire Resistance**
**Cable Entry via Mounted Grommets**

<table>
<thead>
<tr>
<th><strong>EDKF 32</strong></th>
<th></th>
</tr>
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<tbody>
<tr>
<td><strong>Grommets for knockouts M 32</strong></td>
<td></td>
</tr>
<tr>
<td>■ sealing range: Ø 8-23 mm</td>
<td></td>
</tr>
<tr>
<td>■ bore-hole: Ø 32.5 mm</td>
<td></td>
</tr>
<tr>
<td>■ wall thickness 1.5-3.5 mm</td>
<td></td>
</tr>
<tr>
<td>■ for indoor - normal environment and (or) protected outdoor installation</td>
<td></td>
</tr>
<tr>
<td>■ ambient temperature - 25° to + 35° C</td>
<td></td>
</tr>
<tr>
<td>■ glow wire test IEC 60 695-2-11: 750° C</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>EDKF 40</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Grommets for knockouts M 40</strong></td>
<td></td>
</tr>
<tr>
<td>■ sealing range: Ø 11-30 mm</td>
<td></td>
</tr>
<tr>
<td>■ bore-hole: Ø 40.5 mm</td>
<td></td>
</tr>
<tr>
<td>■ wall thickness 1.5-3.5 mm</td>
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</table>
HI-TECH CONTROLS, INC.

www.hitechcontrols.com

DK Cable Junction Boxes
for Safety Lighting Circuits
Cable Entry via Metric Knockouts

- Cable junction boxes for security lighting circuits with red lid.
- Degree of protection IP 65 using cable glands ASM.. available as an accessory.
- Labelling system for circuit description.
- Terminal box for equipotential bonding cables.
- Stainless steel cover screws with quick fastening metric thread.
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
for Safety Lighting Circuits
Cable Entry via Metric Knockouts

D 9225
1.5-2.5 mm², Cu 3~
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol
- included cable entry: 4 ESM 20, sealing range Ø 6-13 mm
- for security lighting circuits
- with red lid RAL 3000
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

D 9220
- without terminals
- for security lighting circuits
- with red lid RAL 3000
- included cable entry: 4 ESM 20, sealing range Ø 6-13 mm
- for normal environment and protected outdoor

D 9245
1.5-4 mm², Cu 3~
- with terminals
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol, 2 x 6 mm² sol
- included cable entry: 4 ESM 25, sealing range Ø 9-17 mm
- for security lighting circuits
- with red lid RAL 3000
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
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</thead>
<tbody>
<tr>
<td>tightening torque for terminal</td>
<td>1.2 Nm</td>
</tr>
</tbody>
</table>

D 9240
- without terminals
- for security lighting circuits
- with red lid RAL 3000
- included cable entry: 4 ESM 25, sealing range Ø 9-17 mm
- for normal environment and protected outdoor

Call for a Quote!
(800) 677-8942 / (303) 680-5159
HI-TECH CONTROLS, INC.

DK Cable Junction Boxes
for Equipotential Bonding Conductors
Cable Entry via Removable Grommets

DP 9026
4-25 mm² / 4-10 mm², Cu

- with terminals
- 1-pole 1 x 4-25 mm², 5 x 4-10 mm² (16 mm² sol)
- for equipotential bonding cables
- included cable entry: 4 DPS 02, sealing range Ø 10-13.5 mm
- for normal environment and protected outdoor

Call for a Quote!
(800) 677-8942 / (303) 680-5159

www.hitechcontrols.com
DK Cable Junction Boxes
with Main Line Branch Terminals for Copper Conductors, Sealable Cable Entry via Metric Knockouts

- Degree of protection IP 65 using cable glands ASM, available as an accessory
- Labelling system for circuit description. Label template on the Internet at www.hensel-electric.de - in the 'Downloads' area.
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing
- Stainless steel cover screws with quick fastening metric thread. Reducing cover fixing time.

DK cable junction boxes with main branch terminals for copper conductors are equipped with sealable lids.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes
with Main Line Branch Terminals for Copper Conductors, Sealable
Cable Entry via Metric Knockouts

**K 9259**

6-25 mm², Cu

- with main line branch terminals for copper conductors
- 4-pole per pole terminals for incoming cables:
  - 10-25 mm² r, 6-16 mm² f, with end ferrule,
  - terminals for outgoing cables:
  - 6-16 mm² r, 4-10 mm² f with end ferrule
- with sealing facility
- included cable entry: 3 ESM 40, sealing range Ø 17-30 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Rated Insulation Voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Carrying Capacity</td>
<td>80 A</td>
</tr>
<tr>
<td>Tightening Torque for Terminal</td>
<td>3.0 Nm terminals for incoming cables terminals for outgoing cables 3.0 Nm</td>
</tr>
</tbody>
</table>

**K 9258**

6-25 mm², Cu

- with main line branch terminals for copper conductors
- 5-pole, per pole terminals for incoming cables:
  - 10-25 mm² r, 6-16 mm² f, with end ferrule,
  - terminals for outgoing cables:
  - 6-16 mm² r, 4-10 mm² f with end ferrule
- with sealing facility
- included cable entry: 3 ESM 40, sealing range Ø 17-30 mm
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Rated Insulation Voltage</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>Tightening Torque for Terminal</td>
<td>3.0 Nm terminals for incoming cables terminals for outgoing cables 3.0 Nm</td>
</tr>
</tbody>
</table>

**K 9508**

6-25 mm², Cu

- with main line branch terminals for copper conductors
- 4-pole per pole terminals for incoming cables:
  - 10-25 mm² r, 6-16 mm² f, with end ferrule,
  - terminals for outgoing cables:
  - 6-16 mm² r, 4-10 mm² f with end ferrule
- with sealing facility
- cable entry via knockouts, order AKM/ASM separately (refer to index cable entry systems)
- for normal environment and protected outdoor

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Call for a Quote!
(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes
with Main Line Branch Terminals for Copper Conductors, Sealable
Cable Entry via Metric Knockouts

K 9503
6-25 mm², Cu
- with main line branch terminals for copper conductors
- 5-pole, per pole terminals for incoming cables:
  10-25 mm² r, 6-16 mm² f, with end ferrule,
  terminals for outgoing cables:
  6-16 mm² r, 4-10 mm² f with end ferrule
- with sealing facility
- cable entry via knockouts, order AKM/ASM separately
  (refer to index cable entry systems)
- for normal environment and protected outdoor

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</tr>
<tr>
<td></td>
<td>3.0 Nm terminals for outgoing cables</td>
</tr>
</tbody>
</table>

K 9509
6-35 mm², Cu
- with main line branch terminals for copper conductors
- 4-pole per pole terminals for incoming cables:
  16-35 mm² r, 10-25 mm² f, with end ferrule,
  terminals for outgoing cables:
  10-25 mm² r, 6-16 mm² f with end ferrule
- with sealing facility
- cable entry via knockouts, order AKM/ASM separately
  (refer to index cable entry systems)
- for normal environment and protected outdoor

<table>
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<tr>
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<tbody>
<tr>
<td>current carrying capacity</td>
<td>100 A</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>4.0 Nm incoming terminals</td>
</tr>
<tr>
<td></td>
<td>3.0 Nm terminals for outgoing cables</td>
</tr>
</tbody>
</table>

K 9507
6-35 mm², Cu
- with main line branch terminals for copper conductors
- 5-pole per pole incoming terminals:
  16-35 mm² r, 10-25 mm² f, with end ferrule,
  outgoing cables: 10-25 mm² r, 6-16 mm² f with end ferrule
- with sealing facility
- cable entry via knockouts, order AKM/ASM separately
  (refer to index cable entry systems)
- for normal environment and protected outdoor

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</table>
DK Cable Junction Boxes
with Main Line Branch Terminals for Aluminum and Copper Conductors
Cable Entry via Metric Knockouts

- Stainless steel cover screws with quick fastening metric thread. Reducing cover fixing time.
- Labelling system for circuit description. Label template on the Internet at www.hensel-electric.de - in the 'Downloads' area.
- Included accessories as listed: grommets ESM = IP 55
- DK cable junction boxes with main branch terminals for copper conductors are equipped with sealable lids.
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing

Call for a Quote!
(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes
with Main Line Branch Terminals for Aluminum and Copper Conductors
Cable Entry via Metric Knockouts

**RD 9123**
1.5-2.5 mm²
- 3 terminal blocks WKM 2.5/15
- per terminal 2 x 0.5-2.5 mm² f, 2 x 0.5-4 mm² sol or
  2 x 1.5-2.5 mm² s, see technical details for more information about terminal assignment
- terminal blocks, by Wieland
- for aluminium and copper conductors
- terminal marking, neutral
- cable/conduit entry via metric knockouts order ESM/AKM separately (refer to index LES)
- with external fixing
- for normal environment and protected outdoor

<table>
<thead>
<tr>
<th>Parameter</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Rated insulation voltage</td>
<td>AC/DC 500 V</td>
</tr>
<tr>
<td>Current carrying capacity</td>
<td>24 A</td>
</tr>
<tr>
<td>Tightening torque for terminal</td>
<td>0.4 Nm</td>
</tr>
</tbody>
</table>

**RD 9125**
1.5-2.5 mm²
- 5 terminal blocks WKM 2.5/15
- per terminal 2 x 0.5-2.5 mm² f, 2 x 0.5-4 mm² sol or
  2 x 1.5-2.5 mm² s, see technical details for more information about terminal assignment
- terminal blocks, by Wieland
- for aluminium and copper conductors
- terminal marking, neutral
- cable/conduit entry via metric knockouts order ESM/AKM separately (refer to index LES)
- with external fixing
- for normal environment and protected outdoor

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<td>Tightening torque for terminal</td>
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**RD 9127**
1.5-2.5 mm²
- 7 terminal blocks WKM 2.5/15
- per terminal 2 x 0.5-2.5 mm² f, 2 x 0.5-4 mm² sol or
  2 x 1.5-2.5 mm² s, see technical details for more information about terminal assignment
- terminal blocks, by Wieland
- for aluminium and copper conductors
- terminal marking, neutral
- cable/conduit entry via metric knockouts order ESM/AKM separately (refer to index LES)
- with external fixing
- for normal environment and protected outdoor

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OK Cable Junction Boxes
with Main Line Branch Terminals for Aluminum and Copper Conductors
Cable Entry via Metric Knockouts

**RD 9045**
1.5-4 mm²
- 5 terminal blocks WKM 4/15
- per terminal 2 x 0,5-4 mm² f, 2 x 0,5-6 mm² sol or 2 x 1,5-4 mm² s, see technical details DK cable junction boxes for more information about terminal assignment
- terminal blocks, by Wieland
- for aluminium and copper conductors
- terminal marking, neutral
- cable/conduit entry via metric knockouts order ESM/AKM separately (refer to index LES)
- for normal environment and protected outdoor

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<tr>
<td>Rated Insulation Voltage</td>
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<tr>
<td>Current Carrying Capacity</td>
<td>28 A</td>
</tr>
<tr>
<td>Tightening Torque for Terminal</td>
<td>0,5 Nm</td>
</tr>
</tbody>
</table>

**RD 9041**
1.5-4 mm²
- 10 terminal blocks WKM 4/15
- per terminal 2 x 0,5-4 mm² f, 2 x 0,5-6 mm² sol or 2 x 1,5-4 mm² s, see technical details DK cable junction boxes for more information about terminal assignment
- terminal blocks, by Wieland
- for aluminium and copper conductors
- terminal marking, neutral
- cable/conduit entry via metric knockouts order ESM/AKM separately (refer to index LES)
- for normal environment and protected outdoor

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**RK 9062**
1.5-4 mm²
- 12 terminal blocks WK 4/U
- per terminal 2 x 0,5-4 mm² f, 2 x 0,5-6 mm² sol or 2 x 1,5-4 mm² s, see technical details DK cable junction boxes for more information about terminal assignment
- terminal blocks, by Wieland
- for aluminium and copper conductors
- terminal marking, neutral
- cable/conduit entry via metric knockouts order ESM/AKM separately (refer to index LES)
- for normal environment and protected outdoor

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<td>0,5 Nm</td>
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DK Cable Junction Boxes
with Main Line Branch Terminals for Aluminum and Copper Conductors
Cable Entry via Metric Knockouts

**RK 9064**

1.5-4 mm²

- 14 terminal blocks WK 4/U
- per terminal 2 x 0.5-4 mm² f, 2 x 0.5-6 mm² sol or 2 x 1.5-4 mm² s,
- see technical details DK cable junction boxes for more information about terminal assignment
- terminal blocks, by Wieland
- for aluminium and copper conductors
- terminal marking, neutral
- cable/conduit entry via metric knockouts order ESM/AKM separately (refer to index LES)
- for normal environment and protected outdoor

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**RK 9109**

1.5-4 mm²

- 19 terminal blocks WK 4/U
- per terminal 2 x 0.5-4 mm² f, 2 x 0.5-6 mm² sol or 2 x 1.5-4 mm² s,
- see technical details DK cable junction boxes for more information about terminal assignment
- terminal blocks, by Wieland
- for aluminium and copper conductors
- terminal marking, neutral
- cable/conduit entry via metric knockouts order ESM/AKM separately (refer to index LES)
- for normal environment and protected outdoor

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<td>tightening torque for terminal</td>
<td>0,5 Nm</td>
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**RK 9104**

1.5-4 mm²

- 24 terminal blocks WK 4/U
- per terminal 2 x 0.5-4 mm² f, 2 x 0.5-6 mm² sol or 2 x 1.5-4 mm² s,
- see technical details DK cable junction boxes for more information about terminal assignment
- terminal blocks, by Wieland
- for aluminium and copper conductors
- terminal marking, neutral
- cable/conduit entry via metric knockouts order ESM/AKM separately (refer to index LES)
- for normal environment and protected outdoor

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DK Cable Junction Boxes

Accessories

DIN rails
Cable retention
Terminal sets
Accessories
Facility for sealing
Set sealing compound
Accessories for cable junction boxes ≥ 70 mm²

Call for a Quote!
(800) 677-8942 / (303) 680-5159
HI-TECH CONTROLS, INC.

OK Cable Junction Boxes
Accessories

TSD 02
DIN rail
- for cable junction boxes D x020, D x120, KF x020, KD x020 and empty box KF PV 0100
- max. installation depth: 32 mm, top hat profile 15 mm
- for the installation of terminal blocks
- with fixing screws

TSD 04
DIN rail
- for cable junction boxes D x040, KF x040, KD x040 and empty box KF PV 0200
- max. installation depth: 40 mm, top hat profile 15 mm
- for the installation of terminal blocks
- with fixing screws

TSK 06
DIN rail
- for cable junction boxes K x060, KF x060, KF x060 and empty box KF PV 0300
- max. installation depth: 44.5 mm, top hat profile 35 mm
- for the installation of terminal blocks
- with fixing screws

TSK 10
DIN rail
- for cable junction boxes K x100, KF x100, KD x100 and empty box KF PV 0400
- max. installation depth: 56.5 mm, top hat profile 35 mm
- for the installation of terminal blocks
- with fixing screws

TSK 25
DIN rail
- for cable junction boxes K x250, KF x250, K x350, KF x350, KD x250, KD x350 and empty boxes KF PV 0500, KF PV 0600
- max. installation depth: 71.5 mm, top hat profile 35 mm
- for the installation of terminal blocks
- with fixing screws

TSK 35
DIN rail
- for cable junction boxes K x350, KF x350, KD x350, and empty box KF PV 0600
- max. installation depth: 80.5 mm, top hat profile 35 mm
- for the installation of terminal blocks
- with fixing screws

TSK 50
DIN rail
- for cable junction boxes K x500, KF x500 and empty box KF PV 0700
- max. installation depth: 80.5 mm, top hat profile 35 mm
- for the installation of terminal blocks
- with fixing screws

Call for a Quote!
(800) 677-8942 / (303) 680-5159
### KHR 01
**Cable retention**
for cable diameter 6.5 - 14 mm
- set with 10 x 6 cable retention rings
- 30 pieces for cable diameter 6.5 - 10 mm
- 30 pieces for cable diameter 1 - 14 mm

### KHR 02
**Cable retention**
for cable diameter 10 - 16 mm
- set with 10 x 6 cable retention rings
- 30 pieces for cable diameter 10 - 14 mm
- 30 pieces for cable diameter 13 - 16 mm

---

**Call for a Quote!**
(800) 677-8942 / (303) 680-5159
DKL 04

**Rated connecting capacity: 1.5-6 mm², Cu**

- for insertion in cable junction boxes
- 5-pole per pole 6 x 1.5 mm² sol, 4 x 2.5 mm² sol, 3 x 4 mm² sol, 2 x 6 mm² sol
- for cable junction boxes D 8020, D 8120, D 8040, D 9020, D 9120, D 9040, D 9220, DP 9020, DP 9220, DE 9320, DE 9321, DE 9340, DE 9341, KF 4020, KF 4040, KF 5020, KF 5040, KF 8020, KF 8040, KF 9020, KF 9040, KD 5020, KD 5040, KD 4020, KD 4040
- complete with fixing elements

| rated insulation voltage | AC/DC 690 V |
| Dismantling length       | 11 mm       |
| tightening torque for terminal | 1.2 Nm |

KKL 06

**Rated connecting capacity: 2.5-10 mm², Cu**

- for insertion in cable junction boxes
- 5-pole per pole 4 x 2.5 mm² sol, 4 x 4 mm² sol, 3 x 6 mm² sol, 2 x 10 mm² sol
- for cable junction boxes K 8060, K 9060, KF 4060, KF 5060, KF 8060, KF 9060, KD 4060, KD 4080
- complete with fixing elements

| rated insulation voltage | AC/DC 690 V |
| Dismantling length       | 11 mm       |
| tightening torque for terminal | 1.5 Nm |

KLS 10

**Rated connecting capacity: 2.5-16 mm², Cu**

- for insertion in cable junction boxes
- current carrying capacity: 63 A
- 5-pole per pole 6 x 2.5 mm² sol, 4 x 4 mm² sol, 4 x 6 mm² sol, 2 x 10 mm² sol
- for cable junction boxes K 8100, K 9100, KF 4100, KF 5100, KF 8100, KF 9100, KD 5100, KD 4100
- complete with fixing elements

| rated insulation voltage | AC/DC 690 V |
| Dismantling length       | 11 mm       |
| tightening torque for terminal | 2.0 Nm |

KLS 25

**Rated connecting capacity: 6-35 mm², Cu**

- for insertion in cable junction boxes
- current carrying capacity: 102 A
- 5-pole per pole 6 x 6 mm² sol, 6 x 10 mm² sol/ f*, 4 x 16 mm² sol/ f*, 4 x 25 mm² sol/f*, 2 x 35 mm² sol/ f* f* = with gas-tight end ferrule
- for cable junction boxes K 8250, K 8500, K 9250, K 9500, KF 4250, KF 5250, KF 5500, KF 8250, KF 8500, KF 9250, KF 9500, KD 4250, KD 5250
- complete with fixing elements

| rated insulation voltage | AC/DC 690 V |
| Dismantling length       | 16 mm       |
| tightening torque for terminal | 3.0 Nm |
KLS 50
Rated connecting capacity: 16-50 mm², Cu
- for insertion in cable junction boxes
- current carrying capacity: 150 A
- 4-pole per pole 6 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s,
  4 x 50 mm² s
- for cable junction boxes K 9350, K 9500, K 8350, K 8500,
  KF 9350, KF 9500, KF 8350, KF 8500, KF 5350, KF 5500,
  KF 4350, KF 4500, KD 5350, KD 4350
- complete with fixing elements

| rated insulation voltage | AC/DC 690 V |
| Dismantling length       | 20 mm       |
| tightening torque for terminal | 12.0 Nm   |

KLS 51
Rated connecting capacity: 16-50 mm², Cu
- for insertion in cable junction boxes
- current carrying capacity: 150 A
- 5-pole per pole 6 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s,
  4 x 50 mm² s
- for cable junction boxes K 9350, K 9500, K 8350, K 8500,
  KF 9350, KF 9500, KF 8350, KF 8500, KF 5350, KF 5500,
  KF 4350, KF 4500, KD 5350, KD 4350
- complete with fixing elements

| rated insulation voltage | AC/DC 690 V |
| Dismantling length       | 20 mm       |
| tightening torque for terminal | 12.0 Nm   |

KLS 54
Rated connecting capacity: 16-70 mm², Cu
- for insertion in cable junction boxes
- current carrying capacity: 216 A
- 4-pole per pole 4 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s,
  4 x 50 mm² s, 4 x 70 mm² s
- for cable junction boxes K 8500, K 9500, KF 4500, KF 5500,
  KF 8500, KF 9500
- complete with fixing elements

| rated insulation voltage | AC/DC 690 V |
| Dismantling length       | 16 mm       |
| tightening torque for terminal | 10.0 Nm   |

KLS 55
Rated connecting capacity: 16-70 mm², Cu
- for insertion in cable junction boxes
- current carrying capacity: 216 A
- 5-pole per pole 4 x 16 mm² s, 4 x 25 mm² s, 4 x 35 mm² s,
  4 x 50 mm² s, 4 x 70 mm² s
- complete with fixing elements

| rated insulation voltage | AC/DC 690 V |
| Dismantling length       | 16 mm       |
| tightening torque for terminal | 10.0 Nm   |

Call for a Quote!
(800) 677-8942 / (303) 680-5159
FC L 45

Rated connecting capacity: 1,5-4 mm², Cu

- FIXCONNECT terminal set consisting of 5 terminals and 2 DIN rails
- for insertion in cable junction boxes
- current carrying capacity: 32 A
- 5-pole per pole 4 x 1 x 1,5-4 mm² r/f
- for cable junction boxes K 8060, K 9060, KF 4060, KF 5060, KF 8060, KF 9060, KD 5060, KD 4060, K 8100, K 9100, KF 4100, KF 5100, KF 8100, KF 9100, KD 5100, KD 4100
- complete with fixing elements

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<tr>
<td>Dismantling length</td>
<td>17 mm</td>
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FC L 04

FIXCONNECT® plug-in terminal 1.5-4 mm², Cu

- as a connecting terminal
- for installation on DIN rails, 15 mm top hat profile
- current carrying capacity: 32 A
- 1-pole 4 x 1.5-4 mm² r/f

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<tr>
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</table>
**DK AL 2**

**External brackets 2 pieces**
- for external wall fixing of cable junction boxes type D, K, KF, KD and empty box KF PV
- slot for wall mounting for screws up to 4.5 mm diameter
- Material: stainless steel V2A

**DE MB 10**

**Assembly bracket**
- external brackets 10 units
- material: thermoplastics
- for quick installation of cable junction boxes DE 922, and DN 20...

**DPS 02**

**Removable grommet**
- degree of protection: IP 54 sealing range Ø 10-13.5 mm
- for retrofitting
- for cable junction boxes DP 9020, DP 9220, DP 9025, DP 9221, DP 9222, DP 9026, DPC 9225

**EKA 20**

**Removable trunking adapter**
- degree of protection: IP 54 sealing range Ø 10-13.5 mm
- for mini trunking up to 20 x 20 mm
- for cable junction boxes DP 9020, DP 9220, DP 9025, DP 9221, DP 9222, DP 9026, DPC 9225

**ERA 20**

**Removable conduit adapter**
- degree of protection: IP 54 sealing range Ø 10-13.5 mm
- for wiring conduits M 20
- for cable junction boxes DP 9020, DP 9220, DP 9025, DP 9221, DP 9222, DP 9026, DPC 9225

**DK BS 5**

**Labelling system for circuit description**
- set with 5 pieces
- for cable junction boxes from 2.5 to 50 mm² and KF PV boxes...
- can be inserted into cover fixing ducts.
- for attaching of labelling strips or marking with felt tip pen
- inscribable surface of 45 x 30 mm
- label template on the Internet at www.hensel-electric.de - download area
- cannot be used in cable junction boxes 2.5 to 4 mm² and KF PV 01 / KF PV 02 boxes with sealing facility
## OK Cable Junction Boxes

**Accessories for Cable Junction Boxes from 70mm onwards**

### Mi AL 40
- **4 stainless steel external brackets**
  - for external fixing of enclosures

### Mi FM 40
- **Flange knockouts M 25 to M 40**
  - knockouts: 2 x M 25/32, 5 x M 32/40
  - box wall 300 mm
  - with fixing wedges and seal

### Mi FM 50
- **Flange knockouts M 20 to M 50**
  - knockouts: 2 x M 20, 4 x M 32/40/50
  - box wall 300 mm
  - with fixing wedges and seal

### Mi FM 60
- **Flange knockouts M 40 to M 63**
  - knockouts: 3 x M 40/50/63
  - box wall 300 mm
  - with fixing wedges and seal

### Mi FM 63
- **Flange with cable arrangement space knockouts M 40 to M 63**
  - knockouts: 3 x M 40/50/63
  - box wall 300 mm
  - with fixing wedges and seal

### Mi FP 70
- **Flange sealing range: 1 x Ø 30-72 mm**
  - box wall 300 mm
  - with fixing wedges and seal

### Mi FP 72
- **Flange sealing range: 2 x each Ø 30-72 mm**
  - box wall 300 mm
  - with fixing wedges and seal

---

Call for a Quote!

(800) 677-8942 / (303) 680-5159
Hi-Tech Controls, Inc.

DK Cable Junction Boxes

Accessories for Cable Junction Boxes from 70mm onwards

**Mi FP 82**
Cable insert
sealing range: 2 x each Ø 30-72 mm
- box wall 300 mm
- divisible for cable insertion from the front
- degree of protection IP 54 only with additional strain and pressure relief (e.g. Mi ZE 62)

**Mi ZE 62**
Cable strain relief
for 2 cables with max. 60 mm external diameter
- with fixing rail 284 mm long
- to be used only in connection with cable insertion Mi FP 82

**Mi SA 2**
Dust protection cover
- for box sizes 1 to 4
- for 2 lid fittings

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<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions in mm</td>
<td>125-128</td>
</tr>
<tr>
<td>Dimensions in mm of box walls without knockouts</td>
<td>127-128</td>
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<tr>
<td>Terminals</td>
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<tr>
<td>FK cable junction boxes tested</td>
<td>136</td>
</tr>
<tr>
<td>for intrinsic fire resistance</td>
<td></td>
</tr>
</tbody>
</table>

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# HI-TECH CONTROLS, INC.

## DK Cable Junction Boxes

### Technical Details

### Dimensions in mm

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D 8020</td>
<td>72 x 88 x 28</td>
</tr>
<tr>
<td>D 9020</td>
<td>72 x 96 x 28</td>
</tr>
<tr>
<td>D 9220</td>
<td>72 x 104 x 28</td>
</tr>
<tr>
<td>KF 4020</td>
<td>65 x 88 x 28</td>
</tr>
<tr>
<td>KF 5020</td>
<td>72 x 104 x 28</td>
</tr>
<tr>
<td>KF 7020</td>
<td>72 x 120 x 28</td>
</tr>
<tr>
<td>KF 8020</td>
<td>72 x 136 x 28</td>
</tr>
<tr>
<td>KF 9020</td>
<td>72 x 152 x 28</td>
</tr>
<tr>
<td>KD 5020</td>
<td>72 x 120 x 28</td>
</tr>
<tr>
<td>KD 4020</td>
<td>65 x 88 x 28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D 8120</td>
<td>108 x 120 x 35</td>
</tr>
<tr>
<td>D 9120</td>
<td>108 x 136 x 35</td>
</tr>
<tr>
<td>KD 4120</td>
<td>108 x 120 x 35</td>
</tr>
<tr>
<td>KD 5120</td>
<td>108 x 136 x 35</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D 9040</td>
<td>90 x 88 x 28</td>
</tr>
<tr>
<td>KF 6040</td>
<td>90 x 88 x 28</td>
</tr>
<tr>
<td>KF 9040</td>
<td>90 x 88 x 28</td>
</tr>
<tr>
<td>KD 5040</td>
<td>88 x 76 x 28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>D 8040</td>
<td>88 x 76 x 28</td>
</tr>
<tr>
<td>KF 4040</td>
<td>90 x 88 x 28</td>
</tr>
<tr>
<td>KF 7040</td>
<td>90 x 88 x 28</td>
</tr>
<tr>
<td>KF 8040</td>
<td>90 x 88 x 28</td>
</tr>
<tr>
<td>KD 4040</td>
<td>88 x 76 x 28</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>K 8060</td>
<td>120 x 136 x 35</td>
</tr>
<tr>
<td>K 9060</td>
<td>120 x 152 x 35</td>
</tr>
<tr>
<td>KF 4060</td>
<td>114 x 136 x 35</td>
</tr>
<tr>
<td>KF 5060</td>
<td>114 x 152 x 35</td>
</tr>
<tr>
<td>KF 7060</td>
<td>114 x 168 x 35</td>
</tr>
<tr>
<td>KF 8060</td>
<td>114 x 184 x 35</td>
</tr>
<tr>
<td>KF 9060</td>
<td>114 x 200 x 35</td>
</tr>
<tr>
<td>KD 4060</td>
<td>114 x 136 x 35</td>
</tr>
<tr>
<td>KD 5060</td>
<td>114 x 152 x 35</td>
</tr>
</tbody>
</table>

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---

= usable installation space with mounted cable glands
DK Cable Junction Boxes

Technical Details

Dimensions in mm

DE 9320
DE 9321

DE 9340
DE 9341

DP 9020

DP 9220

DN 2000 /
DN 2030

DE 9220 /
DE 9221

K 7055
K 7004
K 7005
K 7042
K 7052
K 9951
K 1204
K 1205

K 2401
K 2404
K 2405

= usable installation space when cable glands are attached

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(800) 677-8942 / (303) 680-5159
DK Cable Junction Boxes
Technical Details
Dimensions in mm of Box Walls Without Knockouts

D 8020
KF 8020
KF 4020
KF 7020
KD 4020

08020
KF
4020
7020
KD 4020

D 8120

08120
KF
40120
70120
KD 40120

D 8040
KF 8040
KF 4040
KF 7040
KD 4040

K 8250
KF 8250
KF 4250
KF 7250
KD 4250

K 8350
KF 8350
KF 4350
KD 4350

K 8500
KF 8500
KF 4500

K 8100
KF 8100
KF 4100
KF 7100
KD 4100

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www.hitechcontrols.com

= usable installation area in box walls
DK Cable Junction Boxes
Technical Details
Dimensions in mm of Box Walls Without Knockouts

K0100
K0101

K0200
K0201

K0300
K0301

K0400
K0401

Call for a Quote!
(800) 677-8942 / (303) 680-5159
## Connecting terminals for copper conductors (Cu)

**Hint:** The connection of different types of conductors and/or different cross-sections at one clamping unit is not permitted.

- f = flexible with end ferrule

<table>
<thead>
<tr>
<th>Type of terminal</th>
<th>Fixed in cable junction boxes</th>
<th>Clamping units per pole</th>
<th>Rated connecting capacity mm² and types of conductors</th>
<th>Conduccors to be connected per pole</th>
<th>Tightening torque</th>
<th>Current carrying capacity</th>
<th>Rated cross section of terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>DKL 04</td>
<td>D 9025, D 9125, D 9225, D 9245, D 9045, DP 9025, DP 9221, DP 9222, DE 9325, DE 9326, DE 9345, DE 9346, KD 5025, KD 5045, KF 5025, KF 5045, KF 9025, KF 9045, DN 2035, KF WP 2025, KF WP 2045, KF WP 3025, KF WP 3045</td>
<td>1</td>
<td>6 sol, 4 sol, 2.5 sol, 1.5 sol</td>
<td>1-2, 1-3, 1-4, 1-6</td>
<td>1.2 Nm</td>
<td>–</td>
<td>6 mm²</td>
</tr>
<tr>
<td>KKL 06</td>
<td>K 9065, KD 5065, KF 5065, KF 9065, KF WP 3065</td>
<td>1</td>
<td>10 sol, 6 sol, 4 sol, 2.5 sol</td>
<td>1-2, 1-3, 1-4, 1-4</td>
<td>1.5 Nm</td>
<td>–</td>
<td>10 mm²</td>
</tr>
<tr>
<td>KLS 10</td>
<td>K 9105, K 8105, KD 5105, KF 5105, KF 9105, KF WP 2105, KF WP 3105</td>
<td>2</td>
<td>16 s, 10 sol, 6 sol, 4 sol, 2.5 sol, f'</td>
<td>1-2, 1-4, 1-4, 1-4, 2-6</td>
<td>2 Nm</td>
<td>63 A</td>
<td>16 mm²</td>
</tr>
<tr>
<td>KLS 25</td>
<td>K 9255, K 8255, K 9502, KD 5255, KF 5255, KF 9255</td>
<td>2</td>
<td>35 s, f', 25 s, f', 16 s, f', 10 sol, f', 6 sol</td>
<td>1-2, 1-4, 1-4, 1-6, 1-6</td>
<td>3 Nm</td>
<td>102 A</td>
<td>35 mm²</td>
</tr>
<tr>
<td>KLS 50</td>
<td>K 9504</td>
<td>2</td>
<td>50 s, 35 s, 25 s, 16 s</td>
<td>1-4, 1-4, 1-6</td>
<td>12 Nm</td>
<td>150 A</td>
<td>50 mm²</td>
</tr>
<tr>
<td>KLS 51</td>
<td>K 7055, K 9355, K 9505, KD 5355, KF 5355, KF 5505, KD 5355, KD 4355</td>
<td>2</td>
<td>50 s, 35 s, 25 s, 16 s</td>
<td>1-4, 1-4, 1-6</td>
<td>12 Nm</td>
<td>150 A</td>
<td>50 mm²</td>
</tr>
<tr>
<td>KLS 54</td>
<td>K 7004</td>
<td>4</td>
<td>70 s, 50 s, 35 s, 25 s, 16 s</td>
<td>1-4, 1-4, 1-4, 1-4, 1-4</td>
<td>10 Nm</td>
<td>216 A</td>
<td>70 mm²</td>
</tr>
<tr>
<td>KLS 55</td>
<td>K 7005</td>
<td>4</td>
<td>70 s, 50 s, 35 s, 25 s, 16 s</td>
<td>1-4, 1-4, 1-4, 1-4, 1-4</td>
<td>10 Nm</td>
<td>216 A</td>
<td>70 mm²</td>
</tr>
<tr>
<td></td>
<td>K 9259, K 9508</td>
<td></td>
<td>incoming 2, outgoing 4</td>
<td>25 r, 16 r</td>
<td>1-2, 1-4</td>
<td>3 Nm</td>
<td>80 A</td>
</tr>
<tr>
<td></td>
<td>K 9509, K 9508</td>
<td></td>
<td>incoming 2, outgoing 4</td>
<td>35 r, 35 r</td>
<td>1-2, 1-4</td>
<td>4 Nm, 3 Nm</td>
<td>100 A</td>
</tr>
</tbody>
</table>

**terminal for equipotential bonding:**
- DP 9026 for 1 continued conductor 4-25 mm² and 5 conductors 4-10 mm² (16 mm² sol)

**Call for a Quote!**
(800) 677-8942 / (303) 680-5159
## Terminal blocks for copper (Cu) and aluminium conductors (Alu)

<table>
<thead>
<tr>
<th>Fixed in cable junction boxes</th>
<th>Type</th>
<th>Clamping units per pole</th>
<th>Corresponding cross-section mm²</th>
<th>Conductors to be connected per pole</th>
<th>Cross-sections and types of conductors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2</td>
<td>2,5</td>
<td>1,5</td>
<td>f/f' = 0,5-2,5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>sol = 0,5-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>s = 1,5-2,5</td>
</tr>
<tr>
<td>RD 9123, RD 9125, RD 9127</td>
<td>WKM 2.5/15 rated voltage AC/DC 000 V</td>
<td>2</td>
<td>2,5</td>
<td>1,5</td>
<td>f/f' = 0,5-2,5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>sol = 0,5-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>s = 1,5-2,5</td>
</tr>
<tr>
<td>RD 9045, RD 9041</td>
<td>WKM 4/15 rated voltage AC/DC 000 V</td>
<td>2</td>
<td>4</td>
<td>2,5</td>
<td>f/f' = 0,5-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>sol = 0,5-6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>s = 1,5-4</td>
</tr>
<tr>
<td>RK 9062, RK 9064, RK 9109, RK 9104</td>
<td>WKM 4/4 rated voltage AC/DC 000 V</td>
<td>2</td>
<td>4</td>
<td>2,5</td>
<td>f/f' = 0,5-4</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>sol = 0,5-6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>s = 1,5-4</td>
</tr>
</tbody>
</table>

### Manufacturer Wieland:

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>AKZ 2,5 rated voltage AC/DC 250 V</th>
<th>AKZ 4 rated voltage AC/DC 400 V</th>
<th>WDU 16 N rated voltage AC/DC 400 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>D 9041</td>
<td>2.5</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>K 9061</td>
<td>4</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>K 9351</td>
<td>4</td>
<td>4</td>
<td>16</td>
</tr>
</tbody>
</table>

### Manufacturer Weidmüller:

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>AKZ 2,5 rated voltage AC/DC 250 V</th>
<th>AKZ 4 rated voltage AC/DC 400 V</th>
<th>WDU 16 N rated voltage AC/DC 400 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>K 7051</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KF 9251</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KF 9501</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K 9951</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K 2401</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Terminal design/nominal cross-section of terminal:

<table>
<thead>
<tr>
<th>Terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>D9042</td>
</tr>
<tr>
<td>D9043</td>
</tr>
<tr>
<td>D9044</td>
</tr>
<tr>
<td>D9045</td>
</tr>
<tr>
<td>D9046</td>
</tr>
<tr>
<td>D9047</td>
</tr>
<tr>
<td>D9048</td>
</tr>
<tr>
<td>D9049</td>
</tr>
<tr>
<td>D9050</td>
</tr>
</tbody>
</table>

### Tightening torque:

<table>
<thead>
<tr>
<th>Terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>D9042</td>
</tr>
<tr>
<td>D9043</td>
</tr>
<tr>
<td>D9044</td>
</tr>
<tr>
<td>D9045</td>
</tr>
<tr>
<td>D9046</td>
</tr>
<tr>
<td>D9047</td>
</tr>
<tr>
<td>D9048</td>
</tr>
<tr>
<td>D9049</td>
</tr>
<tr>
<td>D9050</td>
</tr>
</tbody>
</table>

### Current carrying capacity:

<table>
<thead>
<tr>
<th>Terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>D9042</td>
</tr>
<tr>
<td>D9043</td>
</tr>
<tr>
<td>D9044</td>
</tr>
<tr>
<td>D9045</td>
</tr>
<tr>
<td>D9046</td>
</tr>
<tr>
<td>D9047</td>
</tr>
<tr>
<td>D9048</td>
</tr>
<tr>
<td>D9049</td>
</tr>
<tr>
<td>D9050</td>
</tr>
</tbody>
</table>

### International approvals of terminal blocks:

<table>
<thead>
<tr>
<th>Terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>D9042</td>
</tr>
<tr>
<td>D9043</td>
</tr>
<tr>
<td>D9044</td>
</tr>
<tr>
<td>D9045</td>
</tr>
<tr>
<td>D9046</td>
</tr>
<tr>
<td>D9047</td>
</tr>
<tr>
<td>D9048</td>
</tr>
<tr>
<td>D9049</td>
</tr>
<tr>
<td>D9050</td>
</tr>
</tbody>
</table>

### Contact Information:

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(800) 677-8942 / (303) 680-5159
**Technological Details**

<table>
<thead>
<tr>
<th>Terminals</th>
<th>K 7042 / K 7052</th>
<th>K 1204 / K 1205</th>
<th>K 2404 / K 2405</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated connecting capacity</td>
<td>95 mm²</td>
<td>150 mm²</td>
<td>240 mm²</td>
</tr>
<tr>
<td>Current carrying capacity</td>
<td>160 A</td>
<td>250 A</td>
<td>400 A</td>
</tr>
<tr>
<td>Tightening torque</td>
<td>20 Nm</td>
<td>20 Nm</td>
<td>40 Nm</td>
</tr>
</tbody>
</table>

**Clamping units per pole**

- Conductor cross section Cu/Alü s (round), f (flexible): 16-95, 16-150, 16-70, 25-240, 25-120
- Conductor cross section Cu/Alü sol (sector): 50-95, 50-150, 50-70, 50-185, 50-120
- Conductor cross section Cu s (sector): 35-95, 35-150, 35-70, 35-240, 35-120
- Conductor cross section Alü s (round), f (flexible): 35-70, 50-120, 35-50, 95-185, 50-95

1) Prior to connection, aluminium conductors must be prepared according to the relevant technical recommendations. The connections must be checked at regular intervals and maintained after 6 months at the latest.

**FIXCONNECT® technology**

<table>
<thead>
<tr>
<th>Type</th>
<th>Clamping units per pole</th>
<th>Rated connecting capacity per types of conductors</th>
<th>Current carrying capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>r (rigid)</td>
<td>f (flexible)</td>
</tr>
<tr>
<td>DPC 9225</td>
<td>4</td>
<td>1.5 - 4 mm²</td>
<td>1.5 - 4 mm²</td>
</tr>
<tr>
<td>KC 9045</td>
<td>4</td>
<td>1.5 - 4 mm²</td>
<td>1.5 - 4 mm²</td>
</tr>
<tr>
<td>KC 9255</td>
<td>4</td>
<td>2.5 - 10 mm²</td>
<td>2.5 - 10 mm²</td>
</tr>
<tr>
<td>KC 9355</td>
<td>4</td>
<td>2.5 - 16 mm²</td>
<td>2.5 - 16 mm²</td>
</tr>
</tbody>
</table>

Call for a Quote!
(800) 677-8942 / (303) 680-5159
## Technical Details

### Operating and Ambient Conditions

<table>
<thead>
<tr>
<th>Boxes with terminals</th>
<th>Removable grommets</th>
<th>Boxes with terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td>D ..., DP ...,</td>
<td>K 7055</td>
<td>EKA 20,</td>
</tr>
<tr>
<td>DPC ..., DE ...,</td>
<td>K 7004/5</td>
<td>ERA 20,</td>
</tr>
<tr>
<td>KC ..., K ...,</td>
<td>K 9951</td>
<td>DPS 02</td>
</tr>
<tr>
<td>RD ..., RK ...</td>
<td>K 1204/5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>K 2404/5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>K 2401</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MF ...</td>
<td>KF ...</td>
</tr>
<tr>
<td></td>
<td></td>
<td>KD ...</td>
</tr>
</tbody>
</table>

### Application area
- Suitable for indoor installation (normal environment and/or protected outdoor)
- Suitable for outdoor installation (harsh environment and/or outdoor)

### Resistant to occasional cleaning procedures
- Resistant to occasional cleaning procedures (direct jet)
  - max. with high-pressure cleaner without additives
  - water pressure: max. 100 bar, water temperature: max. 80°C, distance ≥ 0.15 m

### Ambient temperature
- Average value over 24 hours: +35°C
- Maximum value: +40°C
- Minimum value: −25°C

### Relative humidity
- Short-time: 50% at 40°C, 100% at 25°C
- Short-time: 100% at 25°C

### Fire protection
- in the event of internal faults
  - Minimum requirements
    - Glow wire test in accordance with IEC 60695-2-11:
      - 650°C for boxes and cable glands
      - 850°C for conducting components

- in the event of specific risks or hazards
  - Demands placed on electrical installations and devices in areas and facilities subject to fire risk, e.g. DIN VDE 0100 Part 482 (German standard), official regulations, VdS directives
  - Minimum requirements
    - Glow wire test in accordance with IEC 60695-2-11:
      - 850°C for boxes and cable glands
      - 850°C for cavity wall installation
      - use of fire resistant cables
    - 750°C V-2 flame-retardant self-extinguishing
    - 960°C V-0 flame-retardant self-extinguishing
    - 5 V flame-retardant self-extinguishing

### Burning behaviour
- Glow wire test
  - IEC 60695-2-11
  - UL Subject 94

### Degree of protection
- IK07 (2 Joule)
- IK08 (5 Joule)

### Toxic behaviour
- halogen-free
- silicone-free

---

"Halogen-free" in accordance with IEC 754-2 "Common test methods for cables - Determination of the amount of halogen acid gas".

For material properties see technical data.

---

Call for a Quote!
(800) 677-8942 / (303) 680-5159
### DK Cable Junction Boxes

#### Technical Details

##### Operating and Ambient Conditions

<table>
<thead>
<tr>
<th>Application area</th>
<th>Empty boxes</th>
<th>Removable grommets</th>
<th>Empty boxes</th>
<th>Empty boxes</th>
</tr>
</thead>
</table>
| Suitable for indoor installation | D ..., DP ..., DE ..., K 9..., K 8... | EKA 20, ERA 20, DPS 02 | KF ... | KD ...
| Suitable for outdoor installation | (normal environment and/or protected outdoor) | (harsh environment and/or outdoor) |

- **Resistant to occasional cleaning procedures**
  - **Resistant to occasional cleaning procedures (direct jet)**
    - max. with high-pressure cleaner without additives
    - water pressure: max. 100 bar, water temperature: max. 80°C
    - distance: ≥ 0.15 m
    - in accordance with the requirements IP 69K
    - box and cable entries at least IP 65

- **Ambient temperature**
  - **Average value over 24 hours**
    - -40°C to +55°C
  - **Maximum value**
    - +60°C
  - **Minimum value**
    - -25°C

- **Fire protection in the event of internal faults**
  - **Demands**
    - placed on electrical devices from standards and laws

  - **Minimum requirements**
    - Glow wire test in accordance with IEC 60 695-2-11:
      - 650°C for boxes and cable glands
      - 850°C for conducting components

- **Fire protection in the event of specific risks or hazards**
  - **Demands**
    - placed on electrical installations and devices in areas and facilities subject to fire risk, e.g. DIN VDE 0100 Part 482 (German standard), official regulations, VdS directives:

  - **Minimum requirements**
    - Glow wire test in accordance with IEC 60 695-2-11:
      - 850°C for boxes and cable glands
      - 850°C for cavity wall installation
      - use of fire resistant cables

- **Burning behaviour**
  - **Glow wire test**
    - IEC 60 695-2-11
    - UL Subject 94
  - **Degree of protection against mechanical load**
    - IK07 (2 Joule)
    - IK08 (5 Joule)
    - IK08 (5 Joule)

- **Degree of protection against mechanical load**
  - IK07 (2 Joule)
  - IK08 (5 Joule)
  - IK08 (5 Joule)

- **Toxic behaviour**
  - halogen-free
  - silicone-free

  - halogen-free
  - silicone-free
  - halogen-free
  - silicone-free

  - halogen-free
  - silicone-free

  - halogen-free
  - silicone-free

  - halogen-free
  - silicone-free

  - halogen-free
  - silicone-free

  - halogen-free
  - silicone-free

- **“Halogen-free” in accordance with IEC 754-2 “Common test methods for cables - Determination of the amount of halogen acid gas”**

- **For material properties see technical data.**
<table>
<thead>
<tr>
<th></th>
<th>Boxes with terminals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application area</strong></td>
<td>KF WP ....</td>
</tr>
<tr>
<td>**Resistant to occasional</td>
<td></td>
</tr>
<tr>
<td>cleaning procedures**</td>
<td></td>
</tr>
<tr>
<td><strong>Ambient temperature</strong></td>
<td></td>
</tr>
<tr>
<td>- Average value over 24 hours</td>
<td></td>
</tr>
<tr>
<td>- Maximum value</td>
<td></td>
</tr>
<tr>
<td>- Minimum value</td>
<td></td>
</tr>
<tr>
<td><strong>Relative humidity</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Brennverhalten</strong></td>
<td></td>
</tr>
<tr>
<td>- Glühdrahtprüfung nach</td>
<td></td>
</tr>
<tr>
<td>IEC 60 695-2-11</td>
<td></td>
</tr>
<tr>
<td>- UL Subject 94</td>
<td></td>
</tr>
<tr>
<td><strong>Degree of protection</strong></td>
<td></td>
</tr>
<tr>
<td>against mechanical load</td>
<td></td>
</tr>
<tr>
<td><strong>Toxic behaviour</strong></td>
<td></td>
</tr>
</tbody>
</table>

| **Suitable for outdoor**       | installation (harsh environment and/or outdoor). |
| **For application in ambient** | conditions with formation of condensation and ingress of water as well as for |
| **installation in the ground** | without traffic loads in accordance with DIN VDE V 0606-22-100. |
| **Resistant to cleaning**      | procedures (direct jet) |
| **max. with high-pressure**    | cleaner without additives, water temperature: max. 80°C |
| **Relative humidity**          | 100% |
| **IEC** 60 695-2-11            |                             |
| **V-0**                        |                             |
| **flame-retardant**            |                             |
| **self-extinguishing**          |                             |
| **IK08** (5 Joule)             |                             |
| **halogen-free**               |                             |
| **silicone-free**              |                             |
Hensel cable junction boxes and cable entry systems comply with the following standards and requirements:

### 1. Cable junction boxes
- **IEC 60 670 - 22**
  - Particular requirements for connecting boxes and enclosures
- **IEC 60 998**
  - Connecting devices for low voltage circuits for household and similar purposes
    - Part 2-1: Particular requirements for connecting devices as separate entities with screw-type terminals
    - Part 2-2: Particular requirements for connecting devices as separate entities with screwless-type terminals
- **IEC 60 999**
  - EN 60 999
  - Connecting devices
  - Safety requirements for screw-type and screwless-type clamping units for electrical copper conductors
- **DIN VDE V 0606-22-100 (German standard)**
  - Enclosures for encapsulation with connection terminals (GVV)

### 2. Cable junction boxes with terminal blocks
- **IEC 60 670-22**
  - Particular requirements for connecting boxes and enclosures
- **EN 60 947 -7-1**
  - Low-voltage switchgear and controlgear,
  - Part 7: Auxiliary equipment;
  - Section 1 - Terminal blocks for copper conductors

### 3. Conduit entries (ERA 20)
- **EN 60 423**
  - Conduits for electrical purposes - Outside diameters of conduits for electrical installations and threads for conduits and fittings

### 4. Degrees of protection
- **IEC 60 529**
  - DIN VDE 0470 Part 1 (German standard)
  - Degree of protection by enclosure (IP Code)

### 5. Halogen-free
- **EN 50 267**
  - Examination of cables and insulated wires
  - Halogen-free materials

---

**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
Safety circuits must remain operational for a sufficient period in accordance with the national regulations governing fire protection requirements for cable installations during exposure to fire.

This ensures that electrotechnical equipment such as luminaires, lifts, smoke outlets, alarm systems etc. are supplied with power for 30 or 90 minutes and thereby enable people to leave the building and assist rescue teams in carrying out their work.

When planning and implementing these cable installations, the current specimen regulation for fire protection requirements in these installations must be observed.

Box fixing with plugs:

<table>
<thead>
<tr>
<th>Anchor (building materials)</th>
<th>Fischer type ...</th>
<th>Hilti type ...</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FIS V..</td>
<td>FNA..</td>
</tr>
<tr>
<td>Limestone blocks KS 12</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Building bricks Mz 12</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Airbricks HLz 12</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Limestone air blocks KSL 12</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Prestressed concrete slabs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porous concrete slabs =&gt; 3.3</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Porous concrete blocks =&gt; 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concrete =&gt; B26 / &lt;= B55</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Please observe the current approvals and notes from the manufacturer of the plugs.

Standards and regulations:

<table>
<thead>
<tr>
<th>IEC 60 998 - 1</th>
<th>EN 60 998 Part 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEC 60 998 - 2 - 1</td>
<td>EN 60 998 Part 2 - 1</td>
</tr>
</tbody>
</table>

IEC 60 670-22
EN 60 529
DIN VDE 0470 Part 1 (German standard)

EN 60 947 -7 -1
EN 50 262
DIN 4102 Part 12 (German standard)

Ambient conditions in working operation:

<table>
<thead>
<tr>
<th>Typ</th>
<th>FK 7xx5</th>
<th>FK 9xx5</th>
<th>FK 9259</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application area</td>
<td>Suitable for indoor installation (normal environment and/or protected outdoor)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ambient temperature</td>
<td>+ 35° C&lt;br&gt;+ 40° C&lt;br&gt;− 25° C</td>
<td>+ 35° C&lt;br&gt;+ 40° C&lt;br&gt;− 25° C</td>
<td>+ 35° C&lt;br&gt;+ 40° C&lt;br&gt;− 5° C</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>50% at 40° C&lt;br&gt;100% at 25° C</td>
<td>50% at 40° C&lt;br&gt;100% at 25° C</td>
<td>50% at 40° C&lt;br&gt;100% at 25° C</td>
</tr>
<tr>
<td>Material</td>
<td>Duroplast halogen-free&lt;br&gt;sheet steel, powder-coated halogen-free</td>
<td>sheet steel, powder-coated halogen-free</td>
<td>IK10 (20 Joule)</td>
</tr>
<tr>
<td>Degree of protection against mechanical load</td>
<td>IK06 (1 Joule)</td>
<td>IK10 (20 Joule)</td>
<td></td>
</tr>
</tbody>
</table>

Call for a Quote!
(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards
up to 63 A

- 3 to 54 modules
- degree of protection IP 54 - 65
- made from thermoplastic material
- protection class II,
- in accordance with IEC 60 439-3
Assignment of box walls:
The assignment of box walls is effected via wall symbols that are assigned to each product. The individual figures give an indication, which wall is concerned.

<table>
<thead>
<tr>
<th>Box walls with membranes</th>
<th>Box walls with metric membranes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall 1</td>
<td>Wall 7</td>
</tr>
<tr>
<td>3 x Ø 7-16 mm</td>
<td>1 x M 20</td>
</tr>
<tr>
<td></td>
<td>Wall 8</td>
</tr>
<tr>
<td></td>
<td>3 x M 16</td>
</tr>
<tr>
<td>Wall 2</td>
<td>Wall 9</td>
</tr>
<tr>
<td>4 x Ø 7-16 mm</td>
<td>2 x M 20</td>
</tr>
<tr>
<td>1 x Ø 10-20 mm</td>
<td>Wall 10</td>
</tr>
<tr>
<td></td>
<td>2 x M 20</td>
</tr>
<tr>
<td>Wall 3</td>
<td>Wall 11</td>
</tr>
<tr>
<td>4 x Ø 7-16 mm</td>
<td>1 x M 20/32</td>
</tr>
<tr>
<td>2 x Ø 10-20 mm</td>
<td>Wall 12</td>
</tr>
<tr>
<td>1 x Ø 10-24 mm</td>
<td>4 x M 20</td>
</tr>
<tr>
<td></td>
<td>1 x M 20/32</td>
</tr>
<tr>
<td>Wall 4</td>
<td>Wall 13</td>
</tr>
<tr>
<td>8 x Ø 7-16 mm</td>
<td>2 x M 20</td>
</tr>
<tr>
<td>2 x Ø 10-20 mm</td>
<td>1 x M 25/32</td>
</tr>
<tr>
<td>1 x Ø 10-24 mm</td>
<td>Wall 14</td>
</tr>
<tr>
<td></td>
<td>2 x M 20/25</td>
</tr>
<tr>
<td></td>
<td>1 x M 25/32</td>
</tr>
<tr>
<td>Wall 5</td>
<td>Wall 15</td>
</tr>
<tr>
<td>8 x Ø 7-12 mm</td>
<td>4 x M 20</td>
</tr>
<tr>
<td>8 x Ø 7-14 mm</td>
<td>1 x M 20/32</td>
</tr>
<tr>
<td>4 x Ø 12-20 mm</td>
<td>Wall 16</td>
</tr>
<tr>
<td>1 x Ø 16,5-29 mm</td>
<td>2 x M 20</td>
</tr>
<tr>
<td></td>
<td>1 x M 32</td>
</tr>
<tr>
<td>Wall 6</td>
<td>Wall 17</td>
</tr>
<tr>
<td>8 x Ø 7-12 mm</td>
<td>4 x M 20</td>
</tr>
<tr>
<td>8 x Ø 7-14 mm</td>
<td>2 x M 20</td>
</tr>
<tr>
<td>4 x Ø 12-20 mm</td>
<td>1 x M 32</td>
</tr>
<tr>
<td>1 x Ø 16,5-29 mm</td>
<td>Wall 18</td>
</tr>
<tr>
<td>8 x Ø M 20</td>
<td>6 x M 20</td>
</tr>
<tr>
<td></td>
<td>2 x M 25/32</td>
</tr>
<tr>
<td></td>
<td>1 x M 32</td>
</tr>
<tr>
<td>Wall 22</td>
<td>Wall 19</td>
</tr>
<tr>
<td>8 x Ø M 16/20</td>
<td>4 x M 20</td>
</tr>
<tr>
<td>for conduit or cable Ø 9-14 mm</td>
<td>2 x M 20/25</td>
</tr>
<tr>
<td>1 x M 25/32 for conduit or cable Ø 18-24 mm, 6 x Ø 9-18 mm</td>
<td>1 x M 32/40</td>
</tr>
<tr>
<td></td>
<td>Wall 20</td>
</tr>
<tr>
<td>6 x M 20</td>
<td>2 x M 25/32</td>
</tr>
<tr>
<td>1 x M 32/40</td>
<td>Wall 21</td>
</tr>
<tr>
<td>2 x AVS 16/</td>
<td>Wall 22</td>
</tr>
<tr>
<td></td>
<td>2 x M 20</td>
</tr>
<tr>
<td></td>
<td>2 x M 25/32</td>
</tr>
<tr>
<td></td>
<td>1 x M 32</td>
</tr>
</tbody>
</table>

Box walls with cable glands for conduits and elastic membranes

<p>| Wall 23                   | Wall 24                           |
| 8 x Ø M 16/20            | Call for a Quote!                 |
| for conduit or cable Ø 9-14 mm | (800) 677-8942 / (303) 680-5159   |
| 1 x M 25/32 for conduit or cable Ø 18-24 mm, 6 x Ø 9-18 mm, 8 x M 20 | <a href="http://www.hitechcontrols.com">www.hitechcontrols.com</a>          |</p>
<table>
<thead>
<tr>
<th>KV Small-type distribution boards 3-54 modules</th>
<th>141 - 156</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable entry via elastic membranes</td>
<td></td>
</tr>
<tr>
<td>KV Small-type distribution boards 12-54 modules</td>
<td>157 - 169</td>
</tr>
<tr>
<td>Cable entry via metric knockouts</td>
<td></td>
</tr>
<tr>
<td>KV Small-type distribution boards 3-48 modules</td>
<td>172 - 176</td>
</tr>
<tr>
<td>&quot;weatherproof&quot;, for outdoor installation</td>
<td></td>
</tr>
<tr>
<td>(harsh environment and/or protected outdoor)</td>
<td></td>
</tr>
<tr>
<td>KV Small-type distribution boards 12-48 modules</td>
<td>178 - 180</td>
</tr>
<tr>
<td>Conduit entry via integrated membranes</td>
<td></td>
</tr>
<tr>
<td>KV Extra circuit-breaker boxes</td>
<td>182 - 183</td>
</tr>
<tr>
<td>with additional space for electrical devices</td>
<td>185 - 186</td>
</tr>
<tr>
<td>not to be manually actuated</td>
<td></td>
</tr>
<tr>
<td>Cable entry via elastic membranes</td>
<td></td>
</tr>
<tr>
<td>Cable entry via metric knockouts</td>
<td></td>
</tr>
<tr>
<td>Empty boxes</td>
<td>188 - 189</td>
</tr>
<tr>
<td>KWH meter box</td>
<td>191</td>
</tr>
<tr>
<td>Accessories</td>
<td>193 - 198</td>
</tr>
<tr>
<td>Technical details</td>
<td>200 - 206</td>
</tr>
</tbody>
</table>
KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Integrated Elastic Membranes

- Cable entry via integrated elastic membranes
- 12 to 54 modules: attached blanking strips for DIN rail equipment openings.
- 3 to 9 modules: protective cover can be cut out
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing
- FIXCONNECT® terminal technology for PE and N
- connection for copper conductors
- KV Small-type distribution boards with up to four disconnectable N-potentials in one bar enable the installation of RCDs without additional efforts or accessories.
- Integrated compartment for accessories - everything has its proper place.
- Screws made of stainless steel V2A.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
**KV Small-type Distribution Boards**

**Circuit Breaker Boxes**

**Cable Entry via Integrated Elastic Membranes**

<table>
<thead>
<tr>
<th>Model</th>
<th>Type Description</th>
<th>Dimensions</th>
<th>Insulation Voltage</th>
</tr>
</thead>
<tbody>
<tr>
<td>KV 9103</td>
<td>3 modules: 1 x 3 x 18 mm</td>
<td>1-row</td>
<td>AC 400 V</td>
</tr>
<tr>
<td></td>
<td>per PE/N number x cross section 1 x 25 mm², 4 x 4 mm² Cu, FXCONNECT® terminal technology, for terminal technology refer to technical data</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>for the installation of DIN rail equipment, top hat profile 35 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>with transparent lid, sealable</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>locking device for hinged lid and sealing facility see accessories</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>with cable entry cover</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>protective cover can be cut out</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>cable entry via integrated elastic membranes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KV 8103</td>
<td>3 modules: 1 x 3 x 18 mm</td>
<td>1-row</td>
<td>AC 400 V</td>
</tr>
<tr>
<td></td>
<td>without PE and N terminal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>order PE/N terminals separately</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>for the installation of DIN rail equipment, top hat profile 35 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>with transparent lid, sealable</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>locking device for hinged lid and sealing facility see accessories</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>with cable entry cover</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>protective cover can be cut out</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>cable entry via integrated elastic membranes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KV 1503</td>
<td>3 modules: 1 x 3 x 18 mm</td>
<td>1-row</td>
<td>AC 400 V</td>
</tr>
<tr>
<td></td>
<td>per PE/N number x cross section 1 x 25 mm², 4 x 4 mm² Cu, FXCONNECT® terminal technology, for terminal technology refer to technical data</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>for the installation of DIN rail equipment, top hat profile 35 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>with transparent lid, sealable</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>locking device for hinged lid and sealing facility see accessories</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>with cable entry cover</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>protective cover can be cut out</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>cable entry via integrated elastic membranes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>KV 1603</td>
<td>3 modules: 1 x 3 x 18 mm</td>
<td>1-row</td>
<td>AC 400 V</td>
</tr>
<tr>
<td></td>
<td>without PE and N terminal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>order PE/N terminals separately</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>for the installation of DIN rail equipment, top hat profile 35 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>with transparent lid, sealable</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>locking device for hinged lid and sealing facility see accessories</td>
<td></td>
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<td>with cable entry cover</td>
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<td></td>
<td>protective cover can be cut out</td>
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<td></td>
<td>cable entry via integrated elastic membranes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### KV Small-type Distribution Boards

#### Circuit Breaker Boxes

#### Cable Entry via Integrated Elastic Membranes

**KV 5103**

3 modules: 1 x 3 x 18 mm

- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

**KV 9104**

4.5 modules: 1 x 4.5 x 18 mm

- 1-row
- per PE/N number x cross section 2 x 25 mm², 4 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

**KV 8104**

4.5 modules: 1 x 4.5 x 18 mm

- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

**KV 1504**

4.5 modules: 1 x 4.5 x 18 mm

- 1-row
- per PE/N number x cross section 2 x 25 mm², 4 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

---

Call for a Quote!

(800) 677-8942 / (303) 680-5159
### KV 1604

4.5 modules: 1 x 4.5 x 18 mm
without PE and N terminal

- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

| Rated Insulation Voltage | AC 400 V |

### KV 5104

4.5 modules: 1 x 4.5 x 18 mm
without PE and N terminal

- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

| Rated Insulation Voltage | AC 400 V |

### KV 9106

6 modules: 1 x 6 x 18 mm

- 1-row
- per PE/N number x cross section 2 x 25 mm², 4 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

| Rated Insulation Voltage | AC 400 V |

### KV 8106

6 modules: 1 x 6 x 18 mm
without PE and N terminal

- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

| Rated Insulation Voltage | AC 400 V |
**KV 1506**

6 modules: 1 x 6 x 18 mm

- 1-row
- per PE/N number x cross section 2 x 25 mm², 4 x 4 mm² Cu,
- FIXCONNECT® terminal technology,
- for terminal technology refer to technical data
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

**KV 1606**

6 modules: 1 x 6 x 18 mm

- without PE and N terminal
- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

**KV 5106**

6 modules: 1 x 6 x 18 mm

- without PE and N terminal
- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |
KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Integrated Elastic Membranes

### KV 9109
9 modules: 1 x 9 x 18 mm
- 1-row
- per PE/N number x cross section 2 x 25 mm², 8 x 4 mm² Cu,
  FIXCONNECT™ terminal technology,
  for terminal technology refer to technical data
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

### KV 8109
9 modules: 1 x 9 x 18 mm
without PE and N terminal
- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

### KV 1509
9 modules: 1 x 9 x 18 mm
- 1-row
- per PE/N number x cross section 2 x 25 mm², 8 x 4 mm² Cu,
  FIXCONNECT™ terminal technology,
  for terminal technology refer to technical data
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

### KV 1609
9 modules: 1 x 9 x 18 mm
without PE and N terminal
- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

<table>
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<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

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Call for a Quote!
(800) 677-8942 / (303) 680-5159
KV 5109

9 modules: 1 x 9 x 18 mm without PE and N terminal
- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- cable entry via integrated elastic membranes

<table>
<thead>
<tr>
<th>Rated insulation voltage</th>
<th>AC 400 V</th>
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</table>

Call for a Quote!
(800) 677-8942 / (303) 680-5159
**KV Small-type Distribution Boards**
**Circuit Breaker Boxes**
**Cable Entry via Integrated Elastic Membranes**

**KV 9112**

12 modules: 1 x 12 x 18 mm

- 1-row
- per PE/N number x cross section 3 x 25 mm², 12 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

**KV 8112**

12 modules: 1 x 12 x 18 mm

without PE and N terminal

- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

**KV 1512**

12 modules: 1 x 12 x 18 mm

- 1-row
- per PE/N number x cross section 3 x 25 mm², 12 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

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HI-TECH CONTROLS, INC.

KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Integrated Elastic Membranes

KV 1612
12 modules: 1 x 12 x 18 mm
without PE and N terminal
- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

rated insulation voltage | AC 400 V

KV 9118
18 modules: 1 x 18 x 18 mm
- 1-row
- per PE/N number x cross section 4 x 25 mm², 16 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

rated insulation voltage | AC 400 V

KV 8118
18 modules: 1 x 18 x 18 mm
without PE and N terminal
- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

rated insulation voltage | AC 400 V

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(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Integrated Elastic Membranes

**KV 1518**

18 modules: 1 x 18 x 18 mm

- 1-row
- per PE/N number x cross section 4 x 25 mm², 16 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

**KV 1618**

18 modules: 1 x 18 x 18 mm
without PE and N terminal

- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

**KV 9224**

24 modules: 2 x 12 x 18 mm

- 2-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

<table>
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<tr>
<th>rated insulation voltage</th>
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</tr>
</thead>
</table>
HI-TECH
CONTROLS, INC.

KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Integrated Elastic Membranes

KV 8224
24 modules: 2 x 12 x 18 mm
without PE and N terminal

- 2-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| Rated insulation voltage | AC 400 V |

KV 2524
24 modules: 2 x 12 x 18 mm

- 2-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| Rated insulation voltage | AC 400 V |

KV 2624
24 modules: 2 x 12 x 18 mm
without PE and N terminal

- 2-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| Rated insulation voltage | AC 400 V |

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KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Integrated Elastic Membranes

**KV 9236**

36 modules: 2 x 18 x 18 mm
- 2-row
- per PE/N number x cross section 8 x 25 mm², 32 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

**KV 8236**

36 modules: 2 x 18 x 18 mm
without PE and N terminal
- 2-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

**KV 2536**

36 modules: 2 x 18 x 18 mm
- 2-row
- per PE/N number x cross section 8 x 25 mm², 32 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |
KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Integrated Elastic Membranes

KV 2636
36 modules: 2 x 18 x 18 mm
without PE and N terminal
- 2-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

rated insulation voltage | AC 400 V

KV 9336
36 modules: 3 x 12 x 18 mm
- 3-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

rated insulation voltage | AC 400 V

KV 8336
36 modules: 3 x 12 x 18 mm
without PE and N terminal
- 3-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

rated insulation voltage | AC 400 V

Call for a Quote!
(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards  
Circuit Breaker Boxes  
Cable Entry via Integrated Elastic Membranes

### KV 3536
36 modules: 3 x 12 x 18 mm
- 3-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
  - with cable entry cover
  - with blanking strips for unused DIN rail openings
  - cable entry via integrated elastic membranes

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

### KV 3636
36 modules: 3 x 12 x 18 mm  
without PE and N terminal
- 3-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
  - with cable entry cover
  - with blanking strips for unused DIN rail openings
  - cable entry via integrated elastic membranes

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

### KV 9448
48 modules: 4 x 12 x 18 mm
- 4-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
  - with cable entry cover
  - with blanking strips for unused DIN rail openings
  - cable entry via integrated elastic membranes

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Call for a Quote!  
(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Integrated Elastic Membranes

**KV 8448**
48 modules: 4 x 12 x 18 mm
without PE and N terminal
- 4-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

**KV 4548**
48 modules: 4 x 12 x 18 mm
- 4-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

**KV 4648**
48 modules: 4 x 12 x 18 mm
without PE and N terminal
- 4-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

Call for a Quote!
(800) 677-8942 / (303) 680-5159
### KV 9354

54 modules: 3 x 18 x 18 mm

- 3-row
- per PE/N number x cross section 8 x 25 mm², 32 x 4 mm² Cu,
- FIXCONNECT® terminal technology,
- for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to
  accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

### KV 8354

54 modules: 3 x 18 x 18 mm

without PE and N terminal

- 3-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to
  accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

### KV 3554

54 modules: 3 x 18 x 18 mm

- 3-row
- per PE/N number x cross section 8 x 25 mm², 32 x 4 mm² Cu,
- FIXCONNECT® terminal technology,
- for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to
  accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

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</table>
KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Integrated Elastic Membranes

KV 3654
54 modules: 3 x 18 x 18 mm
without PE and N terminal
- 3-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

Call for a Quote!
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KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Metric Knockouts

- Cable / Conduit entry via metric knockouts
- KV Small-type distribution boards with earthed armoured cables according to British Standard.
- FIXCONNECT® terminal technology for PE and N Connection for copper conductors
- 12 to 54 modules: attached blanking strips for DIN rail equipment openings.
- Integrated compartment for accessories - everything has its proper place.
- Screws made of stainless steel V2A.
- Burning behaviour: Glow wire test according to IEC 60695-2-11: 750 °C, flame-retardant, self-extinguishing

Call for a Quote!
(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Metric Knockouts

KV 7103
3 modules: 1 x 3 x 18 mm
- 1-row
- knockouts: top and bottom walls 2x M20 each
- per PE/N number x cross section 1 x 25 mm², 4 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out

rated insulation voltage | AC 400 V

KV 6103
3 modules: 1 x 3 x 18 mm
without PE and N terminal
- 1-row
- knockouts: top and bottom walls 2x M20 each
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out

rated insulation voltage | AC 400 V

KV 7104
4.5 modules: 1 x 4.5 x 18 mm
- 1-row
- knockouts: top and bottom walls 2x M20 and 1x M25/32 each
- per PE/N number x cross section 2 x 25 mm², 4 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out

rated insulation voltage | AC 400 V

KV 6104
4.5 modules: 1 x 4.5 x 18 mm
without PE and N terminal
- 1-row
- knockouts: top and bottom walls 2x M20 and 1x M25/32 each
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out

rated insulation voltage | AC 400 V

Call for a Quote!
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### KV Small-type Distribution Boards

#### Circuit Breaker Boxes

**Cable Entry via Metric Knockouts**

<table>
<thead>
<tr>
<th>Model</th>
<th>Rating</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td><strong>KV 7106</strong></td>
<td>6 modules: 1 x 6 x 18 mm</td>
<td>1-row, knockouts: top and bottom walls 2x M20/25 and 1x M25/32 each, per PE/N number x cross section 2 x 25 mm², 4 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data, for the installation of DIN rail equipment, top hat profile 35 mm, with transparent lid, sealable, locking device for hinged lid and sealing facility see accessories, with cable entry cover, protective cover can be cut out.</td>
</tr>
<tr>
<td></td>
<td>rated insulation voltage</td>
<td>AC 400 V</td>
</tr>
<tr>
<td><strong>KV 6106</strong></td>
<td>6 modules: 1 x 6 x 18 mm without PE and N terminal</td>
<td>1-row, knockouts: top and bottom walls 2x M20/25 and 1x M25/32 each, order PE/N terminals separately, for the installation of DIN rail equipment, top hat profile 35 mm, with transparent lid, sealable, locking device for hinged lid and sealing facility see accessories, with cable entry cover, protective cover can be cut out.</td>
</tr>
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<td></td>
<td>rated insulation voltage</td>
<td>AC 400 V</td>
</tr>
<tr>
<td><strong>KV 7109</strong></td>
<td>9 modules: 1 x 9 x 18 mm</td>
<td>1-row, knockouts: top and bottom walls 4x M20/25 and 1x M25/32 each, per PE/N number x cross section 2 x 25 mm², 8 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data, for the installation of DIN rail equipment, top hat profile 35 mm, with transparent lid, sealable, locking device for hinged lid and sealing facility see accessories, with cable entry cover, protective cover can be cut out.</td>
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<td>rated insulation voltage</td>
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</tr>
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<td><strong>KV 6109</strong></td>
<td>9 modules: 1 x 9 x 18 mm without PE and N terminal</td>
<td>1-row, knockouts: top and bottom walls 4x M20/25 and 1x M25/32 each, order PE/N terminals separately, for the installation of DIN rail equipment, top hat profile 35 mm, with transparent lid, sealable, locking device for hinged lid and sealing facility see accessories, with cable entry cover, protective cover can be cut out.</td>
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<td>rated insulation voltage</td>
<td>AC 400 V</td>
</tr>
</tbody>
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**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
### KV 9112 M
12 modules: 1 x 12 x 18 mm

- 1-row
- per PE/N number x cross section: 3 x 25 mm², 12 x 4 mm² Cu,
- FIXCONNECT® terminal technology.
- for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

| rated insulation voltage | AC 400 V |

### KV 8112 M
12 modules: 1 x 12 x 18 mm

- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

| rated insulation voltage | AC 400 V |

### KV 1512 M
12 modules: 1 x 12 x 18 mm

- 1-row
- per PE/N number x cross section: 3 x 25 mm², 12 x 4 mm² Cu,
- FIXCONNECT® terminal technology.
- for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

| rated insulation voltage | AC 400 V |
## KV Small-type Distribution Boards
### Circuit Breaker Boxes
#### Cable Entry via Metric Knockouts

**KV 1612 M**

12 modules: 1 x 12 x 18 mm

- without PE and N terminal
- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

<table>
<thead>
<tr>
<th>Rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

**KV 9118 M**

18 modules: 1 x 18 x 18 mm

- 1-row
- per PE/N number x cross section 4 x 25 mm², 16 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 12x M20, 2x M20/25 and 1x M32 each

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<tr>
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**KV 8118 M**

18 modules: 1 x 18 x 18 mm

- without PE and N terminal
- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 12x M20, 2x M20/25 and 1x M32 each

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(800) 677-8942 / (303) 680-5159
HI-TECH CONTROLS, INC.

KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Metric Knockouts

KV 1518 M
18 modules: 1 x 18 x 18 mm

- 1-row
- per PE/N number x cross section 4 x 25 mm², 16 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 12x M20, 2x M20/25 and
  1x M32 each

| rated insulation voltage | AC 400 V |

KV 1618 M
18 modules: 1 x 18 x 18 mm
without PE and N terminal

- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 12x M20, 2x M20/25 and
  1x M32 each

| rated insulation voltage | AC 400 V |

KV 9224 M
24 modules: 2 x 12 x 18 mm

- 2-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and
  1x M32 each

| rated insulation voltage | AC 400 V |

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HI·TECH
CONTROLS, INC.
KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Metric Knockouts

**KV 8224 M**

24 modules: 2 x 12 x 18 mm
without PE and N terminal

- 2-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

| rated insulation voltage | AC 400 V |

**KV 2524 M**

24 modules: 2 x 12 x 18 mm

- 2-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu,
  FIXCONNECT™ terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

| rated insulation voltage | AC 400 V |

**KV 2624 M**

24 modules: 2 x 12 x 18 mm
without PE and N terminal

- 2-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

| rated insulation voltage | AC 400 V |

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KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Metric Knockouts

**KV 9236 M**
36 modules: 2 x 18 x 18 mm
- 2-row
- per PE/N number x cross section 8 x 25 mm², 32 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 12x M20, 2x M20/25 and 1x M32 each

| Rated insulation voltage | AC 400 V |

**KV 8236 M**
36 modules: 2 x 18 x 18 mm without PE and N terminal
- 2-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 12x M20, 2x M20/25 and 1x M32 each

| Rated insulation voltage | AC 400 V |

**KV 2536 M**
36 modules: 2 x 18 x 18 mm
- 2-row
- per PE/N number x cross section 8 x 25 mm², 32 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 12x M20, 2x M20/25 and 1x M32 each

| Rated insulation voltage | AC 400 V |
KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Metric Knockouts

**KV 2636 M**
36 modules: 2 x 18 x 18 mm
without PE and N terminal

- 2-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 12x M20, 2x M20/25 and 1x M32 each

| rated insulation voltage | AC 400 V |

**KV 9336 M**
36 modules: 3 x 12 x 18 mm

- 3-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

| rated insulation voltage | AC 400 V |

**KV 8336 M**
36 modules: 3 x 12 x 18 mm
without PE and N terminal

- 3-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

| rated insulation voltage | AC 400 V |

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(800) 677-8942 / (303) 680-5159
## KV Small-type Distribution Boards
### Circuit Breaker Boxes
### Cable Entry via Metric Knockouts

### KV 3536 M
36 modules: 3 x 12 x 18 mm

- 3-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

| rated insulation voltage | AC 400 V |

### KV 3636 M
36 modules: 3 x 12 x 18 mm
**without PE and N terminal**

- 3-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

| rated insulation voltage | AC 400 V |

### KV 9448 M
48 modules: 4 x 12 x 18 mm

- 4-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

| rated insulation voltage | AC 400 V |
KV 8448 M
48 modules: 4 x 12 x 18 mm
without PE and N terminal
- 4-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

rated insulation voltage: AC 400 V

KV 4548 M
48 modules: 4 x 12 x 18 mm
- 4-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

rated insulation voltage: AC 400 V

KV 4648 M
48 modules: 4 x 12 x 18 mm
without PE and N terminal
- 4-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

rated insulation voltage: AC 400 V
HI-TECH CONTROLS, INC.

KV Small-type Distribution Boards
Circuit Breaker Boxes
Cable Entry via Metric Knockouts

### KV 9354 M

<table>
<thead>
<tr>
<th>54 modules: 3 x 18 x 18 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 3-row</td>
</tr>
<tr>
<td>- per PE/N number x cross section 8 x 25 mm², 32 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data</td>
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<td>- knockouts: top and bottom walls 12x M20, 2x M20/25 and 1x M32 each</td>
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| rated insulation voltage | AC 400 V |

### KV 8354 M

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| rated insulation voltage | AC 400 V |

### KV 3554 M

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<td>- per PE/N number x cross section 8 x 25 mm², 32 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data</td>
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<td>- with cable entry cover</td>
</tr>
<tr>
<td>- with blanking strips for unused DIN rail openings</td>
</tr>
<tr>
<td>- knockouts: top and bottom walls 12x M20, 2x M20/25 and 1x M32 each</td>
</tr>
</tbody>
</table>

| rated insulation voltage | AC 400 V |
**KV 3654 M**

54 modules: 3 x 18 x 18 mm

without PE and N terminal

- 3-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 12x M20, 2x M20/25 and 1x M32 each

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Call for a Quote!
(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards
‘Weatherproof’ for Outdoor Installation (Harsh Environment and/or Outdoor)

- Cable entry via integrated elastic membranes or via metric knockouts
- 12 to 54 modules: attached blanking strips for DIN rail equipment openings.
- 3 to 9 modules: protective cover can be cut out
- FIXCONNECT® terminal technology for PE and N connection for copper conductors
- KV Small-type distribution boards with up to four disconnectable N-potentials in one bar enable the installation of RCDs without additional efforts or accessories.
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 960 °C, flame-retardant, self-extinguishing
- Integrated compartment for accessories - everything has its proper place.
- Screws made of stainless steel V2A.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
The enclosures are suitable for the outdoor installation - harsh environment and / or outdoor.

The materials used for the system are basically UV resistant, so that the mechanical resistance of the boxes is maintained during UV effect.

Direct solar radiation and power dissipation can overheat the interior of the enclosure. Also affect lower outdoor temperatures, e.g. below -5 ° C, the device technology. Therefore, the climatic influences and effects on the device technology must be considered.

The top side of the boxes should be protected by a cover against weather influences such as rain, ice and snow. Further on, also chemical influences have to be considered with the selection of the installation place - apart from the IP rating and climatic effects.

In order to keep the maximum permissible ambient temperature of the installed equipment as well as for the prevention from condensation additional measures, such as ventilation and/or heating may be necessary (observe degree of protection).

How does condensed water occur in enclosures with a high degree of protection?

The problem of condensed water forming in electrical installations only occurs in enclosures with a degree of protection ≥ IP 54 since the temperature adjustment that is carried out from inside to outside is too low due to the high density of the enclosure and its material.

The internal temperature is higher than the external temperature due to the power dissipation of the built-in devices.

The warm air inside the enclosure attempts to accumulate moisture. This comes from outside through the seal as the enclosures are not gastight.

The internal temperature is reduced by cooling down the system e.g. by switching off the loads. The cooler air emits moisture which is collected as condensed water on the cooling inner surfaces.

In areas where high levels of air humidity and large temperature fluctuations are expected e.g. in laundry rooms, kitchens, car washes etc.

Here condensed water can be formed dependent on the weather, high air humidity, direct sunlight and temperature differences compared to the wall.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards

‘Weatherproof’ for Outdoor Installation (Harsh Environment and/or Outdoor)

**KV PC 9103**
3 modules: 1 x 3 x 18 mm
- 1-row
- knockouts: top and bottom walls 2x M20 each
- per PE/N number x cross section 1 x 25 mm², 4 x 4 mm² Cu,
- FIXCONNECT® terminal technology,
- for terminal technology refer to technical data
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out

| rated insulation voltage | AC 400 V |

**KV PC 6103**
3 modules: 1 x 3 x 18 mm
without PE and N terminal
- 1-row
- knockouts: top and bottom walls 2x M20 each
- order PE/N terminals separately
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out

| rated insulation voltage | AC 690 V |
| DC 1000 V |

**KV PC 9104**
4.5 modules: 1 x 4.5 x 18 mm
- 1-row
- knockouts: top and bottom walls 2x M20 and 1x M25/32 each
- per PE/N number x cross section 2 x 25 mm², 4 x 4 mm² Cu,
- FIXCONNECT® terminal technology,
- for terminal technology refer to technical data
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out

| rated insulation voltage | AC 400 V |

---

**Call for a Quote!**
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KV Small-type Distribution Boards

‘Weatherproof’
for Outdoor Installation (Harsh Environment and/or Outdoor)

KV PC 6104

4.5 modules: 1 x 4.5 x 18 mm
without PE and N terminal

- 1-row
- knockouts: top and bottom walls 2x M20 and 1x M25/32 each
- order PE/N terminals separately
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out

<table>
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<tbody>
<tr>
<td></td>
<td>DC 1000 V</td>
</tr>
</tbody>
</table>

KV PC 8104

4.5 modules: 1 x 4.5 x 18 mm
without PE and N terminal

- 1-row
- order PE/N terminals separately
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- box walls without knockouts

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<tbody>
<tr>
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<td>DC 1000 V</td>
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</tbody>
</table>

KV PC 9106

6 modules: 1 x 6 x 18 mm

- 1-row
- knockouts: top and bottom walls 2x M20/25 and 1x M25/32 each
- per PE/N number x cross section 2 x 25 mm², 4 x 4 mm² Cu, FIXCONNECT® terminal technology,
- for terminal technology refer to technical data
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out

| rated insulation voltage | AC 400 V |

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KV Small-type Distribution Boards

‘Weatherproof’ for Outdoor Installation (Harsh Environment and/or Outdoor)

KV PC 6106
6 modules: 1 x 6 x 18 mm without PE and N terminal
- 1-row
- knockouts: top and bottom walls 2x M20/25 and 1x M25/32 each
- order PE/N terminals separately
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out

rated insulation voltage | AC 690 V
| DC 1000 V

KV PC 9109
9 modules: 1 x 9 x 18 mm
- 1-row
- knockouts: top and bottom walls 4x M20/25 and 1x M25/32 each
- per PE/N number x cross section 2 x 25 mm², 8 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out

rated insulation voltage | AC 400 V

KV PC 6109
9 modules: 1 x 9 x 18 mm without PE and N terminal
- 1-row
- knockouts: top and bottom walls 4x M20/25 and 1x M25/32 each
- order PE/N terminals separately
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out

rated insulation voltage | AC 400 V
| DC 1000 V

Call for a Quote!
(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards

‘Weatherproof’
for Outdoor Installation (Harsh Environment and/or Outdoor)

**KV PC 8109**

9 modules: 1 x 9 x 18 mm
without PE and N terminal

- 1-row
- order PE/N terminals separately
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent lid, sealable
- locking device for hinged lid and sealing facility see accessories
- with cable entry cover
- protective cover can be cut out
- box walls without knockouts

| rated insulation voltage | AC 690 V DC 1000 V |

**KV PC 9112**

12 modules: 1 x 12 x 18 mm

- 1-row
- cable entry via integrated elastic membranes
- per PE/N number x cross section 3 x 25 mm², 12 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- lateral enclosure connections can be managed by drilling

| rated insulation voltage | AC 400 V |

**KV PC 9224**

24 modules: 2 x 12 x 18 mm

- 2-row
- cable entry via integrated elastic membranes
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- lateral enclosure connections can be managed by drilling

| rated insulation voltage | AC 400 V |

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KV Small-type Distribution Boards
‘Weatherproof’
for Outdoor Installation (Harsh Environment and/or Outdoor)

**KV PC 9336**
36 modules: 3 x 12 x 18 mm
- 3-row
- Cable entry via integrated elastic membranes
- Per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu,
- FIXCONNECT® terminal technology,
- For terminal technology refer to technical data
- N separable for various potentials
- For indoor (normal environment and/or protected outdoor) and
- Outdoor installation (harsh environment and/or outdoor)
- For the installation of DIN rail equipment, top hat profile 35 mm
- With transparent door
- For locking device for door and facility for sealing refer to
- Accessories.
- With cable entry cover
- With blanking strips for unused DIN rail openings
- Lateral enclosure connections can be managed by drilling

Rated insulation voltage: AC 400 V

**KV PC 9448**
48 modules: 4 x 12 x 18 mm
- 4-row
- Cable entry via integrated elastic membranes
- Per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu,
- FIXCONNECT® terminal technology,
- For terminal technology refer to technical data
- N separable for various potentials
- For indoor (normal environment and/or protected outdoor) and
- Outdoor installation (harsh environment and/or outdoor)
- For the installation of DIN rail equipment, top hat profile 35 mm
- With transparent door
- For locking device for door and facility for sealing refer to
- Accessories.
- With cable entry cover
- With blanking strips for unused DIN rail openings
- Lateral enclosure connections can be managed by drilling

Rated insulation voltage: AC 400 V

Call for a Quote!
(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards
Circuit Breaker Boxes
Conduit Entry via Integrated Elastic Membranes

- Conduit entry via integrated elastic membranes
- Door hinging interchangeable fast and easy from left to right.
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing
- 12 to 54 modules: attached blanking strips for DIN rail equipment openings
- Plenty of space for installation and wiring: Easy access to built-in equipment by lower side walls.
- Integrated compartment for accessories - everything has its proper place.
- Screws made of stainless steel V2A.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards
Circuit Breaker Boxes
Conduit Entry via Integrated Elastic Membranes

KV 1712
12 modules: 1 x 12 x 18 mm
- 1-row
- per PE/N number x cross section 3 x 25 mm², 12 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to
  accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- with cable glands for conduits and elastic membranes

rated insulation voltage | AC 400 V

KV 1718
18 modules: 1 x 18 x 18 mm
- 1-row
- per PE/N number x cross section 4 x 25 mm², 16 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to
  accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- with cable glands for conduits and elastic membranes

rated insulation voltage | AC 400 V

KV 2724
24 modules: 2 x 12 x 18 mm
- 2-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu,
  FIXCONNECT® terminal technology,
  for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to
  accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- with cable glands for conduits and elastic membranes

rated insulation voltage | AC 400 V

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KV Small-type Distribution Boards
Circuit Breaker Boxes
Conduit Entry via Integrated Elastic Membranes

**KV 2736**

36 modules: 2 x 18 x 18 mm
- 2-row
- per PE/N number x cross section 8 x 25 mm², 32 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- with cable glands for conduits and elastic membranes

Rated insulation voltage: AC 400 V

**KV 3736**

36 modules: 3 x 12 x 18 mm
- 3-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- with cable glands for conduits and elastic membranes

Rated insulation voltage: AC 400 V

**KV 3754**

54 modules: 3 x 18 x 18 mm
- 3-row
- per PE/N number x cross section 8 x 25 mm², 32 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- with cable glands for conduits and elastic membranes

Rated insulation voltage: AC 400 V

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**KV Small-type Distribution Boards**

**Circuit Breaker Boxes**

**Conduit Entry via Integrated Elastic Membranes**

---

### KV 4748

48 modules: 4 x 12 x 18 mm

- 4-row
- per PE/N number x cross section 6 x 25 mm², 24 x 4 mm² Cu, FIXCONNECT® terminal technology, for terminal technology refer to technical data
- N separable for various potentials
- for the installation of DIN rail equipment, top hat profile 35 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- with cable glands for conduits and elastic membranes

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

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**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards

Circuit Breaker Boxes with Additional Space for Electrical Devices Not to be Manually Actuated
Conduit Entry via Integrated Elastic Membranes

- Compact user friendly solution, optically optimized.
- Pre-assembly and wiring are possible in the workshop when terminal blocks are provided for.
- Cable entry via integrated elastic membranes
- Additional space with DIN rail over the total enclosure width for electrical devices not to be manually actuated. Installation depth 72 mm. Installation height max. 125 mm resp. 150 mm.
- Integrated compartment for accessories - everything has its proper place.
- Screws made of stainless steel V2A. Call for a Quote!
  (800) 677-8942 / (303) 680-5159
- DIN rail equipment (dimensions according to DIN 43 880) can be installed in the same enclosure.
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing
## KV Small-type Distribution Boards

**Circuit Breaker Boxes with Additional Space for Electrical Devices Not to be Manually Actuated**

Conduit Entry via Integrated Elastic Membranes

### KV 9220

**12 modules: 1 x 12 x 18 mm without PE and N terminal**

- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with additional space for electrical devices not to be manually actuated
- with 1 DIN rail, 273 mm wide, for DIN rail equipment and terminal blocks with max. mounting depth 72 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

### KV 9230

**18 modules: 1 x 18 x 18 mm without PE and N terminal**

- 1-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with additional space for electrical devices not to be manually actuated
- with 1 DIN rail, 381 mm wide, for DIN rail equipment and terminal blocks with max. mounting depth 72 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |

### KV 9330

**24 modules: 2 x 12 x 18 mm without PE and N terminal**

- 2-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with additional space for electrical devices not to be manually actuated
- with 1 DIN rail, 273 mm wide, for DIN rail equipment and terminal blocks with max. mounting depth 72 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

| rated insulation voltage | AC 400 V |
KV Small-type Distribution Boards
Circuit Breaker Boxes with Additional Space for Electrical Devices Not to be Manually Actuated
Conduit Entry via Integrated Elastic Membranes

KV 9440
36 modules: 3 x 12 x 18 mm
without PE and N terminal
- 3-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with additional space for electrical devices not to be manually actuated
- with 1 DIN rail, 273 mm wide, for DIN rail equipment and terminal blocks with max. mounting depth 72 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

KV 9350
36 modules: 2 x 18 x 18 mm
without PE and N terminal
- 2-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with additional space for electrical devices not to be manually actuated
- with 1 DIN rail, 381 mm wide, for DIN rail equipment and terminal blocks with max. mounting depth 72 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- cable entry via integrated elastic membranes

rated insulation voltage
AC 400 V
KV Small-type Distribution Boards
Circuit Breaker Boxes with Additional Space for Electrical Devices Not to be Manually Actuated
Conduit Entry via Metric Knockouts

- Compact user friendly solution, optically optimized.
- Pre-assembly and wiring are possible in the workshop when terminal blocks are provided for.
- Additional space with DIN rail over the total enclosure width for electrical devices not to be manually actuated. Installation depth 72 mm. Installation height max. 125 mm resp. 150 mm.
- DIN rail equipment (dimensions according to DIN 43 880) can be installed in the same enclosure.
- Cable/conduit entry via metric knock-outs
- Integrated compartment for accessories - everything has its proper place.
- Screws made of stainless steel V2A.
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 ºC, flame-retardant, self-extinguishing

Call for a Quote!
(800) 677-8942 / (303) 680-5159
## KV Small-type Distribution Boards

**Circuit Breaker Boxes with Additional Space for Electrical Devices Not to be Manually Actuated**

**Conduit Entry via Metric Knockouts**

### KV 9220 M

- **12 modules:** 1 x 12 x 18 mm
- **without PE and N terminal**
  - 1-row
  - order PE/N terminals separately
  - for the installation of DIN rail equipment, top hat profile 35 mm
  - with additional space for electrical devices not to be manually actuated
  - with 1 DIN rail, 273 mm wide, for DIN rail equipment and terminal blocks with max. mounting depth 72 mm
  - with transparent door
  - For locking device for door and facility for sealing refer to accessories.
  - with cable entry cover
  - with blanking strips for unused DIN rail openings
  - knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

### KV 9230 M

- **18 modules:** 1 x 18 x 18 mm
- **without PE and N terminal**
  - 1-row
  - order PE/N terminals separately
  - for the installation of DIN rail equipment, top hat profile 35 mm
  - with additional space for electrical devices not to be manually actuated
  - with 1 DIN rail, 381 mm wide, for DIN rail equipment and terminal blocks with max. mounting depth 72 mm
  - with transparent door
  - For locking device for door and facility for sealing refer to accessories.
  - with cable entry cover
  - with blanking strips for unused DIN rail openings
  - knockouts: top and bottom walls 12x M20, 2x M20/25 and 1x M32 each

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

### KV 9330 M

- **24 modules:** 2 x 12 x 18 mm
- **without PE and N terminal**
  - 2-row
  - order PE/N terminals separately
  - for the installation of DIN rail equipment, top hat profile 35 mm
  - with additional space for electrical devices not to be manually actuated
  - with 1 DIN rail, 273 mm wide, for DIN rail equipment and terminal blocks with max. mounting depth 72 mm
  - with transparent door
  - For locking device for door and facility for sealing refer to accessories.
  - with cable entry cover
  - with blanking strips for unused DIN rail openings
  - knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC 400 V</th>
</tr>
</thead>
</table>

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KV Small-type Distribution Boards

Circuit Breaker Boxes with Additional Space for Electrical Devices Not to be Manually Actuated Conduit Entry via Metric Knockouts

**KV 9440 M**

36 modules: 3 x 12 x 18 mm
without PE and N terminal

- 3-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with additional space for electrical devices not to be manually actuated
- with 1 DIN rail, 273 mm wide, for DIN rail equipment and terminal blocks with max. mounting depth 72 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 4x M20, 2x M20/25 and 1x M32 each

**KV 9350 M**

36 modules: 2 x 18 x 18 mm
without PE and N terminal

- 2-row
- order PE/N terminals separately
- for the installation of DIN rail equipment, top hat profile 35 mm
- with additional space for electrical devices not to be manually actuated
- with 1 DIN rail, 381 mm wide, for DIN rail equipment and terminal blocks with max. mounting depth 72 mm
- with transparent door
- For locking device for door and facility for sealing refer to accessories.
- with cable entry cover
- with blanking strips for unused DIN rail openings
- knockouts: top and bottom walls 12x M20, 2x M20/25 and 1x M32 each

Rated insulation voltage: AC 400 V

**Call for a Quote!**
(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards
Empty Boxes IP 55 / IP 65

- KG empty boxes: Cable entry via metric knock outs.
- Screws made of stainless steel V2A.
- Cable entry via integrated elastic membranes.
- (except for KG Empty boxes)
- Burning behaviour: Glow wire test according to IEC 60 695-2-11: 750 °C, flame-retardant, self-extinguishing

Call for a Quote!
(800) 677-8942 / (303) 680-5159
**KG 9001**

degree of protection: IP 55 (ESM), IP 65 (refer to index cable entry systems)

- for installation equipment on DIN rails or mounting plates
- max. installation depth with built-in mounting plate 95 mm, with built-in DIN rail 89 mm
- with transparent hinged lid
- fastener for tool operation
- sealable
- cable entry via metric knockouts
- included cable entry:
  - 2 ESM 25, sealing range Ø 9-17 mm and
  - 1 ESM 32, sealing range Ø 9-23 mm

**KG 9002**

degree of protection: IP 55 (ESM), IP 65 (refer to index cable entry systems)

- for installation equipment on DIN rails or mounting plates
- max. installation depth with built-in mounting plate 95 mm, with built-in DIN rail 89 mm
- with transparent hinged lid
- fastener for tool operation
- sealable
- cable entry via metric knockouts
- included cable entry:
  - 2 ESM 25, sealing range Ø 9-17 mm and
  - 1 ESM 32, sealing range Ø 9-23 mm

**KG 9003**

degree of protection: IP 55 (ESM), IP 65 (refer to index cable entry systems)

- for installation equipment on DIN rails or mounting plates
- max. installation depth with built-in mounting plate 95 mm, with built-in DIN rail 89 mm
- with transparent hinged lid
- fastener for tool operation
- sealable
- cable entry via metric knockouts
- included cable entry:
  - 2 ESM 25, sealing range Ø 9-17 mm and
  - 1 ESM 32, sealing range Ø 9-23 mm

**KV 9331**

degree of protection: IP 65

- for installation of devices via installed mounting plate
- max. installation depth: 160 mm
- with transparent lid
- fastener for tool operation
- sealable
- with cable entry cover
- cable entry via integrated elastic membranes

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(800) 677-8942 / (303) 680-5159
KV Small-type Distribution Boards
Empty Boxes IP 55 / IP 65

**KG 9001 IN**

**degree of protection:** IP 55 (ESM), IP 65 (refer to index cable entry systems)
- for installation equipment on DIN rails or mounting plates
- max. installation depth with built-in mounting plate 95 mm, with built-in DIN rail 89 mm
- with opaque hinged lid
- fastener for tool operation
- sealable
- cable entry via metric knockouts
- included cable entry:
  - 2 ESM 25, sealing range Ø 9-17 mm and
  - 1 ESM 32, sealing range Ø 9-23 mm

**KG 9002 IN**

**degree of protection:** IP 55 (ESM), IP 65 (refer to index cable entry systems)
- for installation equipment on DIN rails or mounting plates
- max. installation depth with built-in mounting plate 95 mm, with built-in DIN rail 89 mm
- with opaque hinged lid
- fastener for tool operation
- sealable
- cable entry via metric knockouts
- included cable entry:
  - 2 ESM 25, sealing range Ø 9-17 mm and
  - 1 ESM 32, sealing range Ø 9-23 mm

**KG 9003 IN**

**degree of protection:** IP 55 (ESM), IP 65 (refer to index cable entry systems)
- for installation equipment on DIN rails or mounting plates
- max. installation depth with built-in mounting plate 95 mm, with built-in DIN rail 89 mm
- with opaque hinged lid
- fastener for tool operation
- sealable
- cable entry via metric knockouts
- included cable entry:
  - 2 ESM 25, sealing range Ø 9-17 mm and
  - 1 ESM 32, sealing range Ø 9-23 mm

Call for a Quote!
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<table>
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<th>Details</th>
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<td>Detail dimensions in mm</td>
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<td>Mounting dimensions in mm</td>
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KV Small-type Distribution Boards

Technical Details

Detail Dimensions in mm

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<thead>
<tr>
<th>Model</th>
<th>Dimensions (mm)</th>
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<tbody>
<tr>
<td>KG 9001</td>
<td>385 x 222 x 185</td>
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<tr>
<td>KG 9002</td>
<td>385 x 222 x 185</td>
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<td>KG 9003</td>
<td>385 x 222 x 185</td>
</tr>
<tr>
<td>KV 9331</td>
<td>405 x 245 x 160</td>
</tr>
</tbody>
</table>

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 usable installation space which mounted cable glands
KV Small-type Distribution Boards

Technical Details
Mounting Dimensions in mm

Wall mounting for screws up to 4.5 mm diameter.

Circuit breaker boxes
3 modules

Circuit breaker boxes
4.5 modules

Circuit breaker boxes
6 modules

Circuit breaker boxes
9 modules

Circuit breaker boxes
12 modules

Circuit breaker boxes
2 x 12 modules

Circuit breaker boxes
3 x 12 modules

Circuit breaker boxes
4 x 12 modules

Circuit breaker boxes
1 x 18 modules

Circuit breaker boxes
2 x 18 modules

Circuit breaker boxes
3 x 18 modules

By turning the rail by 180°, the assembly depth under the protection cover can be increased to 59 mm. No additional components are required.

Cable entry cover for KV Circuit breaker boxes IP 54 and IP 65 with 12-54 modules mounted on top and the bottom.

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(800) 677-8942 / (303) 680-5159
**HI-TECH CONTROLS, INC.**

**KV Small-type Distribution Boards**

**Technical Details**

**Box Assembly**

**KV Circuit breaker boxes can be assembled laterally as shown below:**
- In degree of protection IP 65 with threaded connecting glands AVS 16
- In degree of protection IP 54 with press-in connecting glands EVS 16

**KV Circuit breaker / Meter and Empty boxes can be assembled laterally as shown below:**
- In degree of protection IP 65 with threaded connecting glands AVS 16
- In degree of protection IP 54 with press-in connecting glands EVS 16

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(800) 677-8942 / (303) 680-5159
**PE and N FIXCONNECT® terminal**

Rated connecting capacity of PE and N terminals

<table>
<thead>
<tr>
<th>Clamping unit</th>
<th>Corresponding cross-sections/copper</th>
<th>max. number</th>
<th>from - to max.</th>
<th>max. number</th>
<th>from - to max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screw-type terminal 25 mm²</td>
<td></td>
<td>1</td>
<td>25 mm², s</td>
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<td>25 mm², f</td>
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<td></td>
<td></td>
<td>1</td>
<td>16 mm², s</td>
<td>1</td>
<td>16 mm², f</td>
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<td>10 mm², sol</td>
<td>1</td>
<td>10 mm², f</td>
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<td></td>
<td>3</td>
<td>6 mm², sol</td>
<td>1</td>
<td>6 mm², f</td>
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<td></td>
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<td>4 mm², sol</td>
<td>1</td>
<td>4 mm², f</td>
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<td></td>
<td>4</td>
<td>2.5 mm², sol</td>
<td>1</td>
<td>2.5 mm², f</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4</td>
<td>1.5 mm², sol</td>
<td>1</td>
<td>1.5 mm², f</td>
</tr>
</tbody>
</table>

Plug-in terminal 4 mm²

<table>
<thead>
<tr>
<th>Clamping unit</th>
<th>Corresponding cross-sections/copper</th>
<th>max. number</th>
<th>from - to max.</th>
<th>max. number</th>
<th>from - to max.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>1.5 - 4 mm², sol</td>
<td>1</td>
<td>1.5 - 4 mm², f</td>
</tr>
</tbody>
</table>

Current carrying capacity of the connecting device: 80 A

All terminals are secured against self loosening.
## KV Small-type Distribution Boards

### Technical Details

#### Terminals

**Terminal equipment and number of conductors to be connected**

**PE terminal for copper conductors**

<table>
<thead>
<tr>
<th>Number of modules</th>
<th>PE terminal</th>
<th>up to 4 mm²</th>
<th>up to 25 mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td>4x4 mm²</td>
<td>1x25 mm²</td>
</tr>
<tr>
<td>4.5</td>
<td></td>
<td>4x4 mm²</td>
<td>2x25 mm²</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>8x4 mm²</td>
<td>2x25 mm²</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>12x4 mm²</td>
<td>2x25 mm²</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>16x4 mm²</td>
<td>4x25 mm²</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>24x4 mm²</td>
<td>6x25 mm²</td>
</tr>
<tr>
<td>36 (3-row)</td>
<td></td>
<td>36 (3-row)</td>
<td></td>
</tr>
<tr>
<td>48</td>
<td></td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>36 (2-row)</td>
<td></td>
<td>36 (2-row)</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td></td>
<td>54</td>
<td></td>
</tr>
</tbody>
</table>

**N terminal for copper conductors**

<table>
<thead>
<tr>
<th>Number of modules</th>
<th>N terminal</th>
<th>up to 4 mm²</th>
<th>up to 25 mm²</th>
<th>Plug-in jumper</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td></td>
<td>4x4 mm²</td>
<td>1x25 mm²</td>
<td></td>
</tr>
<tr>
<td>4.5</td>
<td></td>
<td>4x4 mm²</td>
<td>2x25 mm²</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>8x4 mm²</td>
<td>2x25 mm²</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>12x4 mm²</td>
<td>2x25 mm²</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>16x4 mm²</td>
<td>4x25 mm²</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>24x4 mm²</td>
<td>6x25 mm²</td>
<td></td>
</tr>
<tr>
<td>36 (3-row)</td>
<td></td>
<td>36 (3-row)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48</td>
<td></td>
<td>48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36 (2-row)</td>
<td></td>
<td>36 (2-row)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td></td>
<td>54</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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www.hitechcontrols.com
KV circuit breaker boxes comply with the following standards and regulations:

- IEC 60 439-3, EN 60 439-3,
  low voltage switchgear and controlgear assemblies intended to be in places
  where unskilled persons have access to their use - distribution boards

- IEC 60 999, Connecting devices
  Safety requirements for screw-type and screwless-type clamping units for electrical copper conductors

- EN 60 529 / DIN VDE 0470 Teil 1
  Degrees of protection provided by enclosures (IP-Code)
<table>
<thead>
<tr>
<th>KV Small-type distribution boards</th>
<th>Empty boxes</th>
<th>KV PC Small-type distribution boards</th>
<th>Threaded connecting glands</th>
</tr>
</thead>
<tbody>
<tr>
<td>KV Small-type distribution boards and KWH Meter boxes</td>
<td>Cable entry ESM ..., EVS 16</td>
<td>KV PC Small-type distribution boxes</td>
<td>AVS 16</td>
</tr>
</tbody>
</table>

### Technical Details

#### Application area

**Ausführung IP 54/65:**
Geeignet für Innenräume und die geschützte Installation im Freien nach DIN VDE 0100 Teil 737

#### Ambient temperature

- **Average value over 24 hours**
  - +35°C
  - +40°C
  - -5°C
- **Maximum value**
  - +60°C
  - +40°C
  - -25°C
- **Minimum value**
  - +25°C
  - +25°C
  - -25°C

#### Relative humidity

- **short-time**
  - 50% at 40°C
  - 100% at 25°C
- **Average value over 24 hours**
  - -5°C
  - +35°C
  - +25°C

#### Fire protection

**in the case of internal faults**
Minimum requirements
- Glow wire test in accordance with IEC 60 695-2-11:
  - 850°C for boxes and cable glands
  - 960°C for parts of insulating material necessary to retain current carrying parts in position
- 750°C V-2 flame-retardant self-extinguishing
- 750°C V-2 flame-retardant self-extinguishing

#### Burning behaviour

- Glow wire test
  - IEC 60 695-2-11
  - UL Subject 94

#### Degree of protection against mechanical load

- IK08 (5 Joule)

#### Toxic behaviour

- Halogen-free silicone-free
- Halogen-free silicone-free
- Halogen-free silicone-free
- Halogen-free silicone-free
- Halogen-free silicone-free
- Halogen-free silicone-free

"Halogen-free" in accordance with IEC 754-2 “Common test methods for cables - Determination of the amount of halogen acid gas”.

For material properties see technical data.
Distribution Boards up to 250 A with Door
According to IEC 61 439-3

„Distribution Boards Intended to be Operated by Ordinary Persons (DBO)“

- combinable enclosure system
- degree of protection IP 66
- made from polycarbonate
- protection class II, □

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(800) 677-8942 / (303) 680-5159
### System description / Enclosure system
- Distribution boards up to 250 A according to IEC 61 439-3, "intended to be operated by ordinary persons"
- Product benefits: Empty enclosures and circuit breaker boxes with doors

### Empty enclosures
- Door locking with hand operation
- Operation and access also by unskilled persons
- With transparent doors
- With opaque doors

### Circuit breaker boxes
- For installation of DIN rail equipment up to 63 A
- Without PE and N terminals, 9 up to 54 modules
- With PE and N terminals, 12 up to 51 modules
- Terminal box

### Circuit breaker boxes
- For installation of DIN rail equipment up to 63 A
- With removable DIN rail rack for earth connection (British Standard)
- Without PE and N terminals, 12 up to 54 modules

### Circuit breaker boxes
- For installation of DIN rail equipment up to 100 A
- Without PE and N terminals, 12 up to 54 modules
- Terminal box

### Accessories
- Technical details
- Assembly

Additional information e.g. about other electrical functions in ENYSTAR enclosures available at www.hensel-electric.de

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Environmental conditions

- for distribution boards in accordance with IEC 60 439-3:
  -5°C up to 35°C, max. + 40°C
  Relative humidity: 50% at 40°C, 100% at 25°C
- for empty enclosures: -25°C up to +70°C
  The ambient temperature for distribution boards is reduced by the installed equipment technology!

Application area

The enclosures are suitable for the protected outdoor installation - harsh environment and/or protected outdoor.

However the climatic influences and effects on the equipment are to be considered, see Technical Details: Operating and Ambient Conditions.

Insulation

Insulated enclosures
(Protection class II) 6

Impact strength

degree of protection against mechanical load IK 06 (5 Joule)
in accordance with IEC 62 262

Protection against foreign solid objects and direct contact

Dust-proof
degree of protection IP 66

Protection against ingress of water with harmful effects

Protected against water
degree of protection IP 66

Electrical parameters

Rated current: 250 A
Rated insulation voltage 2: AC 690 V, DC 1000 V, IEC 60 664

2 the rated insulation voltage is possibly reduced by the installed equipment technology.

Material: thermoplastic

Burning behaviour

Glow wire test 960°C in accordance with IEC 60 695-2-11
flame-retardant, self-extinguishing
UL Subject 94, V-2

UV resistance

UV resistance according to IEC 61 439-1
The material is examined for UV resistance

Chemical resistance

Resistance against acid 10% and alkaline 10%, petrol and mineral oil

Toxic behaviour

Silicone- and halogen-free
Distribution Boards up to 250 A with Door
combinable enclosure system
insulation-enclosed, degree of protection IP 66, made from polycarbonate
for the assembly of distribution boards up to 250 A intended to be operated by
ordinary persons in accordance with IEC 61439-3

Distribution Boards up to 250 A with Door
- for indoor and protected outdoor installation
- dust-proof and protected against water (IP 66)
- protection class II 
- colour: grey, RAL 7035

Doors
- all enclosure sizes with door
- transparent and opaque
- door hinge changeable
- sealable
- locking facilities: lockable, door fasteners for tool and hand operation
- operation of the devices behind the door protected with covers, no overhanging handles

Quick Assembly
- closed or open enclosure walls,
  which can fast and easily be closed with closing plate sets
- integrated gaskets
- safe connectors

Multikey
Besides the standard locking system for tool-operation with slot screwdriver
ENYSTAR doors can be operated as well with triangle 8 mm, square lock
8mm and double-bit.
All four locking systems are operated by a Multikey.
Combinable distribution boards with door

- Modular structure of enclosures in grid of 90 mm
- 4 enclosure sizes:
  - 270 x 180 mm,
  - 270 x 360 mm,
  - 270 x 540 mm and
  - 540 x 360 mm
- To assemble fast and simply to larger combinations
- Order closing plate sets, single closing plates and flanges separately.

Combinable enclosures with door and closing plates

- 4 box sizes:
  - 276 x 186 mm,
  - 276 x 366 mm,
  - 276 x 546 mm and
  - 546 x 366 mm

Empty enclosures and circuit breaker boxes additionally with closing plate sets for closing enclosure walls

Enclosure walls closed via closing plates

Assignment of box walls:
The assignment of box walls is effected via wall symbols that are assigned to each product. The individual figures [2] give an indication, which wall is concerned.

All box walls are listed in the fold-out of the coverpages.

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Can be combined and extended in all directions

Because of the increasing requirements, flexibility is essential in the electrical installation. ENYSTAR enclosures can be combined and arranged freely in order to adapt the system flexibly to the individual requirements in site.

Example 1:
Distribution board with 72 modules (6 x 12 x 18 mm) built-up of 2 x FP 1318 with closing plates

Example 2:
Distribution board with 125 A feeding, 36 modules (3 x 12 x 18 mm) and a terminal box for PE and N

Large doors for all box sizes allow a simple accessibility of the electrical functions.

Combination of enclosures in vertical direction.

Combination of enclosures in horizontal direction.

Distribution boards intended to be operated by ordinary persons

Connection Box

The ENYSTAR Connection Box allows a simple and fast installation of devices that must be operated externally. Such as plug devices, pushbuttons, switches or also touch panels.

The ENYSTAR Connection Box is available in different designs and standard equipments.

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Distribution boards are usually used in working place proximity. Their application is various.

Here the demands and requirements that result from the installation site must be adhered to.

**General requirements concerning distribution boards**

1. **Clear separation between operation area and distribution area**
   - For areas in distribution boards to which unskilled persons have access, standards require special protective measures:
     - Life parts are to be protected against accidental contact by a cover.
     - Devices, which may be operated only by an electrical skilled person, are to be arranged in a separate area, which is to be opened only with tool.

2. **Fast and safe operating of the intended devices,**
   - e.g. series built-in equipment and switching devices

3. **No removable covers or parts** so that electrotechnical unskilled persons can easily operate.

**Additional specific requirements when used in commercial and industrial applications:**

1. **High degree of protection IP 66:** dust-proof and waterproof
2. **Robust material for use in rough environments:** high-quality thermoplastic material for high mechanical loads.
3. **Corrosion resistance:** Material resistant to corrosion by atmospheric humidity or industrial processes.

**Modular distribution boards for special requirements in commercial and industrial applications ...**

- Total insulated enclosures, protection class II
- High degree of protection IP 66: dust-proof and water-proof
- Corrosion-resistant enclosures by high-quality thermoplastic material
- High mechanical strength IK 08 for heavy duty usage in commercial and industrial applications

... and with clearly separated functional areas!

- Modular design for clear separation of access and operation areas for electrical skilled persons and unskilled persons.
- Large, transparent doors for a quick control and convenient operation of the built-in equipment
- Fast opening and closing of the doors in a single operation
- At any time an expandable, modular system

Requirements in accordance with IEC 61 439-3:

1. Only installation equipment, like series built-in equipment, fuses up to 63 A, circuit-breakers and IT-components are permitted. For the access a tool-operated door locking facility is **NOT** necessary.

2. Other switching devices must be installed behind separate lids or doors, which can only be opened using a tool: **protection against direct contact with hazardous live parts IP XXC.**

To the following areas **only an electrical skilled person** may have access:

- Feeding-in
- Back-up fuse
- Outgoing terminals.

Therefore access is possible only **with appropriate tools.** The access can be prevented by optionally lockable doors. Electrotechnical unskilled persons have no access here.

**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
Distribution Boards up to 250 A
Empty Enclosures
Circuit Breaker Boxes

- Device mounting via DIN rails
- Device mounting via mounting plates
- Hand-operated doors in areas to which unskilled persons have access for operating devices
- Tool-operated doors in areas to which only an electrical skilled person may have access
- Facilities for earth connection according to British Standard

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Empty Boxes with Transparent Door
Operation also by Unskilled Person

FP 0140
Built-in dimensions W 216 x H 126 x D 140 mm
door locking with hand operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 1
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

FP 0141
Built-in dimensions W 216 x H 126 x D 140 mm
door locking with hand operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 1
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately

FP 0240
Built-in dimensions W 216 x H 306 x D 140 mm
door locking with hand operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 2
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

FP 0241
Built-in dimensions W 216 x H 306 x D 140 mm
door locking with hand operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 2
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately

ATTENTION
Built-in equipment must be suitable for operation by electrotechnical unskilled persons
and has to be protected by a cover against direct contact with hazardous life parts.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Distribution Boards up to 250 A

Empty Boxes with Transparent Door Operation also by Unskilled Person

FP 0340  NEW
Built-in dimensions W 216 x H 486 x D 140 mm
door locking with hand operation

- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 3
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

FP 0341  NEW
Built-in dimensions W 216 x H 486 x D 140 mm
door locking with hand operation
with closing plates for box walls

- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 3
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

FP 0440  NEW
Built-in dimensions W 486 x H 306 x D 140 mm
door locking with hand operation

- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 4
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

FP 0441  NEW
Built-in dimensions W 486 x H 306 x D 140 mm
door locking with hand operation
with closing plates for box walls

- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 4
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

ATTENTION
Built-in equipment must be suitable for operation by electrotechnical unskilled persons and has to be protected by a cover against direct contact with hazardous life parts.

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Distribution Boards up to 250 A
Empty Boxes with Transparent Door
Operation and Access also by Unskilled Person

FP 0461 NEW

Built-in dimensions W 306 x H 486 x D 140 mm
door locking with hand operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 4
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

ATTENTION

Built-in equipment must be suitable for operation by electrotechnical unskilled persons
and has to be protected by a cover against direct contact with hazardous life parts.

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(800) 677-8942 / (303) 680-5159
Distribution Boards up to 250 A
Empty Boxes with Opaque Door
Operation and Access also by Unskilled Person

**FP 0150** NEW
Built-in dimensions W 216 x H 126 x D 140 mm
door locking with hand operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 1
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

**FP 0151** NEW
Built-in dimensions W 216 x H 126 x D 140 mm
door locking with hand operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 1
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately

**FP 0250** NEW
Built-in dimensions W 216 x H 306 x D 140 mm
door locking with hand operation
- box size 2
- with opaque door
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

**FP 0251** NEW
Built-in dimensions W 216 x H 306 x D 140 mm
door locking with hand operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 2
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately

**ATTENTION**
Built-in equipment must be suitable for operation by electrotechnical unskilled persons
and has to be protected by a cover against direct contact with hazardous life parts.

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Distribution Boards up to 250 A
Empty Boxes with Opaque Door
Operation also by Unskilled Person

**FP 0350**  NEW

Built-in dimensions W 216 x H 486 x D 140 mm

- door locking with hand operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 3
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

**FP 0351**  NEW

Built-in dimensions W 216 x H 486 x D 140 mm

- door locking with hand operation
- with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 3
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

**FP 0450**  NEW

Built-in dimensions W 486 x H 306 x D 140 mm

- door locking with hand operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 4
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

**FP 0451**  NEW

Built-in dimensions W 486 x H 306 x D 140 mm

- door locking with hand operation
- with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 4
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

**ATTENTION**

Built-in equipment must be suitable for operation by electrotechnical unskilled persons and has to be protected by a cover against direct contact with hazardous life parts.

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(800) 677-8942 / (303) 680-5159
FP 0471  NEW
Built-in dimensions W 306 x H 486 x D 140 mm
door locking with hand operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 4
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

ATTENTION
Built-in equipment must be suitable for operation by electrotechnical unskilled persons
and has to be protected by a cover against direct contact with hazardous life parts.

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Distribution Boards up to 250 A
Empty Boxes with Transparent Door
Access and Operation Only by Skilled Persons

FP 0100
Built-in dimensions W 216 x H 126 x D 140 mm
door fastener with tool operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 1
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

FP 0101
Built-in dimensions W 216 x H 126 x D 140 mm
door fastener with tool operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 1
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately

FP 0210
Built-in dimensions W 216 x H 306 x D 140 mm
door fastener with tool operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 2
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

FP 0211
Built-in dimensions W 216 x H 306 x D 140 mm
door fastener with tool operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 2
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately

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Distribution Boards up to 250 A
Empty Boxes with Transparent Door
Access and Operation Only by Skilled Persons

---

**FP 0310**
Built-in dimensions W 216 x H 486 x D 140 mm
door fastener with tool operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 3
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

**FP 0311**
Built-in dimensions W 216 x H 486 x D 140 mm
door fastener with tool operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 3
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

**FP 0400**
Built-in dimensions W 486 x H 306 x D 140 mm
door fastener with tool operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 4
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

**FP 0401**
Built-in dimensions W 486 x H 306 x D 140 mm
door fastener with tool operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 4
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

---

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FP 0411

Built-in dimensions W 306 x H 486 x D 140 mm
door fastener with tool operation
with closing plates for box walls

- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- box size 4
- with transparent door
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

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Distribution Boards up to 250 A
Empty Boxes with Opaque Door
Access and Operation Only by Skilled Persons

FP 0120
Built-in dimensions W 216 x H 126 x D 140 mm
door fastener with tool operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 1
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

FP 0121
Built-in dimensions W 216 x H 126 x D 140 mm
door fastener with tool operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 1
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately

FP 0230
Built-in dimensions W 216 x H 306 x D 140 mm
door fastener with tool operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 2
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

FP 0231
Built-in dimensions W 216 x H 306 x D 140 mm
door fastener with tool operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 2
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 4 items
- order flanges separately

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**FP 0330**
Built-in dimensions W 216 x H 486 x D 140 mm
door fastener with tool operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 3
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

**FP 0331**
Built-in dimensions W 216 x H 486 x D 140 mm
door fastener with tool operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 3
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

**FP 0420**
Built-in dimensions W 486 x H 306 x D 140 mm
door fastener with tool operation
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 4
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

**FP 0421**
Built-in dimensions W 486 x H 306 x D 140 mm
door fastener with tool operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 4
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately

Call for a Quote!
(800) 677-8942 / (303) 680-5159
FP 0431
Built-in dimensions W 306 x H 486 x D 140 mm
door fastener with tool operation
with closing plates for box walls
- max. installation depth with built-in mounting plate 136 mm,
  with built-in DIN rail 125 mm
- with opaque door
- box size 4
- door locking sealable
- please order DIN rails, mounting plates or covers additionally
- connector: 6 items
- order flanges separately
Distribution Boards up to 250 A
Circuit Breaker Boxes for the Installation of DIN Rail Equipment up to 63A
Operation and Access also by Unskilled Persons

**FP 1109**
9 modules: 1 x 9 x 18 mm
- 1-row
- box size 1
- FIXCONNECT® plug-in terminal technology for PE and N
- PE/N 2 x 25 mm², 8 x 4 mm², Cu each
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

**FP 1108**
9 modules: 1 x 9 x 18 mm
with closing plates for box walls
- 1-row
- box size 1
- FIXCONNECT® plug-in terminal technology for PE and N
- PE/N 2 x 25 mm², 8 x 4 mm², Cu each
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- order flanges separately

**FP 1219**
24 modules: 2 x 12 x 18 mm
- 2-row
- box size 2
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 3 x 25 mm², 12 x 4 mm², Cu
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking sealable
- door locking with hand operation
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

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Distribution Boards up to 250 A
Circuit Breaker Boxes for the Installation of DIN Rail Equipment up to 63 A
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**FP 1218**
- 24 modules: 2 x 12 x 18 mm
- with closing plates for box walls
- 2-row
- box size 2
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 3 x 25 mm², 12 x 4 mm², Cu
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- order flanges separately

**FP 1319**
- 36 modules: 3 x 12 x 18 mm
- 3-row
- box size 3
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

**FP 1318**
- 36 modules: 3 x 12 x 18 mm
- with closing plates for box walls
- 3-row
- box size 3
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- order flanges separately

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Distribution Boards up to 250 A
Circuit Breaker Boxes for the Installation of DIN Rail Equipment up to 63A
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**FP 1409**

54 modules: 2 x 27 x 18 mm

- 2-row
- box size 4
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

**FP 1408**

54 modules: 2 x 27 x 18 mm
with closing plates for box walls

- 2-row
- box size 4
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- order flanges separately

**FP 1418**

51 modules: 3 x 17 x 18
with closing plates for box walls

- 3-row
- box size 4
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- order flanges separately

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**Distribution Boards up to 250 A**

**Circuit Breaker Boxes for the Installation of DIN Rail Equipment up to 63A**

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---

**FP 1211**

12 modules: 1 x 12 x 18 mm

for miniature circuit breakers (MCB)

- 1-row
- box size 2
- with 1 DIN rail 216 mm wide (for installation depth of 72 mm)
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43880
- per PE/N 2 x 25 mm², 4 x 16 mm², Cu
- cover can be sealed
- with lockable blanking strips
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

---

**Example:**

2 x FP 1318

72 modules: 6 x 12 x 18 mm

with closing plates

2 x 3-row

PE+N x cross section

6 x 25 mm², Cu

24 x 4 mm², Cu

attached enclosure connectors: 6 items

order flanges separately

degree of protection IP 66

---

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### Distribution Boards up to 250 A
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### Operation and Access also by Unskilled Persons

#### FP 1105
- 12 modules: 1 x 12 x 18 mm
- without PE and N terminal
- with closing plates for box walls
- 1-row
- box size 1
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- order PE/N terminals separately
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- walls closed with closing plates, closing plate set included
- order flanges separately

#### FP 1215
- 24 modules: 2 x 12 x 18 mm
- without PE and N terminal
- with closing plates for box walls
- 2-row
- box size 2
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- walls closed with closing plates, closing plate set included
- order flanges separately

#### FP 1315
- 36 modules: 3 x 12 x 18 mm
- without PE and N terminal
- with closing plates for box walls
- 3-row
- box size 3
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- walls closed with closing plates, closing plate set included
- order flanges separately

---

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Distribution Boards up to 250 A
Circuit Breaker Boxes for the Installation of DIN Rail Equipment up to 63A
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FP 1415
51 modules: 3 x 17 x 18
without PE and N terminal
with closing plates for box walls
- 3-row
- box size 4
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- walls closed with closing plates, closing plate set included
- order flanges separately

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Distribution Boards up to 250 A
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FP 1106
12 modules: 1 x 12 x 18 mm
without PE and N terminal
- 1-row
- box size 1
- order PE/N terminals separately
- with installation of a PE/N terminal the number of modules is reduced to 1 x 9 x 18 mm
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- with removable DIN rail rack and earth connection
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

FP 1107
12 modules: 1 x 12 x 18 mm
without PE and N terminal
with closing plates for box walls
- 1-row
- box size 1
- order PE/N terminals separately
- with installation of a PE/N terminal the number of modules is reduced to 1 x 9 x 18 mm
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- with removable DIN rail rack and earth connection
- connector: 4 items
- walls closed with closing plates, closing plate set included
- order flanges separately

Removable DIN rail rack for e.g. earth connection (British standard)

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Distribution Boards up to 250 A
Circuit Breaker Boxes for the Installation of DIN Rail Equipment up to 63A
Operation and Access also by Unskilled Persons

**FP 1216**

24 modules: 2 x 12 x 18 mm
without PE and N terminal

- 2-row
- box size 2
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- with removable DIN rail rack and earth connection
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

**FP 1217**

24 modules: 2 x 12 x 18 mm
without PE and N terminal
with closing plates for box walls

- 2-row
- box size 2
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- with removable DIN rail rack and earth connection
- connector: 4 items
- walls closed with closing plates, closing plate set included
- order flanges separately

Removable DIN rail rack for e.g. earth connection (British standard)

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235
**FP 1316**

36 modules: 3 x 12 x 18 mm

- without PE and N terminal
- 3-row
- box size 3
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- *with removable DIN rail rack and earth connection*
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

**FP 1317**

36 modules: 3 x 12 x 18 mm

- without PE and N terminal
- with closing plates for box walls
- 3-row
- box size 3
- order PE/N terminals separately
- for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- *with removable DIN rail rack and earth connection*
- connector: 6 items
- walls closed with closing plates, closing plate set included
- order flanges separately

Removable DIN rail rack for e.g. earth connection (British standard)

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Distribution Boards up to 250 A
Circuit Breaker Boxes for the Installation of DIN Rail Equipment up to 63A
Operation and Access also by Unskilled Persons

**FP 1406**

- **54 modules:** 2 x 27 x 18 mm
- **without PE and N terminal**
  - 2-row
  - box size 4
  - order PE/N terminals separately
  - for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
  - with transparent door
  - door locking with hand operation
  - door locking sealable
  - with blanking strips for unused DIN rail openings
  - with labelling strips
  - with removable DIN rail rack and earth connection
  - connector: 6 items
  - order closing plate sets, single closing plates and flanges separately

**FP 1417**

- **51 modules:** 3 x 17 x 18
- **without PE and N terminal**
  - with closing plates for box walls
  - 3-row
  - box size 4
  - order PE/N terminals separately
  - for installation of DIN rail equipment up to 63 A in accordance with DIN 43 880
  - with transparent door
  - door locking with hand operation
  - door locking sealable
  - with blanking strips for unused DIN rail openings
  - with labelling strips
  - with removable DIN rail rack and earth connection
  - connector: 6 items
  - walls closed with closing plates, closing plate set included
  - order flanges separately

Removable DIN rail rack for e.g. earth connection (British standard)

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Distribution Boards up to 250 A
Circuit Breaker Boxes for the Installation of DIN Rail Equipment up to 100A
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**FP 1101**
12 modules: 1 x 12 x 18 mm
without PE and N terminal
- 1-row
- box size 1
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- use enclosure FP 1100 for N/PE terminals
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

**FP 1249**
24 modules: 2 x 12 x 18 mm
without PE and N terminal
- 2-row
- box size 2
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- use enclosure FP 1100 for N/PE terminals
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately

**FP 1349**
36 modules: 3 x 12 x 18 mm
without PE and N terminal
- 3-row
- box size 3
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- use enclosure FP 1100 for N/PE terminals
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

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Circuit Breaker Boxes for the Installation of DIN Rail Equipment up to 100 A
Operation and Access also by Unskilled Persons

**FP 1439**
54 modules: 2 x 27 x 18 mm
without PE and N terminal
- 2-row
- box size 4
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- use enclosure FP 1100 for N/PE terminals
- with transparent door
- door locking with hand operation
- door locking sealable
- with blanking strips for unused DIN rail openings
- with labelling strips
- connector: 6 items
- order closing plate sets, single closing plates and flanges separately

**FP 1211**
12 modules: 1 x 12 x 18 mm
for miniature circuit breakers (MCB)
- 1-row
- box size 2
- with 1 DIN rail 216 mm wide (for installation depth of 72 mm)
- for installation of DIN rail equipment up to 100 A in accordance with DIN 43 880
- per PE/N 2 x 25 mm², 4 x 16 mm², Cu
- cover can be sealed
- with lockable blanking strips
- connector: 4 items
- order closing plate sets, single closing plates and flanges separately
Distribution Boards up to 250 A
Circuit Breaker Boxes for the Installation of DIN Rail Equipment up to 100 A
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FP 1100
Terminal box
per PE+N 12 x 1.5-16 mm², Cu,
1 x 4-35 mm², Cu
- rated current: 125 A
- box size 1
- with opaque door
- door fastener with tool operation
- door locking sealable
- order closing plate sets, single closing plates and flanges separately

Call for a Quote!
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(800) 677-8942 / (303) 680-5159
FP CB 210
Connection Box
- for mounting on box walls (270 mm)
- hinged mounting area
- for the installation of devices that must be operated externally, such as plug devices, push buttons and switches

Example:
the Connection Box allows a simple and fast installation of devices, that must be operated externally, such as plug devices, push buttons and switches.

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(800) 677-8942 / (303) 680-5159
**FP ZR 30**
Extension frame for enclosures size 3
- for extension of the installation depth by 50 mm
- inclusive fixing material
- suitable for the admission of cover FP AP 30 in different installation depths

**FP ZR 40**
Extension frame for enclosure size 4
- for extension of the installation depth by 50 mm
- inclusive fixing material
- suitable for the admission of cover FP AP 40 in different installation depths

**FP TS 27**
DIN rail length 216 mm
- in accordance with DIN EN 60 715
- for ENYSTAR empty boxes sizes 1, 2 and 3
- for equipment or terminals with clip-on mounting
- with fixing screws

**FP TS 36**
DIN rail length 306 mm
- in accordance with DIN EN 60 715
- for ENYSTAR empty boxes sizes 2 and 4
- for equipment or terminals with clip-on mounting
- with fixing screws

**FP TS 54**
DIN rail length 486 mm
- in accordance with DIN EN 60 715
- for ENYSTAR empty boxes sizes 3 and 4
- for equipment or terminals with clip-on mounting
- with fixing screws

**FP DS 02**
Spacer height: 29.5 mm or 53.5 mm
- for spacing DIN rails ENYSTAR
- 2 pieces
- with fixing screws for fixing on bottoms
HI-TECH CONTROLS, INC.
Distribution Boards up to 250 A
Accessories

**FP MP 10**
Mounting plate
W 216 x H 126 mm
- for ENYSTAR empty boxes sizes 1, 2 and 3
- material thickness 4 mm
- with fixing screws

**FP MP 20**
Mounting plate
W 216 x H 306 mm
- for ENYSTAR empty boxes sizes 2, 3 and 4
- material thickness 4 mm
- with fixing screws

**FP MP 30**
Mounting plate
W 216 x H 486 mm
- for ENYSTAR empty boxes sizes 3 and 4
- material thickness 4 mm
- with fixing screws

**FP MP 40**
Mounting plate
W 486 x H 306 mm
- for ENYSTAR empty boxes size 4
- material thickness 4 mm
- with fixing screws

**FP BZ 13**
Fixing screw
length 13 mm
- for assembling DIN rails or mounting plates at the base of the box
- for material thicknesses of 2.5 to 4 mm
- self-tapping
- galvanised

Example:

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**Distribution Boards up to 250 A**

**Accessories**

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
<th>Dimensions</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FP AP 10</strong></td>
<td>Cover without cut-outs</td>
<td>W 220 x H 130 mm</td>
<td>for ENYSTAR enclosure size 1, for retrofitting, as protection cover or for installation of equipment</td>
</tr>
<tr>
<td><strong>FP AP 20</strong></td>
<td>Cover without cut-outs</td>
<td>W 220 x H 310 mm</td>
<td>for ENYSTAR enclosure size 2, for retrofitting, as protection cover or for installation of equipment</td>
</tr>
<tr>
<td><strong>FP AP 30</strong></td>
<td>Cover without cut-outs</td>
<td>W 220 x H 490 mm</td>
<td>for ENYSTAR enclosure size 3, for retrofitting, as protection cover or for installation of equipment</td>
</tr>
<tr>
<td><strong>FP AP 40</strong></td>
<td>Cover without cut-outs</td>
<td>W 490 x H 310 mm</td>
<td>for ENYSTAR enclosure size 4, for retrofitting, as protection cover or for installation of equipment</td>
</tr>
<tr>
<td><strong>FP PL 2</strong></td>
<td>Sealing device for covers</td>
<td>not suitable for circuit-breaker boxes</td>
<td>can be retrofitted, 2 pieces, with fixing screws</td>
</tr>
</tbody>
</table>

**Example:**

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HI-TECH CONTROLS, INC.
Distribution Boards up to 250 A
Accessories

FP TW 18
partition
180 mm
- to push-in between enclosures

FP TW 27
partition
270 mm
- to push-in between enclosures

FP TW 36
partition
360 mm
- to push-in between enclosures
- except between two busbar boxes

AS 12
blanking strip
12 modules
- 12 x 18 mm, divisible every 9 mm
- for the covering of spare equipment openings, for material thickness up to 3 mm

AS 18
blanking strip
18 modules
- 18 x 18 mm, divisible every 9 mm
- for the covering of spare equipment openings, for material thickness up to 3 mm

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### FC PN 20
**PE and N terminal**
- PE/N 2 x 25 mm², 8 x 4 mm², Cu each
  - for installation on DIN rails in accordance with IEC 60 715, top hat profile 35 mm
  - for boxes with 1 x 12 modules (through terminal reduction to 9 modules)
  - FIXCONNECT® plug-in terminal technology, for terminal technology refer to technical data
  - current carrying capacity: 80 A

### FP FC 24
**PE and N terminal per PE/N 3 x 25 mm², 12 x 4 mm², Cu**
- for enclosures with 2 x 12 modules
- FIXCONNECT® plug-in terminal technology, for terminal technology refer to technical data
- with fixing screws
- current carrying capacity: 80 A
- N separable for various potentials

### FP FC 36
**PE and N terminal per PE/N 6 x 25 mm², 24 x 4 mm², Cu**
- for enclosures with 3 x 12 modules
- FIXCONNECT® plug-in terminal technology, for terminal technology refer to technical data
- with fixing screws
- current carrying capacity: 80 A
- N separable for various potentials

### FP FC 54
**PE and N terminal per PE/N 6 x 25 mm², 24 x 4 mm², Cu**
- for enclosures with 2 x 27 modules
- FIXCONNECT® plug-in terminal technology, for terminal technology refer to technical data
- with fixing screws
- current carrying capacity: 80 A
- N separable for various potentials

### FP FC 51
**PE and N terminal per PE/N 8 x 25 mm², 32 x 4 mm², Cu**
- for enclosures with 3 x 17 modules
- FIXCONNECT® plug-in terminal technology, for terminal technology refer to technical data
- with fixing screws
- current carrying capacity: 80 A
- N separable for various potentials

---

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(800) 677-8942 / (303) 680-5159
FC PE 10
PE terminal
2 x 25 mm², 8 x 4 mm², Cu
- for boxes with 1 x 12 modules (through terminal reduction to 9 modules)
- for installation on DIN rails in accordance with IEC 60 715, top hat profile 35 mm
- FIXCONNECT® plug-in technology, for terminal technology refer to index technical data
- current carrying capacity: 80 A

FP FC 054
PE terminal
6 x 25 mm², 24 x 4 mm², Cu
- for enclosures with 2 x 12 modules, 3 x 12 modules, 2 x 27 modules
- FIXCONNECT® plug-in terminal technology, for terminal technology refer to technical data
- with fixing screws
- current carrying capacity: 80 A

FP FC 051
PE terminal
8 x 25 mm², 32 x 4 mm², Cu
- for enclosures with 3 x 17 modules
- FIXCONNECT® plug-in terminal technology, for terminal technology refer to technical data
- with fixing screws
- current carrying capacity: 80 A

FC BS 5
FIXCONNECT labelling system
set with 5 pieces
- labelling system for FIXCONNECT plug-in terminals, not for terminals 2x25 / 4x4 mm²
- for attaching of labelling strips or marking with felt tip pen

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**KKL 34**

**Main line branch terminal**

per pole 4 x 1.5-25 mm² as L1-L3, Cu

- 3-pole as connecting terminal 25 mm²
- for installation on DIN rails in accordance with IEC 60 715, top hat profile 35 mm
- current carrying capacity: 80 A
- width: 61 mm

**KKL 48**

**Main line branch terminal**

per pole 4 x 1.5-25 mm², as L1-L3;
8 x 1.5-25 mm², as N, Cu

- 4-pole as connecting terminal 25 mm²
- for installation on DIN rails in accordance with IEC 60 715, top hat profile 35 mm
- current carrying capacity: 80 A
- width: 100 mm

**KKL 54**

**Main line branch terminal**

per pole 4 x 1.5-25 mm² as L1-L3;
4 x 1.5-25 mm² as N;
4 x 1.5-25 mm² as PE, Cu

- 5-pole as connecting terminal 25 mm²
- for installation on DIN rails in accordance with IEC 60 715, top hat profile 35 mm
- current carrying capacity: 80 A
- width: 100 mm
FP WT 1
Wall separator
- for connecting enclosure walls of different sizes (refer to technical data)
- for insertion in bases of enclosures
- with 2 fixing elements

FP VP 18
Closing plate
180 mm
- with 2 fixing elements
- without knockouts

FP VP 27
Closing plate
270 mm
- with 2 fixing elements
- without knockouts

FP VP 36
Closing plate
360 mm
- with 2 fixing elements
- without knockouts
**FP BF 18**
Ventilation flange
180 mm
- for ventilation of ENYSTAR Distribution boards in the event of extremely high internal temperatures or a risk of water condensation
- for vertical installation on box walls
- with 2 fixing elements

**FP BF 27**
Ventilation flange
270 mm
- for ventilation of ENYSTAR Distribution boards in the event of extremely high internal temperatures or a risk of water condensation
- for vertical installation on box walls
- with 2 fixing elements

**FP BF 36**
Ventilation flange
360 mm
- for ventilation of ENYSTAR Distribution boards in the event of extremely high internal temperatures or a risk of water condensation
- for vertical installation on box walls
- with 2 fixing elements

**BE 44**
Ventilation insert

**BM 32**
Pressure compensation element for M 32 knockouts
- for the reduction of condensation by pressure compensation in power distribution systems
- ISO thread M 32 x 1.5
- bore-hole: Ø 32.3 mm
- wall thickness of up to 8 mm
- with counter nut
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- ambient temperature - 25° to + 55° C
- In order not to exceed leakage limit of 0.07 bar with pressure compensation, one pressure compensation element BM 32 must be used per 42 litres (42000 cm³) of enclosure volume.
- Example: enclosure size 30 cm x 60 cm x 17 cm = 30600 cm³ = 30.6 litres. Number of necessary BM 32 (M32) = 1 piece.

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### Distribution Boards up to 250 A

#### Accessories

CPP VS 10
Closing plate set
box size 1
- 2 x for box wall 1 (180 mm) and 2 x for box wall 2 (270 mm)
- with 8 fixing elements
- without knockouts

CPP VS 20
Closing plate set
box size 2
- 2 x for box wall 2 (270 mm) and 2 x for box wall 3 (360 mm)
- with 8 fixing elements
- without knockouts

CPP VS 30
Closing plate set
box size 3
- 6 x for box wall 2 (270 mm)
- with 12 fixing elements
- without knockouts

CPP VS 40
Closing plate set
box size 4
- 4 x for box wall 2 (270 mm) and 2 x for box wall 3 (360 mm)
- with 12 fixing elements
- without knockouts

---

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**FP VM 27**

**Metal insert for closing plates**

- box size 2 (270 mm)
- for earthing of metal armoured cables
- without knockouts

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting width</td>
<td>215 mm</td>
</tr>
<tr>
<td>Mounting height</td>
<td>80 mm</td>
</tr>
</tbody>
</table>

**FP VM 36**

**Metal insert for closing plates**

- for box wall 3 (360 mm)
- for earthing of metal armoured cables
- without knockouts

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting width</td>
<td>215 mm</td>
</tr>
<tr>
<td>Mounting height</td>
<td>80 mm</td>
</tr>
</tbody>
</table>

Earth connection according to British Standard installation via built-in metal insert.
## FP FG 200
**Flange without knockouts**
- Box size 2 (270 mm)
- Attached enclosure connectors: 2 items

<table>
<thead>
<tr>
<th>Mounting Width</th>
<th>240 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting Height</td>
<td>92 mm</td>
</tr>
</tbody>
</table>

## FP FG 222
**Flange sealing range Ø 6-30 mm**
- Sealing range: 17 x Ø 6-13 mm, 2 x Ø 9-17 mm, 2 x Ø 8-23 mm, 1 x Ø 11-30 mm
- Box size 2 (270 mm)
- Attached enclosure connectors: 2 items
- With integrated grommets for cable entry

## FP FM 225
**Flange knockouts M 16 to M 25**
- Knockouts: 7 x M 16/25, 13 x M 20/25
- Box size 2 (270 mm)
- Attached enclosure connectors: 2 items

## FP FM 232
**Flange knockouts M 25 to M 40**
- Knockouts: 8 x M 25/32, 2 x M 25/32/40
- Box size 2 (270 mm)
- Attached enclosure connectors: 2 items

## FP FM 240
**Flange knockouts M 25 to M 40**
- Knockouts: 2 x M 25/32, 5 x M 25/32/40
- Box size 2 (270 mm)
- Attached enclosure connectors: 2 items

## FP FM 263
**Flange knockouts M 20 to M 63**
- Knockouts: 2 x M 20, 2 x M 25/32, 2 x M 32/40/50, 1 x M 40/50/63
- Box size 2 (270 mm)
- Attached enclosure connectors: 2 items

---

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(800) 677-8942 / (303) 680-5159
FP FG 272
Flange
Sealing range: 1 x Ø 30-72 mm
- Box size 2 (270 mm)
- Attached enclosure connectors: 2 items

FP FG 273
Flange
Sealing range: 2 x each Ø 30-72 mm
- Box size 2 (270 mm)
- Attached enclosure connectors: 2 items

FP FG 282
Cable insert
Sealing range: 2 x each Ø 30-72 mm
- Divisible for cable insertion from the front
- Box size 2 (270 mm)
- Attached enclosure connectors: 2 items
- Degree of protection IP 65 only with additional strain and pressure relief (e.g. FP ZE 272)

FP GS 27
Box fin
For inserting cables across 2 boxes
- Removable
- For box walls 270 mm
- Can be retrofitted

FP ZE 272
Cable strain relief
For 2 cables with max. 60 mm external diameter
- Box size 2 (270 mm)
- With fixing screws

FP FG 300
Flange
Without knockouts
- For box wall 3 (360 mm)
- Attached enclosure connectors: 2 items

<table>
<thead>
<tr>
<th>Mounting Width</th>
<th>330 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mounting Height</td>
<td>92 mm</td>
</tr>
</tbody>
</table>

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Distribution Boards up to 250 A
Accessories

FP FG 331
Flange
sealing range Ø 6-30 mm
- sealing range: 22 x Ø 6-13 mm, 6 x Ø 9-17 mm, 2 x Ø 8-23 mm,
  1 x Ø 11-30 mm
- for box wall 3 (360 mm)
- attached enclosure connectors: 2 items
- with integrated grommets for cable entry

FP DB 27
Canopy
for box wall 270 mm
- W 270 x D 245 mm
- attached enclosure connectors: 2 items

FP DB 36
Canopy
for box wall 300 mm
- W 360 x D 245 mm
- attached enclosure connectors: 2 items

Mi DB 01
Canopy end plate
- for canopies FP DB xx and Mi DB xx

Application of canopy:

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HI-TECH CONTROLS, INC.

Distribution Boards up to 250 A

Accessories

FP GV 10
Connector
- when converting existing installations
- for connection of enclosures or fixation of flanges
- set with 10 pieces

FP PL 3
Facility for sealing
- for door sealing
- can be retrofitted
- 2 pieces

FP TS 1
Door lock
converting kit to key operation
- for subsequent installation in hand operated door locking system

FP TS 2
Spare key
- for door lock FP TS 1
- 2 pieces

FP TW 1
Tool operation
conversion kit to tool operation
- can be retrofitted

FP TW 2
Tool key for double-bit
conversion kit to tool operation
- can be retrofitted

FP TW 3
Tool key for triangular lock, 8 mm
conversion kit to tool operation
- can be retrofitted

FP TW 4
Tool key for square lock, 8 mm
conversion kit to tool operation
- can be retrofitted

US 1
Master key
- triangular 8 mm, square 8 mm, double-bit and slot

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DS 1
Triangular key 8 mm

FP TA 1
Dust protection cover for door fasteners after removing the key operation device
- can be retrofitted
- set with 10 pieces

FP AL 40
4 stainless steel external brackets
- for external fixing of enclosures

FP MS 1
Profile for wall mounting
- for ENYSTAR distribution board assemblies up to 810 x 1260 mm
- with 8 screws, washers and nuts for fastening of enclosures

<table>
<thead>
<tr>
<th>material</th>
<th>1980 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>sendzimir galvanised steel profile with structured powder coating</td>
<td></td>
</tr>
</tbody>
</table>

Varnish pen RAL 7016
12 ml
<table>
<thead>
<tr>
<th>Technical Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating and ambient conditions</td>
</tr>
<tr>
<td>Standards and requirements</td>
</tr>
<tr>
<td>Rated power dissipation of empty boxes</td>
</tr>
<tr>
<td>Detail dimensions in mm</td>
</tr>
<tr>
<td>Assembly of enclosures</td>
</tr>
<tr>
<td>Wall-mounting</td>
</tr>
<tr>
<td>Assembly</td>
</tr>
</tbody>
</table>

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## Distribution Boards up to 250 A

### Technical Details

### Operating and Ambient Conditions

<table>
<thead>
<tr>
<th>Application area</th>
<th>Enclosures with door and closing plates Empty enclosures FP 0...</th>
<th>Circuit breaker boxes FP 1...</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ambient temperature</strong></td>
<td>Suitable for indoor installation and outdoor installation, protected against weather influences However, pay attention to the climatic effects on the installed equipment, for example, high or low ambient temperatures or formation of condensed water see technical information</td>
<td>The ambient temperature for enclosures with electrical functions (distribution boards) is reduced by the installed equipment technology!</td>
</tr>
<tr>
<td>- Average value over 24 hours</td>
<td>-</td>
<td>+ 35°C</td>
</tr>
<tr>
<td>- Maximum value</td>
<td>+ 70°C</td>
<td>+ 40°C</td>
</tr>
<tr>
<td>- Minimum value</td>
<td>- 25°C</td>
<td>- 5°C</td>
</tr>
<tr>
<td><strong>Relative humidity</strong></td>
<td>Adhere to the assembly instructions issued by the manufacturer.</td>
<td>50% at 40°C</td>
</tr>
<tr>
<td>- short-time</td>
<td></td>
<td>100% at 25°C</td>
</tr>
<tr>
<td><strong>Fire protection</strong></td>
<td>Demands placed on electrical devices from standards and laws:</td>
<td>Minimum requirements</td>
</tr>
<tr>
<td>in the event of internal faults</td>
<td></td>
<td>- Glow wire test in accordance with IEC 60 695-2-11:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 650°C for boxes and cable glands</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- 850°C for conducting components</td>
</tr>
<tr>
<td><strong>Burning behaviour</strong></td>
<td></td>
<td>Minimum requirements</td>
</tr>
<tr>
<td>- Glow wire test</td>
<td>- V-2</td>
<td>- V-2</td>
</tr>
<tr>
<td>IEC 60 695-2-11</td>
<td>flame-retardant</td>
<td>flame-retardant</td>
</tr>
<tr>
<td>- UL Subject 94</td>
<td>self-extinguishing</td>
<td>self-extinguishing</td>
</tr>
<tr>
<td><strong>Degree of protection against mechanical load</strong></td>
<td>IK 08 (5 Joule)</td>
<td>IK 08 (5 Joule)</td>
</tr>
<tr>
<td><strong>Toxic behaviour</strong></td>
<td>halogen-free ¹)</td>
<td>halogen-free ¹)</td>
</tr>
<tr>
<td></td>
<td>silicone-free</td>
<td>silicone-free</td>
</tr>
</tbody>
</table>

¹) "Halogen-free" in accordance with IEC 754-2 “Common test methods for cables - Determination of the amount of halogen acid gas”.

For material properties see technical data.

---

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ENYSTAR distribution boards comply with the requirements of the IEC 61 439-3

Distribution boards assembled and wired according to manufacturer data without essential deviations from the original type or system.

To meet these requirements for Hensel ENYSTAR Distribution boards, the following must be noted:

1. The distribution boards must consist of the verified enclosures documented in this list.
2. The wiring of the equipment must be carried out with the cross-sections and conductor types indicated in Table “Rating of insulated conductors in switchgear assemblies”, Index Technics.
3. Once the distribution board is completed, a routine test must be carried out in accordance with this standard.
4. The test must be certified with a test report.
5. The assembly must be provided with a manufacturer’s identification mark.
   - Compliance with important data such as
   - limit of temperature rise
   - dielectric strength
   - IP degrees of protection
   - creepage distances and clearances
   is verified for this system.

---

Standards and regulations

- IEC 61 439-3
  ... low-voltage switchgear and controlgear assemblies intended to be in places where unskilled persons have access to their use - distribution boards
- IEC 60 999, connecting devices
  Safety requirements for screw-type and screwless-type clamping units for electrical copper conductors
- DIN EN 50 262
  Metric threaded cable glands for electrical installations
- DIN 43 880
  Built-in equipment for electrical installations; overall dimensions and related mounting dimensions
- IEC 60 529 / DIN VDE 0470 Teil 1
  Degrees of protection provided by enclosures (IP-Code)
Distribution Boards up to 250 A
Technical Details
Power Dissipation of Empty Boxes

Temperature rise ($\Delta T$) with ENYSTAR enclosures by power dissipation of electrical devices

![Graph showing temperature rise with power dissipation for ENYSTAR enclosures.](image)

* with/without extension frame

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Note!

The maximally permissible operating temperature inside the enclosures (\( \vartheta_{\text{max}} \)) is determined by:

1. Maximally permissible ambient temperature of the installed electrical devices (please consider data of the equipment manufacturers)
2. Category temperature of the internal wiring and the inserted cables
3. Temperature resistance of the enclosure materials and the cable entries etc.

### Example: Computation of the maximum rated power dissipation (\( P_v \))

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximally permissible operating temperature inside the enclosure(s) (( \vartheta_{\text{max}} ))</td>
<td>e.g. 55°C</td>
</tr>
<tr>
<td>Ambient temperature of the enclosure(s) (( \vartheta_s ))</td>
<td>25°C</td>
</tr>
<tr>
<td>Maximally permissible heating up inside the enclosure: ( \Delta \vartheta = \vartheta_{\text{max}} - \vartheta_s = 55°C - 25°C = 30K )</td>
<td></td>
</tr>
<tr>
<td>Maximum permissible power dissipation of the installed equipment inclusive wiring (( P_v )) in accordance with diagram:</td>
<td></td>
</tr>
<tr>
<td>Enclosure size 3 (540 x 270 x 163 mm):</td>
<td></td>
</tr>
<tr>
<td>Single enclosure:</td>
<td>( P_v = 36 \text{ W} )</td>
</tr>
<tr>
<td>Enclosures in assemblies:</td>
<td>( P_v = 24 \text{ W} )</td>
</tr>
</tbody>
</table>

### Example: Computation of the operating temperature inside the enclosure (\( \vartheta \))

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambient temperature of the enclosure(s) (( \vartheta_s ))</td>
<td>25°C</td>
</tr>
<tr>
<td>Rated power dissipation of the installed electrical equipment (( P_v ))</td>
<td>24 W</td>
</tr>
<tr>
<td>Heating up inside the enclosures in accordance with diagram over: ( \Delta \vartheta )</td>
<td></td>
</tr>
<tr>
<td>Enclosure size 3 (540 x 270 x 163 mm):</td>
<td></td>
</tr>
<tr>
<td>Single enclosures:</td>
<td>( \Delta \vartheta = 20 \text{ K}; \vartheta_s = \vartheta_s + \Delta \vartheta = 25°C + 20 \text{ K} = 45°C )</td>
</tr>
<tr>
<td>Assembled enclosures:</td>
<td>( \Delta \vartheta = 30 \text{ K}; \vartheta_s = \vartheta_s + \Delta \vartheta = 25°C + 30 \text{ K} = 55°C )</td>
</tr>
</tbody>
</table>
Distribution Boards up to 250 A

Technical Details

Dimensions in mm

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(800) 677-8942 / (303) 680-5159
Assembly of Enclosures

Combination of enclosures with connectors and wall separators

At this point a wall separator is necessary for the enclosure combination.

Fast assembly and mounting

All necessary gaskets are integral part of the enclosures. The enclosures are interconnected among themselves by easily pushing-in of connectors. No tools are necessary.

Connectors are attached to the enclosures in sufficient number. For reconstruction or extensions of existing distribution boards connectors FP GV 10 (set consists of 10 pieces) can be supplemented.

The connection of enclosures is not only co-ordinated with enclosures of the same size. By means of wall separators also different sized enclosures can be combined.

Wall separators provide for high rigidity and tightness at the connection points of the enclosures, degree of protection IP 66.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Combination with connectors and wall separators
Assembly of enclosures quickly and easily.

Pushing-in of connectors for the assembly of enclosures of different sizes.

Configurator ENYGUIDE supports project engineering
ENYGUIDE figures out independently the necessary accessories like the number of wall separators.
(Wall separators are red coloured in the drawing.)
Technical Details

Wall Mounting

External brackets
made from stainless steel
for external box fixing

FP AL 40 (4 pieces)

Mounting profile
for wall-mounting of ENYSTAR
distribution boards,
steel profile, length 1980 mm
FP MS 1

Fixing matrix of
mounting profile

Note:
Please fix mounting profile in vertical position
as possible in order to give occasion to cable
routing behind the assembly.

For cutting to the required length fix mounting profile
for example with a clamp to a desk.

Transport
Regarding transportation it is recommendable to protect the assembly
against deflection. For that please screw the assembly to a solid timber.

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**Step 1:**
Assembly of enclosures according to layout

**Step 2:**
Removal of the frames with doors
ENYSTAR is an open enclosure construction for the quick assembly of distribution boards. Bases are open in all four directions. This enables a fast and efficient assembly to distribution boards. All gaskets are already integrated. Degree of protection IP 66.

**Step 3:**
Enclosure connection
All enclosures of the distribution systems are firmly connected fast and simply with connectors. Connectors are attached to the enclosures always in sufficient number.

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Step 4:
Inserting wall separators
Wall separators are used everywhere, where different sizes of enclosure walls are combined. Wall separators provide for high rigidity and tightness at the connection points of the enclosures, degree of protection IP 66.

Step 5:
Closing of walls via closing plates
Closing plates are fixed with enclosure connectors. Two enclosure connectors are always included to a closing plate.

Closing of walls with flanges for the cable entry or with closing plates
A wide range of flanges for the cable entry is available. Flanges are affixed to enclosures with connectors. Connectors are attached to the enclosures always in sufficient number. The remaining enclosure walls are closed with closing plates.
**Step 5:**
Installation of cable inserts

Saw the box fin. Afterwards the cable insertion is fixed via enclosure connectors and the rubber entries can be inserted.

The cable is fed into the box from the front.

**Assembly of box fin**

Cutting out box walls. Then insert box fin and secure via wedges.

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Step 6:
Device mounting via mounting plates or DIN rails
Installation devices can be fixed on mounting plates with self-threading screws.

DIN rails are mounted right away on the bottom of bases or via spacers in heights of 29.5 mm or 53.5 mm.

Step 7:
Device installation into covers
Pre-drill the cut-outs at the corners. Then saw out the cut-outs from the cover by using a piercing saw with coarse toothed saw blades for plastics (e.g. Bosch T 1018).
Install devices.

Cover is snapped in the door-frame from the rear.

Afterward, the door-frame with door and the cover is screwed on base of enclosure.

Installation depth for equipment installation in covers

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HI-TECH CONTROLS, INC.

**Distribution Boards up to 250 A**

**Technical Details**

**Assembly**

**Step 8:**

**Sealing**

Installable in all enclosures, except for enclosures for DIN rail mounted devices. Sealing device is screwed on enclosure bottom. Drill-out pre-moulded knockout for sealing device (Ø 5 mm) and screw together cover with door-frame.

Subsequently, screw door-frame with door and cover on base of enclosure. Seal the cover.

**Step 9:**

**Sealing of unused DIN rail openings in enclosures for DIN rail equipment with attached blanking strip**

**Note:**

Spare equipment openings in covers are to be covered with blanking strips to prevent accidental contact (blanking strips are attached for 50% of equipment openings). Circuit breaker boxes can be fitted with any DIN rail equipment, if per row (12 modules 12 x 18 mm) the assigned back-up fuse of 80 A won’t be exceeded.

Locking of the cover in box for miniature circuit breakers (MCB).

**Installation of PE and N terminals in FIXCONNECT® plug-in technology**

Arrow marks in the enclosure bottoms indicate the fixing position of the terminal support.

Call for a Quote!

(800) 677-8942 / (303) 680-5159
Mi Power Distribution Boards up to 630 A
- combinable enclosure system
- degree of protection IP 65
- made from polycarbonate
- protection class II, [II]
- in accordance with IEC 61 439 Part 2

Design fast, simply, more clever
www.Enyguide.eu
Call for a Quote!
(800) 677-8942 / (303) 680-5159
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Additional information e.g. about other electrical functions in Mi enclosures available at www.henselelectric.de

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### System Description

#### Environmental conditions
<table>
<thead>
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<th>Ambient temperatures</th>
</tr>
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<tbody>
<tr>
<td>for distribution boards in accordance with IEC 61 439:</td>
</tr>
<tr>
<td>-5°C up to 35°C, max. + 40°C</td>
</tr>
<tr>
<td>humidity: 50% at 40°C, 100% at 25°C</td>
</tr>
<tr>
<td>for empty enclosures: -25°C up to + 70°C</td>
</tr>
<tr>
<td>The rated insulation voltage is possibly reduced by the installed equipment technology</td>
</tr>
</tbody>
</table>

#### Application area
The enclosures are suitable for the protected outdoor installation - harsh environment and / or protected outdoor. However the climatic influences and effects on the equipment are to be considered, see Technical Details: Operating and Ambient Conditions

#### Insulation
- Insulated enclosures (Protection class II) [2]

#### Impact strength
- Degree of protection against mechanical load IK 08 (5 Joule) in accordance with IEC 62 262

#### Protection against foreign solid objects and direct contact
- Dust-proof
- Degree of protection IP 65

#### Protection against ingress of water with harmful effects
- Protected against water
- Degree of protection IP 65
- Note: Single enclosures without any flanges and components mounted in the lid have degree of protection IP 66

#### Electrical parameters
- Rated current: 630 A
- Rated insulation voltage: AC 690 V, DC 1000 V*, IEC 60 664
* The rated insulation voltage is possibly reduced by the installed equipment technology

### Material: Polycarbonate

#### Burning behaviour
- Glow wire test 960°C in accordance with IEC 60 695-2-1, flame-retardant, self-extinguishing
- UL Subject 94, V-2

#### UV resistance
- UV resistance according to IEC 61 439-1
- The material is examined for UV resistance

#### Chemical resistance
- Resistance against acid 10% and lye 10%, petrol and mineral oil

#### Toxic behaviour
- Silicone- and halogen-free
Mi Distribution Boards
System Description

Mi Power distribution boards up to 630 A
combinable enclosure system
insulation-enclosed, total insulated, degree of protection IP 65,
for the assembly of power switchgear and controlgear assembly (PSC)
up to 630 A in accordance with IEC 61 439 Part 2

- Boxes can also be used as a single box
- Degree of protection IP 65: dust-proof and jet water-proof
- Application area: Mi enclosures are suitable for indoor and outdoor installation -
  harsh environment and /or outdoor.

Material:
- Polycarbonate
- Burning behaviour: Glow wire test in accordance with IEC 60 695-2-11,
  self-extinguishing, flame-retardant
- UV-resistance in accordance with IEC 61 439-1, Clause 10.2.4:
  The material is examined for UV resistance.
- Toxic behaviour: silicone- and halogen-free
- Chemical resistance: resistant against acid, lye, benzene and mineral oil

Enclosure System:
- Covers made from thermoplastic
- Covers with protected and captive marking labels
- Cover plates for mounting electrical equipment
- Large wall openings enable the wiring within the distribution boards
- Cable entry via metric knockouts in all box walls,
  via flanges with metric knockouts or elastic membranes
  or cable inserts with up to 74 mm cable diameter
- Wall fixing right away in the boxes, via external brackets or via mounting profiles
- Facility for lead seal and locking
- Hinges for lids and heavy-duty hinge joints for operating installation device within a
  large area
- Connection Box for the installation of devices that must be operated externally,
  such as plugs, pushbuttons and switches
- Mi empty boxes and single empty boxes conform to the
  RoHS Directive 2002/95/EC

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**Mi Distribution boards**

- Modular enclosure system in grid of 150 mm
- 5 enclosure sizes:
  - 150 x 300 mm,
  - 300 x 300 mm,
  - 450 x 300 mm,
  - 600 x 300 mm and
  - 600 x 600 mm
- For the assembly of type-tested low-voltage switchgear assemblies up to 630 A
- Enclosures can be used as well as single boxes.

Assignment of box walls:
The assignment of box walls is effected via wall symbols that are assigned to each product. The individual figures give an indication, which wall is concerned.

All box walls are listed in the fold-out of the coverpages.

---

**ENYMOD Mi Distribution boards**

**Box walls with metric cable entries**

<table>
<thead>
<tr>
<th>Wall</th>
<th>1 x M 20</th>
<th>1 x M 32/40</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wall 2</td>
<td>2 x M 20</td>
<td>10 x M 25</td>
</tr>
<tr>
<td></td>
<td>1 x M 32/40</td>
<td></td>
</tr>
<tr>
<td>Wall 3</td>
<td>4 x M 25</td>
<td>3 x M 40/50</td>
</tr>
<tr>
<td>Wall 4</td>
<td>1 x M 20</td>
<td>4 x M 25</td>
</tr>
<tr>
<td></td>
<td>1 x M 32/40</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 x M 40/50</td>
<td></td>
</tr>
<tr>
<td>Wall 5</td>
<td>8 x M 32</td>
<td>4 x M 40/50</td>
</tr>
</tbody>
</table>

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Tested and certified by ASTA

Suitable also for typical devices or the installation of armoured cables with earth connections

Key Benefits

<table>
<thead>
<tr>
<th>Material</th>
<th>Thermoplastic material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrosion-proof</td>
<td>yes</td>
</tr>
<tr>
<td>Degree of protection</td>
<td>IP 65 (dust proof, water proof)</td>
</tr>
<tr>
<td>Protection against mechanical impact</td>
<td>no lasting deformations, elastic</td>
</tr>
<tr>
<td>Weight</td>
<td>&quot;light&quot;</td>
</tr>
<tr>
<td>Subsequent handling (such as openings)</td>
<td>&quot;easy&quot;</td>
</tr>
<tr>
<td>Transparent lids</td>
<td>standard offer</td>
</tr>
<tr>
<td>Operating area</td>
<td>partial opening range via lids of individual enclosures</td>
</tr>
<tr>
<td>Adaptability to location</td>
<td>by arrangement of modular enclosures</td>
</tr>
<tr>
<td>Combinability / Expandability</td>
<td>in all directions by combinable enclosures including electrical functions</td>
</tr>
<tr>
<td>Availability in the market</td>
<td>immediately with standard modules and accessories</td>
</tr>
</tbody>
</table>

Application:
Motor Control Centre based on Mi System
This Motor Control Centre installed in a big paper mill consists of 33 feeders ranging from 2.2 kW to 50 kW including complete wiring with main incomm of 630 A.

Application:
Removable DIN rail rack for integrated earth bounding in each Mi Circuit breaker box.

Cable entry for armoured cables via metal glands for earth connection according to British Standards.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Combinable and extendable in all directions

Application examples

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Combinable and extendable in all directions

Application examples

Application with canopy

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Mi empty boxes conform to the RoHS Directive 2002/95/EC, for more information, refer to technical data.

- Equipment can be installed via DIN rails which are fastened on spacers
- Equipment can be installed via mounting plates as well
- Boxes can be assembled to larger units
- Blanking strips (attached) for unused sections in equipment openings of protection covers
- Installation of equipment in cover plates
- Facilities for earth connection according to British Standard

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Mi Distribution Boards
Empty Boxes with Transparent Lids

**Mi 0100**
Built-in dimensions W 275 x H 125 x D 150 mm
- max. installation depth with built-in mounting plate 146 mm,
  with built-in DIN rail 135 mm
- box size 1
- please order DIN rails, mounting plates or covers additionally
  with transparent lid
- lid fasteners for tool operation

**Mi 0200**
Built-in dimensions W 275 x H 275 x T 150 mm
- max. installation depth with built-in mounting plate 146 mm,
  with built-in DIN rail 135 mm
- box size 2
- please order DIN rails, mounting plates or covers additionally
  with transparent lid
- lid fasteners for tool operation

**Mi 0210**
Built-in dimensions W 275 x H 275 x D 195 mm
- max. installation depth with built-in mounting plate 191 mm,
  with built-in DIN rail 180 mm
- box size 2
- please order DIN rails, mounting plates or covers additionally
  with transparent lid
- lid fasteners for tool operation

**Mi 0220**
Built-in dimensions W 275 x H 275 x D 119 mm
- max. installation depth with built-in mounting plate 115 mm,
  with built-in DIN rail 104 mm
- box size 2
- please order DIN rails, mounting plates or covers additionally
  with hinged lid for built-in equipment with protection cover which
  must be operated
  with transparent lid
  lid fasteners for tool operation

**Mi 0300**
Built-in dimensions W 275 x H 425 x D 150 mm
- max. installation depth with built-in mounting plate 146 mm,
  with built-in DIN rail 135 mm
- box size 3
- please order DIN rails, mounting plates or covers additionally
  with transparent lid
  lid fasteners for tool operation

Call for a Quote!
(800) 677-8942 / (303) 680-5159
**Mi 0310**

**Built-in dimensions W 275 x H 425 x D 195 mm**
- max. installation depth with built-in mounting plate 191 mm, with built-in DIN rail 180 mm
- box size 3
- please order DIN rails, mounting plates or covers additionally
- with transparent lid
- lid fasteners for tool operation

**Mi 0400**

**Built-in dimensions W 275 x H 575 x D 150 mm**
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- box size 4
- please order DIN rails, mounting plates or covers additionally
- with transparent lid
- lid fasteners for tool operation

**Mi 0410**

**Built-in dimensions W 275 x H 575 x D 195 mm**
- max. installation depth with built-in mounting plate 191 mm, with built-in DIN rail 180 mm
- box size 4
- please order DIN rails, mounting plates or covers additionally
- with transparent lid
- lid fasteners for tool operation

**Mi 0800**

**Built-in dimensions W 575 x H 575 x D 150 mm**
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- box size 8
- please order DIN rails, mounting plates or covers additionally
- cable entry only possible via flange
- with transparent lid
- lid fasteners for tool operation
Mi Distribution Boards
Empty Boxes with Opaque Lids

Mi 0101
Built-in dimensions W 275 x H 125 x D 150 mm
- max. installation depth with built-in mounting plate 146 mm,
  with built-in DIN rail 135 mm
- box size 1
- please order DIN rails, mounting plates or covers additionally
- with opaque lid
- lid fasteners for tool operation

Mi 0201
Built-in dimensions W 275 x H 275 x T 150 mm
- max. installation depth with built-in mounting plate 146 mm,
  with built-in DIN rail 135 mm
- box size 2
- please order DIN rails, mounting plates or covers additionally
- with opaque lid
- lid fasteners for tool operation

Mi 0211
Built-in dimensions W 275 x H 275 x D 195 mm
- max. installation depth with built-in mounting plate 191 mm,
  with built-in DIN rail 180 mm
- box size 2
- please order DIN rails, mounting plates or covers additionally
- with opaque lid
- lid fasteners for tool operation

Mi 0221
Built-in dimensions W 275 x H 275 x D 119 mm
- max. installation depth with built-in mounting plate 115 mm,
  with built-in DIN rail 104 mm
- box size 2
- please order DIN rails, mounting plates or covers additionally
- with hinged lid for built-in equipment with protection cover which
  must be operated
- with opaque lid
- lid fasteners for tool operation

Mi 0301
Built-in dimensions W 275 x H 425 x D 150 mm
- max. installation depth with built-in mounting plate 146 mm,
  with built-in DIN rail 135 mm
- box size 3
- please order DIN rails, mounting plates or covers additionally
- with opaque lid
- lid fasteners for tool operation

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Mi 0311
Built-in dimensions W 275 x H 425 x D 195 mm
- max. installation depth with built-in mounting plate 191 mm, with built-in DIN rail 180 mm
- box size 3
- please order DIN rails, mounting plates or covers additionally
- with opaque lid
- lid fasteners for tool operation

Mi 0401
Built-in dimensions W 275 x H 575 x D 150 mm
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- box size 4
- please order DIN rails, mounting plates or covers additionally
- with opaque lid
- lid fasteners for tool operation

Mi 0411
Built-in dimensions W 275 x H 575 x D 195 mm
- max. installation depth with built-in mounting plate 191 mm, with built-in DIN rail 180 mm
- box size 4
- please order DIN rails, mounting plates or covers additionally
- with opaque lid
- lid fasteners for tool operation

Mi 0801
Built-in dimensions W 575 x H 575 x D 150 mm
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- box size 8
- please order DIN rails, mounting plates or covers additionally
- cable entry only possible via flange
- with opaque lid
- lid fasteners for tool operation

Call for a Quote!
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Mi Distribution Boards
Empty Boxes
with Hinged, Transparent Lids

Mi 9100
Built-in dimensions W 125 x H 275 x D 150 mm
- max. installation depth with built-in mounting plate 146 mm,
  with built-in DIN rail 135 mm
- box size 1
- please order DIN rails, mounting plates or covers additionally
- 3 walls with metric knockouts for cable entry and assembly
- trilaterally combinable
- lid hinges attached
- with transparent, hinged lid
- lid fasteners for tool operation

Mi 9200
Built-in dimensions W 275 x H 275 x T 150 mm
- max. installation depth with built-in mounting plate 146 mm,
  with built-in DIN rail 135 mm
- box size 2
- please order DIN rails, mounting plates or covers additionally
- trilaterally combinable
- 3 walls with metric knockouts for cable entry and assembly
- lid hinges attached
- with transparent, hinged lid
- lid fasteners for tool operation

Mi 9210
Built-in dimensions W 275 x H 275 x D 195 mm
- max. installation depth with built-in mounting plate 191 mm,
  with built-in DIN rail 180 mm
- box size 2
- please order DIN rails, mounting plates or covers additionally
- trilaterally combinable
- 3 walls with metric knockouts for cable entry and assembly
- lid hinges attached
- with transparent, hinged lid
- lid fasteners for tool operation

Mi 9300
Built-in dimensions W 275 x H 425 x D 150 mm
- max. installation depth with built-in mounting plate 146 mm,
  with built-in DIN rail 135 mm
- box size 3
- please order DIN rails, mounting plates or covers additionally
- trilaterally combinable
- 3 walls with metric knockouts for cable entry and assembly
- lid hinges attached
- with transparent, hinged lid
- lid fasteners for tool operation
Mi Distribution Boards
Empty Boxes
with Hinged, Transparent Lids

**Mi 9310**
**Built-in dimensions W 275 x H 425 x D 195 mm**
- max. installation depth with built-in mounting plate 191 mm, with built-in DIN rail 180 mm
- box size 3
- please order DIN rails, mounting plates or covers additionally
- trilaterally combinable
- 3 walls with metric knockouts for cable entry and assembly
- lid hinges attached
- with transparent, hinged lid
- lid fasteners for tool operation

**Mi 9400**
**Built-in dimensions W 275 x H 575 x D 150 mm**
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- box size 4
- please order DIN rails, mounting plates or covers additionally
- trilaterally combinable
- 3 walls with metric knockouts for cable entry and assembly
- lid hinges attached
- with transparent, hinged lid
- lid fasteners for tool operation

**Mi 9410**
**Built-in dimensions W 275 x H 575 x D 195 mm**
- max. installation depth with built-in mounting plate 191 mm, with built-in DIN rail 180 mm
- box size 4
- please order DIN rails, mounting plates or covers additionally
- trilaterally combinable
- 3 walls with metric knockouts for cable entry and assembly
- lid hinges attached
- with transparent, hinged lid
- lid fasteners for tool operation

**Assembly example:** Empty boxes with hinged lids
Applicable as single empty box for the installation of device via DIN rails or mounting plates.
Easy and fast assembly. Lid suitable for the installation of signallers.
<table>
<thead>
<tr>
<th>Model</th>
<th>Dimensions</th>
<th>Features and Details</th>
</tr>
</thead>
</table>
| **Mi 9101** | **W 125 x H 275 x D 150 mm** | - Max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm  
- Box size 1  
- Please order DIN rails, mounting plates or covers additionally  
- Trilaterally combinable  
- 3 walls with metric knockouts for cable entry and assembly  
- Lid hinges attached  
- With opaque, hinged lid  
- Lid fasteners for tool operation |
| **Mi 9201** | **W 275 x H 275 x T 150 mm** | - Max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm  
- Box size 2  
- Please order DIN rails, mounting plates or covers additionally  
- Trilaterally combinable  
- 3 walls with metric knockouts for cable entry and assembly  
- Lid hinges attached  
- With opaque, hinged lid  
- Lid fasteners for tool operation |
| **Mi 9211** | **W 275 x H 275 x D 195 mm** | - Max. installation depth with built-in mounting plate 191 mm, with built-in DIN rail 180 mm  
- Box size 2  
- Please order DIN rails, mounting plates or covers additionally  
- Trilaterally combinable  
- 3 walls with metric knockouts for cable entry and assembly  
- Lid hinges attached  
- With opaque, hinged lid  
- Lid fasteners for tool operation |
| **Mi 9301** | **W 275 x H 425 x D 150 mm** | - Max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm  
- Box size 3  
- Please order DIN rails, mounting plates or covers additionally  
- Trilaterally combinable  
- 3 walls with metric knockouts for cable entry and assembly  
- Lid hinges attached  
- With opaque, hinged lid  
- Lid fasteners for tool operation |

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Mi Distribution Boards
Empty Boxes with Hinged, Opaque Lids

**Mi 9311**
**Built-in dimensions W 275 x H 425 x D 195 mm**
- max. installation depth with built-in mounting plate 191 mm, with built-in DIN rail 180 mm
- box size 3
- please order DIN rails, mounting plates or covers additionally
- trilaterally combinable
- 3 walls with metric knockouts for cable entry and assembly
- lid hinges attached
- with opaque, hinged lid
- lid fasteners for tool operation

**Mi 9401**
**Built-in dimensions W 275 x H 575 x D 150 mm**
- max. installation depth with built-in mounting plate 146 mm, with built-in DIN rail 135 mm
- box size 4
- please order DIN rails, mounting plates or covers additionally
- trilaterally combinable
- 3 walls with metric knockouts for cable entry and assembly
- lid hinges attached
- with opaque, hinged lid
- lid fasteners for tool operation

**Mi 9411**
**Built-in dimensions W 275 x H 575 x D 195 mm**
- max. installation depth with built-in mounting plate 191 mm, with built-in DIN rail 180 mm
- box size 4
- please order DIN rails, mounting plates or covers additionally
- trilaterally combinable
- 3 walls with metric knockouts for cable entry and assembly
- lid hinges attached
- with opaque, hinged lid
- lid fasteners for tool operation

**Assembly example:** Empty boxes with hinged lids
Applicable as single empty box for the installation of device via DIN rails or mounting plates.
Easy and fast assembly. Lid suitable for the installation of signallers.
**Mi Distribution Boards**

**Mi 1109**

9 modules: 1 x 9 x 18 mm

- 1-row
- FIXCONNECT® plug-in terminal technology for PE and N
- PE/N 2 x 25 mm², 8 x 4 mm², Cu each
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

**Mi 1112**

12 modules: 1 x 12 x 18 mm

- 1-row
- with screw-type terminals for PE/N, for copper conductors
- per PE/N 10 x 16 mm², Cu
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

**Mi 1224**

24 modules: 2 x 12 x 18 mm

- 2-row
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 3 x 25 mm², 12 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

**Mi 1220**

24 modules: 2 x 12 x 18 mm

- 2-row
- with hinged lid
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 3 x 25 mm², 12 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

**Mi 1336**

36 modules: 3 x 12 x 18 mm

- 3-row
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

**Mi 1448**

48 modules: 4 x 12 x 18 mm

- 4-row
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
**Mi 1456**

56 modules: 2 x 28 x 18 mm

- 2-row
- FIXCONNECT® plug-in terminal technology for PE and N per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- DIN rail rack can be earthed

**Mi 1884**

84 modules: 3 x 28 x 18 mm

- 3-row
- FIXCONNECT® plug-in terminal technology for PE and N per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- DIN rail rack can be earthed
- cable entry only possible via flange

**Call for a Quote!**

Removable DIN rail rack for earth connection

(800) 677-8942 / (303) 680-5159
## Mi Distribution Boards
### Mi 1111
12 modules: 1 x 12 x 18 mm
- 1-row
- with 1 hinged flap
- hinged flap lockable with accessories
- with screw-type terminals for PE/N, for copper conductors
- per PE/N 10 x 16 mm², Cu
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

## Mi 1222
24 modules: 2 x 12 x 18 mm
- 2-row
- with 2 hinged flaps
- hinged flap lockable with accessories
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 3 x 25 mm², 12 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

## Mi 1333
36 modules: 3 x 12 x 18 mm
- 3-row
- with 3 hinged flaps
- hinged flap lockable with accessories
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

## Mi 1444
48 modules: 4 x 12 x 18 mm
- 4-row
- with 4 hinged flaps
- hinged flap lockable with accessories
- FIXCONNECT® plug-in terminal technology for PE and N
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
- N separable for various potentials
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

---

Call for a Quote!
(800) 677-8942 / (303) 680-5159

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**Call for a Quote!**
(800) 677-8942 / (303) 680-5159
**Mi 1115**
12 modules: 1 x 12 x 18 mm
without PE and N terminal
- 1-row
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

**Mi 1225**
24 modules: 2 x 12 x 18 mm
without PE and N terminal
- 2-row
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

**Mi 1226**
24 modules: 2 x 12 x 18 mm
without PE and N terminal
with hinged lid
- 2-row
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

**Mi 1335**
36 modules: 3 x 12 x 18 mm
without PE and N terminal
- 3-row
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

**Mi 1440**
36 modules: 3 x 12 x 18 mm
without PE and N terminal
with additional DIN rail
- 4-row
- with 1 DIN rail 216 mm wide (for installation depth of 72 mm)
- for installation of DIN rail equipment in accordance with DIN 43 8800
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation

---

Call for a Quote!
(800) 677-8942 / (303) 680-5159
**Mi Distribution Boards**

**Circuit Breaker Boxes**

---

**Mi 1455**

56 modules: 2 x 28 x 18 mm

- 2-row
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection

---

**Mi 1885**

84 modules: 3 x 28 x 18 mm

- 3-row
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- cable entry only possible via flange

---

*Assembly example:*
Removable DIN rail rack for earth connection

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**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
**Mi Distribution Boards**

**Circuit Breaker Boxes**

### Mi 1117

- **12 modules: 1 x 12 x 18 mm**
- **without PE and N terminal**
  - 1-row
  - with 1 hinged flap
  - hinged flap lockable with accessories
  - for installation of DIN rail equipment in accordance with DIN 43 880
  - order PE/N terminals separately
  - with blanking strips for unused DIN rail openings
  - lid fasteners for hand operation

### Mi 1227

- **24 modules: 2 x 12 x 18 mm**
- **without PE and N terminal**
  - 2-row
  - with 2 hinged flaps
  - hinged flap lockable with accessories
  - for installation of DIN rail equipment in accordance with DIN 43 880
  - order PE/N terminals separately
  - with blanking strips for unused DIN rail openings
  - lid fasteners for hand operation

### Mi 1337

- **36 modules: 3 x 12 x 18 mm**
- **without PE and N terminal**
  - 3-row
  - with 3 hinged flaps
  - hinged flap lockable with accessories
  - for installation of DIN rail equipment in accordance with DIN 43 880
  - order PE/N terminals separately
  - with blanking strips for unused DIN rail openings
  - lid fasteners for hand operation

### Mi 1443

- **36 modules: 3 x 12 x 18 mm**
- **without PE and N terminal**
  - with additional DIN rail
  - 4-row
  - with 3 hinged flaps
  - hinged flap lockable with accessories
  - with 1 DIN rail 216 mm wide (for installation depth of 72 mm)
  - for installation of DIN rail equipment in accordance with DIN 43 880
  - order PE/N terminals separately
  - with blanking strips for unused DIN rail openings
  - lid fasteners for hand operation

### Mi 1445

- **48 modules: 4 x 12 x 18 mm**
- **without PE and N terminal**
  - 4-row
  - with 4 hinged flaps
  - hinged flap lockable with accessories
  - for installation of DIN rail equipment in accordance with DIN 43 880
  - order PE/N terminals separately
  - with blanking strips for unused DIN rail openings
  - lid fasteners for hand operation

---

**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
Mi Distribution Boards
Circuit Breaker Boxes

Mi 1281
6 modules: 1 x 6 x 18 mm
for miniature circuit breakers (MCB)

- 1-row
- with 1-pole main branch terminal for copper conductors
- protection cover can be sealed, with lockable cover strip
- lid fasteners for hand operation
- PEN 2 x 25mm², 2 x 16mm², Cu

Note:
Prepared for the installation of currently commercially available miniature circuit-breakers (MCB)

for example
ABN Type XHA 3..-4
Hager Type HTN.E etc.
SHA (voltage dependent)

for example
ABB Type S 701/S 703 + adapter for DIN rail
S 700 ST3
(1 pc. for S 701, 2 pc. for S 703)
SHU (voltage dependent)

for example
ABB Type S 80.-...
SHU (voltage dependent)

Call for a Quote!
(800) 677-8942 / (303) 680-5159
**Mi 1118**

12 modules: 1 x 12 x 18 mm
without PE and N terminal
- 1-row
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- DIN rail rack can be earthed

**Mi 1228**

24 modules: 2 x 12 x 18 mm
without PE and N terminal
- 2-row
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- DIN rail rack can be earthed

**Mi 1221**

24 modules: 2 x 12 x 18 mm
without PE and N terminal
with hinged lid
- 2-row
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- DIN rail rack can be earthed

**Mi 1338**

36 modules: 3 x 12 x 18 mm
without PE and N terminal
- 3-row
- for installation of DIN rail equipment in accordance with DIN 43 880
- with blanking strips for unused DIN rail openings
- order PE/N terminals separately
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- DIN rail rack can be earthed

**Assembly example:**
Removable DIN rail rack for earth connection

*Call for a Quote!*
(800) 677-8942 / (303) 680-5159
**Mi 1446**

36 modules: 3 x 12 x 18 mm

- without PE and N terminal
- with additional DIN rail
- 4-row
- with 1 DIN rail 216 mm wide (for installation depth of 72 mm)
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- DIN rail rack can be earthed

**Mi 1455**

56 modules: 2 x 28 x 18 mm

- without PE and N terminal
- 2-row
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection

**Mi 1885**

84 modules: 3 x 28 x 18 mm

- without PE and N terminal
- 3-row
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- cable entry only possible via flange

---

**Assembly example:**
Removable DIN rail rack for earth connection

Call for a Quote!

(800) 677-8942 / (303) 680-5159
**Mi 1119**

12 modules: 1 x 12 x 18 mm
without PE and N terminal

- 1-row
- with 1 hinged flap
- hinged flap lockable with accessories
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- DIN rail rack can be earthed

**Mi 1229**

24 modules: 2 x 12 x 18 mm

- 2-row
- with 2 hinged flaps
- hinged flap lockable with accessories
- for installation of DIN rail equipment in accordance with DIN 43 880
- without PE and N terminal
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- DIN rail rack can be earthed

**Mi 1339**

36 modules: 3 x 12 x 18 mm
without PE and N terminal

- 3-row
- with 3 hinged flaps
- hinged flap lockable with accessories
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- DIN rail rack can be earthed

---

Assembly example:
Removable DIN rail rack for earth connection

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Mi 1449

48 modules: 4 x 12 x 18 mm without PE and N terminal

- 4-row
- with 4 hinged flaps
- hinged flap lockable with accessories
- for installation of DIN rail equipment in accordance with DIN 43 880
- order PE/N terminals separately
- with blanking strips for unused DIN rail openings
- lid fasteners for hand operation
- with removable DIN rail rack and earth connection
- DIN rail rack can be earthed
<table>
<thead>
<tr>
<th>Connection Box</th>
<th>302</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extension frames, DIN rails, spacers</td>
<td>303-304</td>
</tr>
<tr>
<td>Mounting plates, fixing screws</td>
<td>305-306</td>
</tr>
<tr>
<td>Covers, blanking strips</td>
<td>307</td>
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<td>Terminals</td>
<td>308-310</td>
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<tr>
<td>Wall gasket, wall separator, fixing spares</td>
<td>311</td>
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<tr>
<td>Flanges, ventilation flanges, metal inserts for flanges (BS)</td>
<td>312-314</td>
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<tr>
<td>Canopy</td>
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<td>Conversion kits for lid fasteners</td>
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<td>Hinges for lids</td>
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<td>318</td>
</tr>
<tr>
<td>Components for wall mounting</td>
<td>320</td>
</tr>
</tbody>
</table>
Mi CB 10
Connection Box
- for the installation of devices that must be operated externally, such as plug devices, push buttons and switches
- for mounting to box walls 300 mm
- hinged mounting area
- with wall gasket

Example:
The Connection Box allows a simple and fast installation of devices that must be operated externally.
**Mi ZR 4**
*Extension frame for enclosure size 4*
- for extension of the installation depth by 85 mm
- degree of protection IP 65 is maintained with use of up to two extension frames
- inclusive fixing material

**Mi ZR 8**
*Extension frame for enclosure size 8*
- for extension of the installation depth by 85 mm
- degree of protection IP 65 is maintained with use of up to two extension frames
- inclusive fixing material

**Mi TS 15**
*DIN rail length 134 mm*
- in accordance with DIN EN 60 715
- for Mi Empty box size 1
- for equipment or terminals with clip-on mounting
- with fixing screws

**Mi TS 30**
*DIN rail length 284 mm*
- in accordance with DIN EN 60 715
- for Mi Empty box sizes 1 to 8
- for equipment or terminals with clip-on mounting
- with fixing screws

**Mi TS 45**
*DIN rail length 434 mm*
- in accordance with DIN EN 60 715
- for Mi Empty box size 3
- for equipment or terminals with clip-on mounting
- with fixing screws

**Mi TS 60**
*DIN rail length 584 mm*
- in accordance with DIN EN 60 715
- for Mi Empty box sizes 4 and 8
- for equipment or terminals with clip-on mounting
- with fixing screws
Mi DS 25
Spacer
height: 25 mm
- for spacing DIN-rails Mi TS...
- 2 pieces
- with fixing screws for base of box and DIN rail

Mi DS 50
Spacer
height: 50 mm
- for spacing DIN-rails Mi TS...
- 2 pieces
- with fixing screws for base of box and DIN rail
Mi Distribution Boards

Accessories

Mi MP 1
Mounting plate
W 259 x H 115 mm
- material thickness 4 mm
- for Mi-Empty boxes sizes 1, 2, 3, 4
- with fixing screws

Mi MP 2
Mounting plate
W 265 x H 265 mm
- material thickness 4 mm
- for Mi-Empty boxes sizes 2 to 8
- with fixing screws

Mi MP 3
Mounting plate
W 265 x H 415 mm
- material thickness 4 mm
- for Mi-Empty boxes sizes 3, 4
- with fixing screws

Mi MP 4
Mounting plate
W 265 x H 565 mm
- material thickness 4 mm
- for Mi-Empty boxes sizes 4, 8
- with fixing screws

Mi MP 8
Mounting plate
W 565 x H 565 mm
- material thickness 4 mm
- for Mi Empty box size 8
- with fixing screws

Call for a Quote!
(800) 677-8942 / (303) 680-5159
## Mi BZ 11

Fixing screw  
**length 11 mm**  
- for assembling DIN rails or mounting plates at the base of the box  
- for material thicknesses of 1 to 2.5 mm  
- self-tapping  
- galvanised

## Mi BZ 13

Fixing screw  
**length 13 mm**  
- for assembling DIN rails or mounting plates at the base of the box  
- for material thicknesses of 2.5 to 4 mm  
- self-tapping  
- galvanised
### Mi EP 01
**Cover**
for Mi Empty box size 1
- for retrofitting
- cover without cut-outs made of plastics, as protection cover or for the installation of devices
- with fastening material

### Mi EP 02
**Cover**
for Mi Empty box size 2
- for retrofitting
- cover without cut-outs made of plastics, as protection cover or for the installation of devices
- with fastening material

### Mi EP 03
**Cover**
for Mi empty box size 3
- for retrofitting
- cover without cut-outs made of plastics, as protection cover or for the installation of devices
- with fastening material

### Mi EP 04
**Cover**
for Mi Empty box size 4
- for retrofitting
- cover without cut-outs made of plastics, as protection cover or for the installation of devices
- with fastening material

---

**Call for a Quote!**
(800) 677-8942 / (303) 680-5159
FC L 10
Terminal
2 x 25 mm², 8 x 4 mm², Cu
- for installation on DIN rails in accordance with IEC 60715,
  top hat profile 35 mm
- FIXCONNECT® plug-in technology,
  for terminal technology refer to index technical data
- current carrying capacity: 80 A

FC N 10
N terminal
2 x 25 mm², 8 x 4 mm², Cu
- for installation on DIN rails in accordance with IEC 60715,
  top hat profile 35 mm
- FIXCONNECT® plug-in technology,
  for terminal technology refer to index technical data
- current carrying capacity: 60 A

FC PE 10
PE terminal
2 x 25 mm², 8 x 4 mm², Cu
- for boxes with 1 x 12 modules
  (through terminal reduction to 9 modules)
- for installation on DIN rails in accordance with IEC 60715,
  top hat profile 35 mm
- FIXCONNECT® plug-in technology,
  for terminal technology refer to index technical data
- current carrying capacity: 80 A

FC PN 10
PE and N terminal
per PE/N 1 x 25 mm², 4 x 4 mm² Cu
- for installation on DIN rails in accordance with IEC 60715,
  top hat profile 35 mm
- FIXCONNECT® plug-in terminal technology,
  for terminal technology refer to technical data
- current carrying capacity: 80 A

FC BS 5
FIXCONNECT labelling system
set with 5 pieces
- labelling system for FIXCONNECT® plug-in terminals,
  not for terminals 2x25 / 4x4 mm²
- for attaching of labelling strips or marking with felt tip pen

Call for a Quote!
(800) 677-8942 / (303) 680-5159
www.hitechcontrols.com
### FC PN 30

**PE and N terminal**
- per PE/N 3 x 25 mm², 12 x 4 mm², Cu
  - 1-row
  - FIXCONNECT® plug-in technology,
    for terminal technology refer to index technical data
  - current carrying capacity: 80 A

<table>
<thead>
<tr>
<th>PE+N x cross section</th>
<th>3 x 25 mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12 x 4 mm²</td>
</tr>
<tr>
<td>conductor material</td>
<td>Cu</td>
</tr>
</tbody>
</table>

### FC PN 60

**PE and N terminal**
- per PE/N 6 x 25 mm², 24 x 4 mm², Cu
  - 2-row
  - FIXCONNECT® plug-in technology,
    for terminal technology refer to index technical data
  - current carrying capacity: 80 A

<table>
<thead>
<tr>
<th>PE+N x cross section</th>
<th>6 x 25 mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24 x 4 mm²</td>
</tr>
<tr>
<td>conductor material</td>
<td>Cu</td>
</tr>
</tbody>
</table>

### FC N 30

**N terminal**
- per N 6 x 25 mm², 24 x 4 mm², Cu
  - 1-row
  - FIXCONNECT® plug-in technology,
    for terminal technology refer to index technical data
  - current carrying capacity: 80 A

<table>
<thead>
<tr>
<th>number x cross-section per N</th>
<th>6 x 25 mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24 x 4 mm²</td>
</tr>
<tr>
<td>conductor material</td>
<td>Cu</td>
</tr>
</tbody>
</table>

### FC PE 30

**PE terminal**
- per PE 6 x 25 mm², 24 x 4 mm², Cu
  - 1-row
  - FIXCONNECT® plug-in technology,
    for terminal technology refer to index technical data
  - current carrying capacity: 80 A

<table>
<thead>
<tr>
<th>number x cross-section per PE</th>
<th>6 x 25 mm²</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24 x 4 mm²</td>
</tr>
<tr>
<td>conductor material</td>
<td>Cu</td>
</tr>
</tbody>
</table>
**Mi NK 14**

Connecting terminal
per conductor 1 x 25 mm², 12 x 16 mm², Cu

- fixing on DIN rail
- for retrofitting in kits for DIN rail equipment
- for retrofitting in Mi Empty box

**KKL 25**

Connecting terminal
rated connecting capacity: 6-35 mm², Cu

- as a connecting terminal
- for installation on DIN rails in accordance with IEC 60 715, top hat profile 35 mm
- current carrying capacity: 102 A
- 1-pole 6 x 6 mm² sol, 6 x 10 mm² sol/ f*, 4 x 16 mm² s/ f*, 4 x 25 mm² s/ f*,
  2 x 35 mm² s/ f* each
f* = with gas-tight end ferrule
- with two connected clamping units

<table>
<thead>
<tr>
<th>rated insulation voltage</th>
<th>AC/DC 690 V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dismantling length</td>
<td>16 mm</td>
</tr>
<tr>
<td>tightening torque for terminal</td>
<td>3.0 Nm</td>
</tr>
</tbody>
</table>

**KKL 34**

Main line branch terminal
per pole 4 x 1.5-25 mm² as L1-L3, Cu

- 3-pole as connecting terminal 25 mm²
- per pole 4 x 1.5-25 mm² as L1-L3
- for installation on DIN rails in accordance with IEC 60 715, top hat profile 35 mm
- current carrying capacity: 80 A
- width: 61 mm

| conductor material             | Cu          |

**KKL 48**

Main line branch terminal
per pole 4 x 1.5-25 mm², as L1-L3; 8 x 1.5-25 mm², as N, Cu

- 4-pole as connecting terminal 25 mm²
- for installation on DIN rails in accordance with IEC 60 715, top hat profile 35 mm
- current carrying capacity: 80 A
- width: 100 mm

| conductor material             | Cu          |

**KKL 54**

Main line branch terminal
per pole 4 x 1.5-25 mm² as L1-L3;
4 x 1.5-25mm² as N;
4 x 1.5-25 mm² as PE, Cu

- 5-pole as connecting terminal 25 mm²
- for installation on DIN rails in accordance with IEC 60 715, top hat profile 35 mm
- current carrying capacity: 80 A
- width: 100 mm

| conductor material             | Cu          |

---

Call for a Quote!
(800) 677-8942 / (303) 680-5159
### Mi WD 2
#### Wall gasket
- for box walls 150/300 mm
- for the assembly of Mi boxes
- consisting of 1 seal, 4 wedge links, 1 bracket

### Mi WT 1
#### Wall separator
- for subdivision of 300 mm box walls into 2 x 150 mm in case of flange or box assembly

### Mi BE
#### Fixing spares
- 4 connectors
- for the assembly of Mi boxes
- when converting existing installations

### AS 12
#### Blanking strip
- 12 modules
- 12 x 18 mm, divisible every 9 mm
- for the covering of spare equipment openings, for material thickness up to 3 mm

### AS 18
#### Blanking strip
- 18 modules
- 18 x 18 mm, divisible every 9 mm
- for the covering of spare equipment openings, for material thickness up to 3 mm

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Mi FP 15
Flange without knockouts, 150 mm
- with fixing wedges and seal

<table>
<thead>
<tr>
<th>mounting width</th>
<th>65 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>mounting height</td>
<td>88 mm</td>
</tr>
</tbody>
</table>

Mi FM 15
Flange knockouts M 20 to M 50
- knockouts 3 x M 20, 1 x M 32/40/50
- box wall 150 mm
- with fixing wedges and seal

Mi FP 20
Flange without knockouts, 300 mm
- with fixing wedges and seal

<table>
<thead>
<tr>
<th>mounting width</th>
<th>215 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>mounting height</td>
<td>88 mm</td>
</tr>
</tbody>
</table>

Mi FM 20
Flange knockouts M 16 to M 20
- knockouts 15 x M 16, 15 x M 20
- box wall 300 mm
- with fixing wedges and seal

Mi FM 25
Flange knockouts M 16 to M 25
- knockouts: 19 x M 16/25
- box wall 300 mm
- with fixing wedges and seal

Mi FM 32
Flange knockouts M 25 to M 40
- knockouts: 8 x M 25/32, 1 x M 25/32/40
- box wall 300 mm
- with fixing wedges and seal

Mi FM 40
Flange knockouts M 25 to M 40
- knockouts: 2 x M 25/32, 5 x M 32/40
- box wall 300 mm
- with fixing wedges and seal

Call for a Quote!
(800) 677-8942 / (303) 680-5159
**Mi FM 50**
Flange
knockouts M 20 to M 50
- knockouts: 2 x M 20, 4 x M 32/40/50
- box wall 300 mm
- with fixing wedges and seal

**Mi FM 60**
Flange
knockouts M 40 to M 63
- knockouts: 3 x M 40/50/63
- box wall 300 mm
- with fixing wedges and seal

**Mi FP 38**
Flange
sealing range Φ 7-29 mm
- cable entry via integrated elastic membranes
- sealing range: 29 x Φ 7-12 mm, 4 x Φ 7-14 mm, 4 x Φ 11-20 mm, 1 x Φ 16-29 mm
- box wall 300 mm
- with fixing wedges and seal

**Mi FP 70**
Flange
sealing range: 1 x Φ 30-72 mm
- box wall 300 mm
- with fixing wedges and seal

**Mi FP 72**
Flange
sealing range: 2 x each Φ 30-72 mm
- box wall 300 mm
- with fixing wedges and seal

**Mi FM 63**
Flange with cable arrangement space
knockouts M 40 to M 63
- knockouts: 3 x M 40/50/63
- box wall 300 mm
- with fixing wedges and seal

Call for a Quote!
(800) 677-8942 / (303) 680-5159
## Mi Distribution Boards Accessories

### Mi FP 82

**Cable insert**  
- sealing range: 2 x each Ø 30-72 mm  
- box wall 300 mm  
- divisible for cable insertion from the front  
- degree of protection IP 54 only with additional strain and pressure relief (e.g. Mi ZE 62)

### KST 82

**Stepped grommet**  
- sealing range: Ø 30-72 mm  
- for retrofitting of cable insertion Mi FP 82  
- for indoor - normal environment and (or) protected outdoor installation  
- ambient temperature - 25° to +35° C

<table>
<thead>
<tr>
<th>Material colour</th>
<th>thermoplastic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RAL 7035</td>
</tr>
</tbody>
</table>

### Mi ZE 62

**Cable strain relief**  
- for 2 cables with max. 60 mm external diameter  
- with fixing rail 284 mm long  
- to be used only in connection with cable insertion Mi FP 82

### Mi GS 30

**Box fin**  
- for inserting cables across 2 boxes  
- for box walls 300 mm  
- removable  
- can be retrofitted

### Mi BF 44

**Ventilation flange**  
- for vertical installation on box walls  
- box wall 300 mm  
- for ventilation of Mi-Distribution boards in the event of extremely high internal temperatures or a risk of water condensation

### BE 44

**Ventilation insert**

---

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(800) 677-8942 / (303) 680-5159
**BM 32**

**Pressure compensation element for M 32 knockouts**

- for the reduction of condensation by pressure compensation in power distribution systems
- ISO thread M 32 x 1.5
- bore-hole: Ø 32.3 mm
- wall thickness of up to 8 mm
- with counter nut
- for indoor (normal environment and/or protected outdoor) and outdoor installation (harsh environment and/or outdoor)
- ambient temperature - 25° to + 55° C
- In order not to exceed leakage limit of 0.07 bar with pressure compensation, one pressure compensation element BM 32 must be used per 42 litres (42000 cm³) of enclosure volume.

**Example:**

Example: enclosure size 30 cm x 60 cm x 17 cm = 30600 cm³ = 30.6 litres. Number of necessary BM 32 (M32) = 1 piece.

---

**Mi DB 15**

**Canopy**

for box wall 150 mm

- with fixing wedges and seal

---

**Mi DB 30**

**Canopy**

for 300 mm box walls

- with fixing wedges and seal

---

**Mi DB 01**

**Canopy end plate**

- for canopies FP DB xx and Mi DB xx

---

Example: Mi distributor protected by canopy

---

**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
Mi PL 2
Sealing cap
- 2 sealing caps for converting the lid fasteners

Mi SR 4
Conversion set
for manual operation on tool operation
- 4 fastening covers

Mi SN 4
Conversion set
for converting lid fasteners from tool to manual operation
- 4 manual actuators

Mi DV 01
Locking device insertion
- only in connection with Mi PL 2, Mi SR 4 or Mi SN 4

Mi ZS 11
Lid lock
with locking device I
- Is being used instead of fasteners for hand or tool operation in order to prevent unauthorised opening of the lids
- consisting of: cylinder lock, keys, locking device insertion, dust cover

Mi ZS 12
Lid lock
with locking device II
- Is being used instead of fasteners for hand or tool operation in order to prevent unauthorised opening of the lids
- consisting of: cylinder lock, keys, locking device insertion, dust cover

Mi DR 04
Lid fastener for tool operation
triangle 8 mm
- is used instead of fasteners for hand- or tool operation, in order to make unauthorized opening of lids more difficult
- 4 locking devices with triangle 8 mm and key
**Mi ZS 20**
Mi hinge for lids for Mi boxes sizes 1, 2, 3, 4
- For operating installation device within a large area.
- The lid keeps permanently connected to the box.
- When assembling several boxes, the insertion can only be carried out for the external boxes.

**Mi ZS 40**
Mi hinge for lids for Mi boxes sizes 1 to 8
- For operating installation device within a large area.
- The lid keeps permanently connected to the box.
- Wall connectors or flanges are necessary for assembly
- Not applicable in boxes with covers

**Mi ZS 60**
Mi hinge for lids for Mi boxes sizes 4 and 8 with extension frame
- For operating installation device within a large area.
- The lid keeps permanently connected to the box.
- Wall connectors or flanges are necessary for assembly
- Not applicable in boxes with covers

Example:
Mi hinges for lids enable to operate installation device within a large area.
**Mi KL 6**
Hinged flap
modules 1 x 6 x 18 mm
- with drill and saw template
- opening dimensions 117 x 60 mm
- sealable
- lockable with hinged flap lock
- inclusive fixing material
- wall thickness 1.5-4.5 mm

**Mi KL 12**
Hinged flap
modules 1 x 12 x 18 mm
- with drill and saw template
- opening dimensions 220 x 60 mm
- sealable
- lockable with hinged flap lock
- inclusive fixing material
- wall thickness 1.5-4 mm

**Mi BS 6**
Protection cover for Mi KL 6
- with fixing screws

<table>
<thead>
<tr>
<th>modules</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 6 x 18 mm</td>
<td></td>
</tr>
</tbody>
</table>

**Mi BS 12**
Protection cover for Mi KL 12
- with fixing screws

<table>
<thead>
<tr>
<th>modules</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 x 12 x 18 mm</td>
<td></td>
</tr>
</tbody>
</table>

**Mi SK 01**
Hinged flap lock
- for retrofitting in hinged flaps of 6 or 12 modules width
- for protecting the switchgear located behind the hinged flap against unauthorised access (only effective in connection with lid lock Mi ZS...)
- consisting of:
  1 lock, Mi KL
  2 keys
  1 grooved pin

---

Call for a Quote!
(800) 677-8942 / (303) 680-5159
NZ KL 54
KWH meter window flap
standard opening dimensions 140 x 310 mm
- in accordance with DIN 43 870
- for tool or manual operation
- can be locked with padlock (clip diameter max. 6 mm)
- complete with screws
- sealable
- degree of protection: IP 54

Mi SA 2
Dust protection cover
- for box sizes 1 to 4
- for 2 lid fittings

Mi AL 40
4 stainless steel external brackets
- for external fixing of enclosures

Mi MS 2
Profile for wall mounting
- for Mi distribution board assemblies up to 900 x 1200 mm
- with 8 screws M6 x 16, washers and nuts for mounting enclosures

<table>
<thead>
<tr>
<th>length</th>
<th>material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1950 mm</td>
<td>sendzimir galvanised steel profile with structured powder coating</td>
</tr>
</tbody>
</table>

MX 0112
Frame connector set
for constructing a mounting frame
- fixing elements for T or L connections
- consisting of: 2 couplers with screws and nuts

MX 0111
Screw for box fixing
- set with 12 pieces
- M 6 x 16
- self-tapping for fixing the Mi box onto mounting profile MX 0101
Varnish pen RAL 7016
12 ml
## Technical Details

- **Operating and ambient conditions**
- **Standards and regulations**
- **Rated power dissipation of empty boxes**
- **Dimensions in mm**
- **Wall mounting**
- **Mounting profile**
- **Lid hinges, detail dimensions**
- **Terminal technology**
- **Design and project engineering**
- **Assembly**

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating and ambient conditions</td>
<td>322</td>
</tr>
<tr>
<td>Standards and regulations</td>
<td>323</td>
</tr>
<tr>
<td>Rated power dissipation of empty boxes</td>
<td>324 - 325</td>
</tr>
<tr>
<td>Dimensions in mm</td>
<td>326</td>
</tr>
<tr>
<td>Wall mounting</td>
<td>327</td>
</tr>
<tr>
<td>Mounting profile</td>
<td>328</td>
</tr>
<tr>
<td>Lid hinges, detail dimensions</td>
<td>329</td>
</tr>
<tr>
<td>Terminal technology</td>
<td>330</td>
</tr>
<tr>
<td>Design and project engineering</td>
<td>331</td>
</tr>
<tr>
<td>Assembly</td>
<td>332 - 336</td>
</tr>
</tbody>
</table>

**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
## Mi Distribution Boards
### Technical Details
#### Operating and Ambient Conditions

<table>
<thead>
<tr>
<th>Empty enclosures</th>
<th>Circuit breaker boxes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Application area</strong></td>
<td>Suitable for indoor installation and outdoor installation, protected against weather influences</td>
</tr>
<tr>
<td>However, pay attention to the climatic effects on the installed equipment, for example, high or low ambient temperatures or formation of condensed water see technical information</td>
<td></td>
</tr>
<tr>
<td><strong>Resistance to occasional cleaning procedures (direct jet)</strong></td>
<td>with high-pressure cleaner without cleaning additives,</td>
</tr>
<tr>
<td>water pressure: max 100 bar, water temperature: Max. 80 °C,</td>
<td></td>
</tr>
<tr>
<td>distance =&gt; 0.15 m, in accordance with IP 69K requirements,</td>
<td></td>
</tr>
<tr>
<td>single enclosure without lid equipment (no enclosure assembly),</td>
<td></td>
</tr>
<tr>
<td>enclosure and cable glands at least IP 65.</td>
<td></td>
</tr>
<tr>
<td><strong>Ambient temperature</strong></td>
<td>- Average value</td>
</tr>
<tr>
<td>- Maximum value</td>
<td>+ 35 °C The ambient temperature is reduced</td>
</tr>
<tr>
<td>- Minimum value</td>
<td>+ 40 °C at distribution boares by the installed</td>
</tr>
<tr>
<td><strong>Relative humidity</strong></td>
<td>- 5 °C equipment technology!</td>
</tr>
<tr>
<td>- short-time</td>
<td>50% at 40 °C</td>
</tr>
<tr>
<td>100% at 25 °C</td>
<td></td>
</tr>
<tr>
<td><strong>Fire protection</strong></td>
<td>Demands placed on electrical devices from standards and laws:</td>
</tr>
<tr>
<td>in the event of internal faults</td>
<td>Minimum requirements</td>
</tr>
<tr>
<td>- Glow wire test in accordance with IEC 60 695-2-11:</td>
<td></td>
</tr>
<tr>
<td>- 660 °C for boxes and cable glands</td>
<td></td>
</tr>
<tr>
<td>- 850 °C for conducting components</td>
<td></td>
</tr>
<tr>
<td><strong>Burning behaviour</strong></td>
<td>960 °C</td>
</tr>
<tr>
<td>- Glow wire test</td>
<td>960 °C</td>
</tr>
<tr>
<td>IEC 60 695-2-11</td>
<td>V-2</td>
</tr>
<tr>
<td>- UL Subject 94</td>
<td>flame-retardant</td>
</tr>
<tr>
<td></td>
<td>self-extinguishing</td>
</tr>
<tr>
<td><strong>Degree of protection against mechanical load</strong></td>
<td>IK 08 (5 Joule)</td>
</tr>
<tr>
<td>IK 08 (5 Joule)</td>
<td></td>
</tr>
<tr>
<td><strong>Toxic behaviour</strong></td>
<td>halogenfree ³)</td>
</tr>
<tr>
<td>silicone-free</td>
<td></td>
</tr>
<tr>
<td>halogenfree ³)</td>
<td></td>
</tr>
<tr>
<td>silicone-free</td>
<td></td>
</tr>
</tbody>
</table>

³) “Halogen-free” in accordance with IEC 754-2 “Common test methods for cables - Determination of the amount of halogen acid gas”.

For material properties see technical data.
Mi Distribution Boards comply with the requirements of the IEC 61439-2

Distribution boards assembled and wired according to manufacturer data without essential deviations from the original type or system.

To meet these requirements for Hensel Mi Distribution Boards, the following must be noted:

1. The distribution boards must consist of the verified enclosures documented in this list.

2. The wiring of the equipment must be carried out with the cross-sections and conductor types indicated in Table "Rating of insulated conductors in switchgear assemblies", Index Technologies.

3. Once the distribution board is completed, a routine test must be carried out in accordance with this standard.

4. The test must be certified with a test report.

5. The assembly must be provided with a manufacturer’s identification mark.
   Compliance with important data such as
   - limit of temperature rise
   - dielectric strength
   - IP degrees of protection
   - creepage distances and clearances
   is verified for this system.

Standards and regulations

- IEC 61 439-2
  Low-voltage switchgear and controlgear assemblies –
  Part 2: Power switchgear and controlgear assemblies

- IEC 60 999, connecting devices
  Safety requirements for screw-type and screwless-type clamping units
  for electrical copper conductors

- DIN EN 50 262
  Metric threaded cable glands for electrical installations

- DIN 43 880
  Built-in equipment for electrical installations; overall dimensions
  and related mounting dimensions

- IEC 60 529 / DIN VDE 0470 Teil 1
  Degrees of protection provided by enclosures (IP-Code)
Temperature rise ($\Delta T$) with Mi-Distribution boards by power dissipation of electrical devices

Single enclosures

Central enclosures

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Mi Distribution Boards
Technical Details

Power Dissipation of Empty Boxes

Temperature rise (ΔT) with Mi-Distribution boards by power dissipation of electrical devices

External enclosures

<table>
<thead>
<tr>
<th>Power Dissipation (W)</th>
<th>Temperature Rise (K)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10W</td>
<td>5K</td>
</tr>
<tr>
<td>20W</td>
<td>10K</td>
</tr>
<tr>
<td>30W</td>
<td>15K</td>
</tr>
<tr>
<td>40W</td>
<td>20K</td>
</tr>
<tr>
<td>50W</td>
<td>25K</td>
</tr>
<tr>
<td>60W</td>
<td>30K</td>
</tr>
<tr>
<td>70W</td>
<td>35K</td>
</tr>
<tr>
<td>80W</td>
<td>40K</td>
</tr>
<tr>
<td>90W</td>
<td>45K</td>
</tr>
<tr>
<td>100W</td>
<td>50K</td>
</tr>
<tr>
<td>110W</td>
<td>55K</td>
</tr>
<tr>
<td>120W</td>
<td>60K</td>
</tr>
<tr>
<td>130W</td>
<td>65K</td>
</tr>
<tr>
<td>140W</td>
<td>70K</td>
</tr>
<tr>
<td>150W</td>
<td>75K</td>
</tr>
<tr>
<td>160W</td>
<td>80K</td>
</tr>
</tbody>
</table>

Note!

The maximally permissible operating temperature inside the enclosures (T_{max}) is determined by:

1st Maximally permissible ambient temperature of the installed electrical devices (please consider data of the equipment manufacturers)

2nd Category temperature of the internal wiring and the inserted cables

3rd Temperature resistance of the enclosure materials and the cable entries etc.

**Example: Computation of the maximum rated power dissipation (P_v)**

Maximally permissible operating temperature inside the enclosure(s) (T_{max}):
- e.g. 55°C

Ambient temperature of the enclosure(s) (T_{a}):
- 25°C

Maximally permissible heating up inside the enclosure:
- ΔT = T_{max} - T_{a} = 55°C - 25°C = 30 K

Maximum permissible power dissipation of the installed equipment inclusive wiring (P_v) in accordance with diagram:

- Single enclosure: P_v = 53 W
- Central enclosure: P_v = 45 W
- External enclosure: P_v = 48 W

**Example: Computation of the operating temperature inside the enclosure (T)***

Ambient temperature of the enclosure(s) (T_{a}):
- 25°C

Rated power dissipation of the installed electrical equipment (P_v):
- 30 W

Heating up inside the enclosures in accordance with diagram over:
- ΔT

- Enclosure size 3 (540 x 270 x 163 mm) single enclosure:
  - ΔT = 17 K; \( T = T_a + \Delta T = 25°C + 17 K = 42°C \)

- Enclosure size 3 (540 x 270 x 163 mm) central enclosure:
  - ΔT = 20 K; \( T = T_a + \Delta T = 25°C + 20 K = 45°C \)

- Enclosure size 3 (540 x 270 x 163 mm) external enclosure:
  - ΔT = 19 K; \( T = T_a + \Delta T = 25°C + 19 K = 44°C \)

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## Mi Distribution Boards

### Technical Details

#### Dimensions

Dimensions of the interior installation depth with installed mounting plates.

The width of Mi Empty boxes Mi 9... enlarges about 15 mm because of the laterally mounted lid hinges, refer to product pages.

![Diagram](image)

- = usable installation space

### Installation of equipment in protection plates:

Pre-drill the sections at the corners, then saw away the section from the protection plate by using a piercing saw at middle to low cutting speed.

Use coarse toothed saw blades for plastics (e.g. Bosch T 101 B).

---

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(800) 677-8942 / (303) 680-5159
Mi Distribution Boards
Technical Details
Wall Mounting

Dimensions
for wall mounting in mm

External brackets
for external box fixing.

Mi AL 40 (4 fixing brackets)

Mounting profile
for wall-mounted installation
of Mi-Distribution boards,
steel profile, 1950 mm long,
dividable in the grid
of 150 mm.

Mi MS 2

Transport
Regarding transportation its
recommendable to protect the
assembly against deflection.
For that please screw the
assembly to a solid timber.

Mounting profiles
U profiles for constructing
a mounting frame.

Note:
Please fix mounting profile in vertical position as
possible in order to give occasion to cable routing
behind the assembly. For cutting to the required
length fix mounting profile for example with a
clamp to a desk.

Fixing matrix of
mounting profile

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Mi Distribution Boards
Technical Details
Mounting Profile

Mounting profile

To stabilize larger distribution boards for the transport and assembly on site.

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(800) 677-8942 / (303) 680-5159
Lid hinges

for Mi distribution boards

**Mi ZS 20**

When assembling several boxes, the insertion can only be carried out for the external boxes. For operating installation device within a large area. The lid keeps permanently connected to the box.

**Usable in Mi boxes:**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>left</td>
<td>right</td>
</tr>
<tr>
<td>Size 1:</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Size 2:</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Size 3:</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Size 4:</td>
<td>●</td>
<td>●</td>
</tr>
</tbody>
</table>

**Mi heavy-duty hinge joints**

**Mi ZS 40**

For operating installation device within a large area. The lid keeps permanently connected to the box. Wall connectors or flanges are necessary for assembly. Not applicable in boxes with covers. Lid is fastened with plastic screw to secure the total insulation.

**Mi hinge for lids**

**Mi ZS 60**

For operating installation device within a large area. The lid keeps permanently connected to the box. Not applicable in boxes with covers.
## PE und N

**FIXCONNECT®-Klemme**

Rated connecting capacity of PE and N terminals

Current carrying capacity: 80 A

### Clamping unit

<table>
<thead>
<tr>
<th>Clamping unit</th>
<th>Corresponding cross-sections / copper</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>max. number</td>
</tr>
<tr>
<td>Screw-type terminal 25 mm²</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

### Terminal equipment and number of conductors to be connected

**PE terminal**

<table>
<thead>
<tr>
<th>Number of modules</th>
<th>Mounted in Mi Circuit breaker boxes</th>
<th>PE terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 (2-row)</td>
<td>Mi 1224, Mi 1220, Mi 1222</td>
<td>![Image]</td>
</tr>
<tr>
<td></td>
<td>12x4 mm²</td>
<td>2x25 mm²</td>
</tr>
<tr>
<td>36 (3-row)</td>
<td>Mi 1336, Mi 1333</td>
<td>![Image]</td>
</tr>
<tr>
<td>48 (4-row)</td>
<td>Mi 1448, Mi 1444</td>
<td>![Image]</td>
</tr>
<tr>
<td></td>
<td>24x4 mm²</td>
<td>6x25 mm²</td>
</tr>
</tbody>
</table>

**N terminal**

<table>
<thead>
<tr>
<th>Number of modules</th>
<th>Mounted in Mi Circuit breaker boxes</th>
<th>N terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>24 (2-row)</td>
<td>Mi 1224, Mi 1220, Mi 1222</td>
<td>![Image]</td>
</tr>
<tr>
<td></td>
<td>12x4 mm²</td>
<td>3x25 mm²</td>
</tr>
<tr>
<td>36 (3-row)</td>
<td>Mi 1336, Mi 1333</td>
<td>![Image]</td>
</tr>
<tr>
<td>48 (4-row)</td>
<td>Mi 1448, Mi 1444</td>
<td>![Image]</td>
</tr>
<tr>
<td></td>
<td>24x4 mm²</td>
<td>6x25 mm²</td>
</tr>
</tbody>
</table>

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You can download the CAD Parts library of signs and symbols on the Internet at www.hensel-electric.de, download area.

Software requirements:
AutoSketch, AutoCAD or DXF compatible CAD programs.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Step 1:
Assembly of Mi Distribution boards according to assembly draft.

Step 2:
Knock out of box walls to provide electrical connection.
Knock out the box walls to provide for the electrical connection inside the distributors.
Knock out the appropriate openings of the wedge joints for the assembly of boxes.

Step 3:
Assembly of the boxes.
A self-adhesive wall gasket is stuck to the box wall to seal the boxes in position (applies to closed box walls, too.)

The boxes are assembled by means of wedge connections. Screws M 6x15 may be used instead of wedges.

The wall clamp is pressed onto the box fins to increase the rigidity.

Well separator for subdivision of 300 mm box walls into 2 x 150 mm for flange or box mounting.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
**Step 3:**

**Assembly of the boxes**

Cable entry via flanges.

Flanges are attached to the boxes by means of 4 wedge links and 1 clamp to the box wall.

Knock out for cable entries by means of a screwdriver.

The respective box wall is knocked out and the upper box fin next to the wedge fastening is sawed out.

Then the cable insertion is screwed on and the rubber entries are fitted.

The cable is inserted into the box from the front.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Step 3: 
Assembly of the boxes
Subsequent installation of upper box fin.

Mounting canopy
for the unprotected installation outdoors. Easy assembly by means of wedge connections.
Step 4: Installing equipment

Installation devices can be fastened on mounting plates with self-threading screws.

DIN rail fastening on spacers
Mi DS 50
**Step 5:**

**Installation of equipment in cover plates**

Pre-drill the sections at the corners. Then saw away the sections from the protection plate by using a piercing saw with coarse toothed saw blades for plastics (e.g. Bosch T 101 B).

Screw the support for the protection plate Mi EP 02 at the base of the box.

Put on the protection plate.

Blanking strips (attached) for unused equipment openings in protection covers.

PE and N terminals for copper conductors (installed).

**Notes to Mi Circuit breaker boxes**

Spare equipment openings in protection covers are to be covered with the blanking strips to prevent accidental contact (blanking strips are enclosed for 50% of equipment openings).

Circuit breaker boxes can be fitted with any DIN rail equipment, if per row (12 modules 12 x 18 mm) the assigned back-up fuse won’t exceed 80 A.
**LES Cable Entry Systems**

- Grommets ESM, IP 54
- Stepped grommets STM, IP 55
- Grommets EDK, IP 65
- Grommets EDR for conduits, IP 65
- Cable glands AKM, IP 65
- Cable glands ASM, IP 66
- Cable glands AFM without locknut, IP 65
- Cable glands ASS, IP 66/67
- Combi climate glands, IP 66/67
- Pressure compensation element
- Stepped grommets, flange, cable retention
- Cable glands AKS, IP 65

---

**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
ESM 16

Grommets for knockouts M 16
- Sealing range: Ø 4.8-11 mm
- Bore-hole: Ø 16.5 mm
- Wall thickness 1.5-3.5 mm
- For indoor - normal environment and (or) protected outdoor installation
- Ambient temperature - 25° to +35° C
- Glow wire test IEC 60695-2-11: 750°C

ESM 20

Grommets for knockouts M 20
- Sealing range: Ø 6-13 mm
- Bore-hole: Ø 20.5 mm
- Wall thickness 1.5-3.5 mm
- For indoor - normal environment and (or) protected outdoor installation
- Ambient temperature - 25° to +35° C
- Glow wire test IEC 60695-2-11: 750°C

ESM 25

Grommets for knockouts M 25
- Sealing range: Ø 9-17 mm
- Bore-hole: Ø 25.5 mm
- Wall thickness 1.5-3.5 mm
- For indoor - normal environment and (or) protected outdoor installation
- Ambient temperature - 25° to +35° C
- Glow wire test IEC 60695-2-11: 750°C

ESM 32

Grommets for knockouts M 32
- Sealing range: Ø 9-23 mm
- Bore-hole: Ø 32.5 mm
- Wall thickness 1.5-3.5 mm
- For indoor - normal environment and (or) protected outdoor installation
- Ambient temperature - 25° to +35° C
- Glow wire test IEC 60695-2-11: 750°C

ESM 40

Grommets for knockouts M 40
- Sealing range: Ø 17-30 mm
- Bore-hole: Ø 40.5 mm
- Wall thickness 1.5-3.5 mm
- For indoor - normal environment and (or) protected outdoor installation
- Ambient temperature - 25° to +35° C
- Glow wire test IEC 60695-2-11: 750°C
STM 16
Stepped grommet for knockouts M 16
- sealing range: Ø 3.5-12 mm
- bore-hole: Ø 16.5 mm
- wall thickness 1.5-4 mm
- for indoor - normal environment and (or) protected outdoor installation
- ambient temperature - 25° to +35° C
- glow wire test IEC 60 695-2-11: 750° C

STM 20
Stepped grommet for knockouts M 20
- sealing range: Ø 5-16 mm
- bore-hole: Ø 20.5 mm
- wall thickness 1.5-4 mm
- for indoor - normal environment and (or) protected outdoor installation
- ambient temperature - 25° to +35° C
- glow wire test IEC 60 695-2-11: 750° C

STM 25
Stepped grommet for knockouts M 25
- sealing range: Ø 5-21 mm
- bore-hole: Ø 25.5 mm
- wall thickness 1.5-4 mm
- for indoor - normal environment and (or) protected outdoor installation
- ambient temperature - 25° to +35° C
- glow wire test IEC 60 695-2-11: 750° C

STM 32
Stepped grommet for knockouts M 32
- sealing range: Ø 13-26.5 mm
- bore-hole: Ø 32.5 mm
- wall thickness 1.5-4 mm
- for indoor - normal environment and (or) protected outdoor installation
- ambient temperature - 25° to +35° C
- glow wire test IEC 60 695-2-11: 750° C

STM 40
Stepped grommet for knockouts M 40
- sealing range: Ø 13-34 mm
- bore-hole: Ø 40.5 mm
- wall thickness 1.5-4 mm
- for indoor - normal environment and (or) protected outdoor installation
- ambient temperature - 25° to +35° C
- glow wire test IEC 60 695-2-11: 750° C

Call for a Quote!
(800) 677-8942 / (303) 680-5159
### EDK 16
Grommets for knockouts M 16
- Sealing range: Ø 5-10 mm
- Bore-hole: Ø 16.5 mm
- Wall thickness 1.5-3.5 mm
- For indoor - normal environment and (or) protected outdoor installation
- Ambient temperature - 25° to +35°C
- Glow wire test IEC 60 695-2-11: 750°C

### EDK 20
Grommets for knockouts M 20
- Sealing range: Ø 6-13 mm
- Bore-hole: Ø 20.5 mm
- Wall thickness 1.5-3.5 mm
- For indoor - normal environment and (or) protected outdoor installation
- Ambient temperature - 25° to +35°C
- Glow wire test IEC 60 695-2-11: 750°C

### EDK 25
Grommets for knockouts M 25
- Sealing range: Ø 9-17 mm
- Bore-hole: Ø 25.5 mm
- Wall thickness 1.5-3.5 mm
- For indoor - normal environment and (or) protected outdoor installation
- Ambient temperature - 25° to +35°C
- Glow wire test IEC 60 695-2-11: 750°C

### EDK 32
Grommets for knockouts M 32
- Sealing range: Ø 8.23 mm
- Bore-hole: Ø 32.5 mm
- Wall thickness 1.5-3.5 mm
- For indoor - normal environment and (or) protected outdoor installation
- Ambient temperature - 25° to +35°C
- Glow wire test IEC 60 695-2-11: 750°C

### EDK 40
Grommets for knockouts M 40
- Sealing range: Ø 11-30 mm
- Bore-hole: Ø 40.5 mm
- Wall thickness 1.5-3.5 mm
- For indoor - normal environment and (or) protected outdoor installation
- Ambient temperature - 25° to +35°C
- Glow wire test IEC 60 695-2-11: 750°C
EDR 16
Grommets for conduits for knockouts M 16
- conduit connection M 16
- bore-hole: Ø 16.5 mm
- wall thickness 1.5-3.2 mm
- for indoor - normal environment and (or) protected outdoor installation
- ambient temperature - 25° to +35° C
- glow wire test IEC 60 695-2-11: 750° C

EDR 20
Grommets for conduits for knockouts M 20
- conduit connection M 20
- bore-hole: Ø 20.5 mm
- wall thickness 1.5-3.2 mm
- for indoor - normal environment and (or) protected outdoor installation
- ambient temperature - 25° to +35° C
- glow wire test IEC 60 695-2-11: 750° C

EDR 25
Grommets for conduits for knockouts M 25
- Rohranschluss M 25
- bore-hole: Ø 25.5 mm
- wall thickness 1.5-3.2 mm
- for indoor - normal environment and (or) protected outdoor installation
- ambient temperature - 25° to +35° C
- glow wire test IEC 60 695-2-11: 750° C

EDR 32
Grommets for conduits for knockouts M 32
- conduit connection M 32
- bore-hole: Ø 32.5 mm
- wall thickness 1.5-3.2 mm
- for indoor - normal environment and (or) protected outdoor installation
- ambient temperature - 25° to +35° C
- glow wire test IEC 60 695-2-11: 750° C

EDR 40
Grommets for conduits for knockouts M 40
- conduit connection M 40
- bore-hole: Ø 40.5 mm
- wall thickness 1.5-3.2 mm
- for indoor - normal environment and (or) protected outdoor installation
- ambient temperature - 25° to +35° C
- glow wire test IEC 60 695-2-11: 750° C

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Outside diameter of conventional cable cross sections 360
Assignment of cable outside diameters to cable entries 360
Dimensions 361
Operating and ambient conditions 362
### Outside Diameter of Conventional Cable Cross Sections

The outside diameters are average values of different products.

<table>
<thead>
<tr>
<th>Cable Cross Section</th>
<th>NYM</th>
<th>NYY</th>
<th>NYGY</th>
<th>NYCY</th>
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<td>1x6 mm²</td>
<td>Ø 9.5 mm</td>
<td>Ø 10 mm</td>
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<tr>
<td>1x10 mm²</td>
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<td>Ø 12 mm</td>
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<tr>
<td>1x12.5 mm²</td>
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<td>Ø 14 mm</td>
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</tr>
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<tr>
<td>3x25 mm²</td>
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<td>Ø 26 mm</td>
<td>—</td>
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</tr>
<tr>
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### Assignment of Cable Outside Diameters to Cable Entries

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<th>Ø max.</th>
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<td>11 mm</td>
<td>17 mm</td>
<td>15 mm</td>
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<td>19 mm</td>
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<td>27 mm</td>
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### Cable Entry Metric

- ASM/AKM/ASS 12
- ASM/AKM/ASS 16
- ASM/AKM/ASS 20
- ASM/AKM/ASS 25
- ASM/AKM/ASS 32
- ASM/AKM/ASS 40
- ASM/AKM/ASS 50
- ASM/AKM/ASS 63
- ESM 16
- ESM 20
- ESM 25
- ESM 50
- ESM 52
- ESM 40
- STM 16
- STM 20
- STM 25
- STM 32
- STM 40

### Call for a Quote!

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---

**ENYFIT**

**HENSSEL**

**HI-TECH CONTROLS, INC.**

**LES Cable Entry Systems**

**Technical Details**
# HI-TECH
## LES Cable Entry Systems
### Technical Details
#### Dimensions

<table>
<thead>
<tr>
<th>Grommets</th>
<th>in mm</th>
<th>A</th>
<th>B</th>
<th>B1</th>
<th>C</th>
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<th>B1</th>
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<td>8,5</td>
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<td>8,5</td>
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<thead>
<tr>
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<th>Grommets ESM are inserted into knockouts. There is no counternut required!</th>
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<td>Stepped glands STM are inserted into knockouts. There is no counternut required!</td>
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### Cable glands ASM/AKM/ASS
with strain relief counternut, degree of protection IP 65

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<tr>
<th>ISO</th>
<th>SW1  across flats</th>
<th>EK1 across corners Ø</th>
<th>C max.</th>
<th>D</th>
<th>SW2  across flats</th>
<th>EKS across corners Ø</th>
<th>H</th>
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</thead>
<tbody>
<tr>
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<td>M 12</td>
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<td>8</td>
<td>17</td>
<td>19,0</td>
</tr>
<tr>
<td>ASM/AKM/ASS 16</td>
<td>M 16</td>
<td>20</td>
<td>22,0</td>
<td>26</td>
<td>8</td>
<td>22</td>
<td>24,7</td>
</tr>
<tr>
<td>ASM/AKM/ASS 20</td>
<td>M 20</td>
<td>24</td>
<td>26,5</td>
<td>29</td>
<td>8</td>
<td>27</td>
<td>30,2</td>
</tr>
<tr>
<td>ASM/AKM/ASS 25</td>
<td>M 25</td>
<td>29</td>
<td>32,0</td>
<td>34</td>
<td>8</td>
<td>32</td>
<td>36,0</td>
</tr>
<tr>
<td>ASM/AKM/ASS 32</td>
<td>M 32</td>
<td>36</td>
<td>39,7</td>
<td>39</td>
<td>10</td>
<td>41</td>
<td>46,0</td>
</tr>
<tr>
<td>ASM/AKM/ASS 40</td>
<td>M 40</td>
<td>46</td>
<td>50,5</td>
<td>46</td>
<td>10</td>
<td>50</td>
<td>54,1</td>
</tr>
<tr>
<td>ASM/AKM/ASS 50</td>
<td>M 50</td>
<td>55</td>
<td>60,0</td>
<td>51</td>
<td>10</td>
<td>60</td>
<td>66,3</td>
</tr>
<tr>
<td>ASM/AKM/ASS 63</td>
<td>M 63</td>
<td>68</td>
<td>74,7</td>
<td>55</td>
<td>10</td>
<td>75</td>
<td>83,0</td>
</tr>
</tbody>
</table>

### Combi climate glands KBM / KBS
with strain relief counternut, degree of protection IP 66 / IP 67

<table>
<thead>
<tr>
<th>ISO</th>
<th>SW1  across flats</th>
<th>EK1 across corners Ø</th>
<th>C max.</th>
<th>D</th>
<th>SW2  across flats</th>
<th>EK2 across corners Ø</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>KBM/KBS 20</td>
<td>M 20</td>
<td>24</td>
<td>27,0</td>
<td>42</td>
<td>8</td>
<td>27</td>
<td>28,0</td>
</tr>
<tr>
<td>KBM/KBS 25</td>
<td>M 25</td>
<td>29</td>
<td>32,0</td>
<td>45</td>
<td>8</td>
<td>32</td>
<td>35,5</td>
</tr>
<tr>
<td>KBM/KBS 32</td>
<td>M 32</td>
<td>36</td>
<td>40,0</td>
<td>47</td>
<td>10</td>
<td>40</td>
<td>44,5</td>
</tr>
<tr>
<td>KBM/KBS 40</td>
<td>M 40</td>
<td>46</td>
<td>50,5</td>
<td>59</td>
<td>10</td>
<td>50</td>
<td>54,1</td>
</tr>
</tbody>
</table>

### Cable glands AFM
with strain relief

<table>
<thead>
<tr>
<th>ISO</th>
<th>SW1  across flats</th>
<th>SW2  across flats</th>
<th>EK2 across corners Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>AFM 16</td>
<td>20</td>
<td>24</td>
<td>26,5</td>
</tr>
<tr>
<td>AFM 20</td>
<td>24</td>
<td>26</td>
<td>29,0</td>
</tr>
<tr>
<td>AFM 25</td>
<td>29</td>
<td>32</td>
<td>36,0</td>
</tr>
<tr>
<td>AFM 32</td>
<td>36</td>
<td>42</td>
<td>46,0</td>
</tr>
</tbody>
</table>

### Flange MV FP 66
Degree of protection IP 55
for retrofitting onto boxes made of sheet steel
material thickness ≥ 1,5 mm

Call for a Quote!
(800) 677-8942 / (303) 680-5159
**LES Cable Entry Systems**

**Technical Details**

**Operating and Ambient Conditions**

<table>
<thead>
<tr>
<th>Application area</th>
<th>ESM ... STM ... EDK ... EDR ... KST ... MV ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suitable for indoor installation (normal environment and/or protected outdoor)</td>
<td>Suitable for outdoor installation - harsh environment and/or outdoor</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ambient temperature</th>
<th>+ 35°C</th>
<th>+ 35°C</th>
<th>+ 55°C</th>
<th>+ 55°C</th>
<th>+ 55°C</th>
<th>+ 55°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Average value over 24 hours</td>
<td>+ 40°C</td>
<td>+ 40°C</td>
<td>+ 70°C</td>
<td>+ 70°C</td>
<td>+ 70°C</td>
<td>+ 70°C</td>
</tr>
<tr>
<td>- Minimum value</td>
<td>+ 35°C</td>
<td>+ 35°C</td>
<td>+ 55°C</td>
<td>+ 55°C</td>
<td>+ 55°C</td>
<td>+ 55°C</td>
</tr>
</tbody>
</table>

**Fire protection in the event of internal faults**

Minimum requirements:

- Glow wire test in accordance with IEC 60 695-2-11
- 650°C for boxes and cable glands

**Burning behaviour**

- Glow wire test:
  - IEC 60 695-2-11
  - UL Subject 94

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxic behaviour</td>
<td>halogen-free silicone-free</td>
<td>silicone-free</td>
<td>halogen-free silicone-free</td>
<td>halogen-free silicone-free</td>
<td>halogen-free silicone-free</td>
<td>halogen-free silicone-free</td>
</tr>
</tbody>
</table>

**“Halogen-free” in accordance with IEC 754-2**

**“Common test methods for cables - Determination of the amount of halogen acid gas”**

For material properties see technical data.
Technical Data

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Definition of terms 376
Copy template: Power dissipation calculation 377 - 382
Declaration of EC Conformity

Call for a Quote!
(800) 677-8942 / (303) 680-5159
### Technical Data

#### Material Properties

<table>
<thead>
<tr>
<th>Products</th>
<th>Material used</th>
<th>Glow wire test IEC 60 954-2-11</th>
<th>UL Subject 94</th>
<th>Temperature resistance</th>
<th>Ablod 10%</th>
<th>Lye 10%</th>
<th>Alcohol</th>
<th>Petrol (MAK)</th>
<th>Benzene (MAK)</th>
<th>Mineral oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>K 7... / K 12... / K 24... lid Mi... door and lid KV... / KV PC... / door FP... / hinged lid KG / KF 4... / KF 7... / KF 8...</td>
<td>PC (polycarbonate)</td>
<td>960°C C</td>
<td>V-2</td>
<td>-40°C C / +120°C C</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>KF 5... / KF 9... / KF WP... bases of Mi... / FP...</td>
<td>PC-GFS (polycarbonate)</td>
<td>960°C C</td>
<td>V-0</td>
<td>-40°C C / +120°C C</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>KD...</td>
<td>PC (polycarbonate) PC-5 impact resistant</td>
<td>960°C C</td>
<td>5V</td>
<td>-40°C C / +120°C C</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>D... / DP... / DPC... DE... / K... / KC... RD... / RK... KV... / KG...</td>
<td>PS (Polystyrol)</td>
<td>750°C C</td>
<td>V-2</td>
<td>-40°C C / +70°C C</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>K... / KV... / KV PC... / Mi... / FP...</td>
<td>PUR (polyurethane)</td>
<td>—</td>
<td>—</td>
<td>-25°C C / +80°C C</td>
<td>0</td>
<td>+</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>+</td>
</tr>
<tr>
<td>D... / DP... / DPC... DE... / K... / KC... KF... / KD... RD... / RK... KV... / KV PC... Mi FP... / FP FG... ESM... / STM... / EDK... EDR... / KST... / DPS... ERA... / EKA... / EVS...</td>
<td>TPE (thermoplastic elastomer)</td>
<td>750°C C</td>
<td>—</td>
<td>-25°C C / +100°C C</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ASM... / AKM...</td>
<td>PA (polyamide)</td>
<td>960°C C</td>
<td>V-0</td>
<td>-40°C C / +100°C C</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>ASS...</td>
<td>PA (polyamide)</td>
<td>960°C C</td>
<td>V-2</td>
<td>-40°C C / +100°C C</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>KBM... / KBS...</td>
<td>PA (polyamide)</td>
<td>750°C C</td>
<td>V-2</td>
<td>-40°C C / +100°C C</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>AFM... / AKM... / AVS... / AKS...</td>
<td>PA (polyamide)</td>
<td>960°C C</td>
<td>V-0</td>
<td>-40°C C / +100°C C</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>AFM... / AKM... / ASM... / ASS... / AKS...</td>
<td>CR/NBR (polychloroprene - nitrile rubber)</td>
<td>—</td>
<td>—</td>
<td>-20°C C / +100°C C</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>ASS...</td>
<td>TPE (Evoprene)</td>
<td>—</td>
<td>—</td>
<td>-40°C C / +100°C C</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>ASS...</td>
<td>CR (chloroprene rubber)</td>
<td>—</td>
<td>—</td>
<td>-30°C C / +100°C C</td>
<td>+</td>
<td>+</td>
<td>0</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>KBM... / KBS...</td>
<td>EPDM ethylene propylene diene monomer rubber</td>
<td>—</td>
<td>—</td>
<td>-40°C C / +130°C C</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Ste...</td>
<td>PVC (polyvinyl chloride)</td>
<td>650°C C</td>
<td>—</td>
<td>-20°C C / +70°C C</td>
<td>0</td>
<td>0</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

(= resistance; 0 = partially resistant; — = not resistant)

1) The specifications on chemical resistance are a general guide. In individual cases it may be necessary to check resistance in combination with other chemicals and ambient conditions (temperature, concentration, etc.)

2) (MAK) - Maximum allowable concentration (work place)

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(800) 677-8942 / (303) 680-5159
Directive 2002/95/EC (RoHS)  
We state all these details according to the best of our knowledge. They correspond to the present state of the art. This information is not to be understood as a warranty in the sense of warranty law. HENSEL test enclosures according to this standard.

Under the intended use, our products do not fall within the scope of the Electrical Equipment Act (Electrical and Electronic Equipment) and therefore outside the scope of Directive 2002/95/EC (RoHS). If they should be provided for use in products falling within the scope of RoHS, compliance with the requirements of RoHS have to be contracted bilaterally.

The following product series comply with Directive 2002/95/EC (RoHS):

- **EnY CASE**  
DK Cable Junction Boxes
- **EnY BOARD**  
KV Small-type Distribution Boards
- **EnY START**  
Enclosure System (Empty enclosures, Circuit Breaker Boxes)
- **EnY MOD**  
Mi Distribution Boards (Empty Boxes, Circuit Breaker Boxes)
- **EnY FIT**  
Cable Entry Systems

Regulation (EC)  
No 1907/2006 REACH

Gustav Hensel GmbH & Co. KG meets the requirements set by REACH (EG) No. 1907/2006. We shall inform you in the framework of our business relations about the changes to our products resulting from REACH and agree on suitable measures on a case-by-case basis.

As far as article 33 of REACH is concerned, we hereby inform you as follows:

It is not possible yet to provide information whether the substances that have been added to the candidate list (new date 15.12.2010) according to article 59 (1. 10) of the above-mentioned regulation (see the website of the European Chemicals Agency (EChA) http://echa.europa.eu/) are contained in the article or in the packaging materials in a concentration above 0.1 % weight by weight, because we must first obtain the relevant information from our suppliers.

As regards the substances included on the previous candidate list (earlier date 18.06.2010), we would like to inform you of the following: The article and its packaging materials contain no substances included on the candidate list (date 18.06.2010) according to article 59 (1. 10) of the above-mentioned regulation in a concentration above 0.1 % weight by weight.

Lennestadt, January 2011
Degrees of protection according to IEC 60 529

### Degree of protection of electrical equipment

Electrical equipment must be protected for safety reasons from external influences and conditions. Enclosures provide the protection of electrical equipment against access to hazardous parts and against solid foreign objects, as well as dust, humidity and water.

The international standard IEC 60 529, the german standard DIN EN 60 529 / VDE 0470 Part 1 September 2000 with the title "Degrees of protection provided by enclosures (IP Code)", form the basis for the determination and designation of the degree of protection.

The degree of protection provided by an enclosure is proven by means of standardized testing methods.

The becoming "aged" of test samples before carrying out the actual type tests are part of the standardized testing methods.

Ageing is made by an more-active increased thermal treatment.

### Degrees of Protection Provided by Enclosures (IP Code)

<table>
<thead>
<tr>
<th>IP Code</th>
<th>Description</th>
<th>Protection against foreign solid objects and direct contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>IP 0X</td>
<td>non-protected</td>
<td>Protection against ingress of solid foreign objects... non-protected</td>
</tr>
<tr>
<td>IP 1X</td>
<td>solid foreign objects ≥ 50 mm Ø</td>
<td>Protection against access to hazardous parts with... the back of a hand</td>
</tr>
<tr>
<td>IP 2X</td>
<td>solid foreign objects ≥ 12.5 mm Ø</td>
<td>Protection against access to hazardous parts with... a finger</td>
</tr>
<tr>
<td>IP 3X</td>
<td>solid foreign objects ≥ 2.5 mm Ø</td>
<td>Protection against access to hazardous parts with... a tool ≥ 2.5 mm Ø</td>
</tr>
<tr>
<td>IP 4X</td>
<td>solid foreign objects ≥ 1.0 mm Ø</td>
<td>Protection against access to hazardous parts with... a wire ≥ 1 mm Ø</td>
</tr>
<tr>
<td>IP 5X</td>
<td>dust-protected</td>
<td>Protection against ingress of solid foreign objects... with any auxiliary equipment (wire)</td>
</tr>
<tr>
<td>IP 6X</td>
<td>dust-tight</td>
<td>Protection against ingress of solid foreign objects... contact with any auxiliary equipment (wire)</td>
</tr>
</tbody>
</table>

**Meaning of the first characteristic numeral**

The first characteristic numeral indicates, to what extent the enclosure provides protection for persons against the access to (affecting of) hazardous parts. This protection is reached, when the penetration into an enclosure of a part of the body or a foreign object, which is held by a person, is prevented or limited. At the same time the enclosure provides protection of equipment against the penetration of solid foreign objects. This is the reason for having two descriptions and two definitions to each first characteristic numeral.

### Additional letter

Additional letter where the actual protection against access to hazardous parts is higher than that indicated by the 1st characteristic numeral (e.g. IP 20C)

**Short form:**

<table>
<thead>
<tr>
<th>Letter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>the back of the hand</td>
</tr>
<tr>
<td>B</td>
<td>a finger</td>
</tr>
<tr>
<td>C</td>
<td>a tool ≥ 2.5 mm Ø</td>
</tr>
<tr>
<td>D</td>
<td>a wire ≥ 1 mm Ø</td>
</tr>
</tbody>
</table>

### Meaning of the second characteristic numeral

The second characteristic numeral indicates the protection of the enclosure against ingress of water with harmful effects on the electrical equipment.

**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
**Degrees of Protection Provided by Enclosures (IP Code)**

The marking system consists of the code letters **IP** and two following characteristic numerals.

**Example:**

<table>
<thead>
<tr>
<th>IP 6 7</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Code letters (International Protection)</strong></td>
</tr>
</tbody>
</table>

---

### 2nd characteristic numeral: Protection against ingress of water with harmful effects

<table>
<thead>
<tr>
<th>IP X0</th>
<th>IP X1</th>
<th>IP X2</th>
<th>IP X3</th>
<th>IP X4</th>
<th>IP X5</th>
<th>IP X6</th>
<th>IP X7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-protected</td>
<td>Protection against vertical dripping water</td>
<td>Protected against dripping water, when the housing is tilted up to 15°</td>
<td>Protection for occasional cleaning procedures, not direct spraying of the equipment (spraying water)</td>
<td>Protection for occasional cleaning procedures, not direct spraying of the equipment (splashing water)</td>
<td>Protection of operational processes, not direct spraying of the equipment (water jets)</td>
<td>Protection of operational processes, not direct spraying of the equipment (powerful water jets)</td>
<td>Protection against the effects of temporary immersion in water</td>
</tr>
</tbody>
</table>

### Symbol

- **IP 20**
- **IP 30**
- **IP 31**
- **IP 40**
- **IP 41**
- **IP 42**
- **IP 43**
- **IP 44**
- **IP 45**
- **IP 46**
- **IP 47**

---

**Additional letters to the IP Code**

The IP Code can still be extended by additional letters. Additional letters indicate the degree of protection against access to hazardous parts. Additional letters follow the two characteristic numerals. Additional letters are only used, if the actual protection against access to hazardous parts is higher than by the first characteristic numeral indicated; or, if only the protection against access to hazardous parts is indicated and the degree of protection against solid foreign objects is not considered. The first characteristic numeral being then replaced by an X. An enclosure shall only be designated with a stated degree of protection indicated by the additional letter if the enclosure also complies with all lower degrees of protection.

**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
## Technical Data

### Outside Diameter of Conventional Cable Cross-Sections

#### Short Forms of Cables

The outside diameters are average values of different products.

<table>
<thead>
<tr>
<th>Cable cross-section</th>
<th>NYM mm Ø</th>
<th>NYY mm Ø</th>
<th>NYCY/NCWY mm Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x4</td>
<td>8</td>
<td>9</td>
<td>-</td>
</tr>
<tr>
<td>1x6</td>
<td>8.5</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>1x10</td>
<td>9.5</td>
<td>10.5</td>
<td>-</td>
</tr>
<tr>
<td>1x16</td>
<td>11</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td>1x25</td>
<td>-</td>
<td>14</td>
<td>-</td>
</tr>
<tr>
<td>1x35</td>
<td>-</td>
<td>15</td>
<td>-</td>
</tr>
<tr>
<td>1x50</td>
<td>-</td>
<td>16.5</td>
<td>-</td>
</tr>
<tr>
<td>1x70</td>
<td>-</td>
<td>18</td>
<td>-</td>
</tr>
<tr>
<td>1x95</td>
<td>-</td>
<td>20</td>
<td>-</td>
</tr>
<tr>
<td>1x120</td>
<td>-</td>
<td>21</td>
<td>-</td>
</tr>
<tr>
<td>1x150</td>
<td>-</td>
<td>22</td>
<td>-</td>
</tr>
<tr>
<td>1x185</td>
<td>-</td>
<td>25</td>
<td>-</td>
</tr>
<tr>
<td>1x240</td>
<td>-</td>
<td>28</td>
<td>-</td>
</tr>
<tr>
<td>1x300</td>
<td>-</td>
<td>30</td>
<td>-</td>
</tr>
<tr>
<td>2x1.5</td>
<td>10</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td>2x2.5</td>
<td>11</td>
<td>13</td>
<td>-</td>
</tr>
<tr>
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<th>NYY mm Ø</th>
<th>NYCY/NCWY mm Ø</th>
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<td>4x35/16</td>
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<tr>
<td>24x1.5</td>
<td>-</td>
<td>25</td>
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</tr>
</tbody>
</table>

**Short forms of cables**

- **NYM**: Light plastic-sheathed cable
- **NYY**: Plastic-sheathed cable
- **NYCY**: Plastic-sheathed cable with concentric conductor
- **NYCWY**: Plastic-sheathed cable with concentric, undulated conductor

**Call for a Quote!**

(800) 677-8942 / (303) 680-5159
## Assignment of Cable Outside Diameters to Cable Glands

### Standards

Hensel cable entries comply with the following standards and regulations:

- **EN 50 262**: Metric cable entries for electrical installations
- **EN 60 423**: Conduits for electrical purposes - Outside diameter of conduits for electrical installations and threads for conduits and fittings
- **IEC 60 529**: Degrees of protection provided by enclosures (IP-Code)

### Cable Glands

#### ASM/AKM/ASS

<table>
<thead>
<tr>
<th>Outside diameter of cables</th>
<th>Cable entry metric</th>
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<tbody>
<tr>
<td>min. mm Ø</td>
<td>max. mm Ø</td>
</tr>
<tr>
<td>3</td>
<td>6.5</td>
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<tr>
<td>5</td>
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<td>11</td>
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#### ESM

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<td>4.8</td>
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#### STM

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<td>max. mm Ø</td>
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<tr>
<td>3.5</td>
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<td>10</td>
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<td>11</td>
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#### EDR

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<th>Cable entry metric</th>
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</thead>
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<td>max. mm Ø</td>
</tr>
<tr>
<td>Conduit</td>
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</tr>
<tr>
<td>M 16</td>
<td>EDR 16</td>
</tr>
<tr>
<td>M 20</td>
<td>EDR 20</td>
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<td>M 25</td>
<td>EDR 25</td>
</tr>
<tr>
<td>M 32</td>
<td>EDR 32</td>
</tr>
<tr>
<td>M 40</td>
<td>EDR 40</td>
</tr>
</tbody>
</table>

#### Call for a Quote!

(800) 677-8942 / (303) 680-5159
Connection of aluminium conductors

I. Chemical basics

The special conducting characteristics of aluminum can be seen in the fact that the surface of an aluminum conductor is immediately covered in a non-conducting oxide layer upon exposure to oxygen.

This characteristic leads to an increase in the temporary resistance between the aluminum conductors and the terminal body.

This can lead to terminal overheating and in the worst case fire.

Despite these special conditions, aluminum conductors can be connected if the terminal used is appropriate and the following conditions are taken into consideration when connecting.

II. Special terminal requirements for the connection of aluminium conductors

The suitability of terminal for connections with aluminium conductors needs to be evaluated and confirmed by the terminal manufacturer.

1. These terminals will thus meet the requirements for an aligned electrochemical voltage sequence. A disintegration of the base material (aluminum) will be prevented.

2. The terminal has an appropriate shape and surface to penetrate the grease layer or a very thin oxide layer on the aluminum conductor upon connection.

III. Appropriate preparation and handling of aluminium conductors

The non-insulated conductor ends need to have the oxide layer carefully scraped clean using a knife for example. In doing so no files, sand paper or brushes may be used.

Immediately after removing the oxide layer, the conductor end needs to be rubbed with an acid and alkali free grease such as technical vaseline and then immediately connected to the terminal. This in turn prevents oxygen from forming a non-conducting oxide layer.

Due to the flow tendency in aluminum the terminals need to be tightened before start up and after the first 200 operating hours (note the appropriate torque).

The steps listed above need to be repeated if the conductor is removed and re-connected. I.e. the conductor has to be scraped again, greased and immediately connected, because it will be connected at a different position.

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(800) 677-8942 / (303) 680-5159
Types of Conductors

**IK Code**

International short forms of types of conductors

<table>
<thead>
<tr>
<th>Code</th>
<th>Type of conductor</th>
<th>Symbol</th>
<th>Designation of cables</th>
</tr>
</thead>
<tbody>
<tr>
<td>sol</td>
<td>round solid</td>
<td>⚫</td>
<td>RE (round single)</td>
</tr>
<tr>
<td>sector-type</td>
<td></td>
<td>▼</td>
<td>SE (sector solid)</td>
</tr>
<tr>
<td>s</td>
<td>round stranded</td>
<td>⚫</td>
<td>RM (round stranded)</td>
</tr>
<tr>
<td>sector-type</td>
<td></td>
<td>▼</td>
<td>SM (sector, stranded)</td>
</tr>
<tr>
<td>f</td>
<td>flexible</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**IK Code: Demand energy value [W] in Joules.**

The European standard for enclosures EN 50298:98 includes also the IK Code for impact strength. With the DIN EN 50132 (VDE 0470 part of 100) “Degrees of protection by enclosures for electrical operational funds (equipment) against outside mechanical loads (IK Code)”, is defined with the identification letters IK.

This standard regulates the methods for the description of the protection of enclosures against outside mechanical loads.

This indicates the degree of protection, which is provided by an enclosure against a mechanical load (demand energy in joules).

HENSEL tests its enclosures and enclosure systems additionally also according to this standard.

**Classification of the impact strength by the IK Code**

<table>
<thead>
<tr>
<th>IK Code</th>
<th>[W] in J</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>IK00</td>
<td>kein Schutz</td>
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</tr>
<tr>
<td>IK01</td>
<td>0,14</td>
<td></td>
</tr>
<tr>
<td>IK02</td>
<td>0,2</td>
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<td>IK10</td>
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Call for a Quote!
(800) 677-8942 / (303) 680-5159
Rating of Insulated Conductors in Switchgear Assemblies

Overload and Short-Circuit Protection

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<tr>
<th>Protective device</th>
<th>PVC H07V-K max. 70°C</th>
<th>NSGAF6u max. 90°C</th>
<th>Verdrahtungsband max. 105°C</th>
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</thead>
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<td>2.5 mm²</td>
<td>2.5 mm²</td>
<td></td>
</tr>
<tr>
<td>25 A</td>
<td>4 mm²</td>
<td>4 mm²</td>
<td></td>
</tr>
<tr>
<td>32/35 A</td>
<td>6 mm²</td>
<td>6 mm²</td>
<td></td>
</tr>
<tr>
<td>40/50 A</td>
<td>10 mm²</td>
<td>10 mm²</td>
<td></td>
</tr>
<tr>
<td>63 A</td>
<td>16 mm²</td>
<td>16 mm²</td>
<td></td>
</tr>
<tr>
<td>80 A</td>
<td>25 mm²</td>
<td>25 mm²</td>
<td>Mi VS 100</td>
</tr>
<tr>
<td>100 A</td>
<td>35 mm²</td>
<td>35 mm²</td>
<td>Mi VS 160</td>
</tr>
<tr>
<td>125 A</td>
<td>50 mm²</td>
<td>50 mm²</td>
<td>Mi VS 160</td>
</tr>
<tr>
<td>160 A</td>
<td>70 mm²</td>
<td>70 mm²</td>
<td>Mi VS 250</td>
</tr>
<tr>
<td>200 A</td>
<td>95 mm²</td>
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</tr>
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<td>120 mm²</td>
<td>Mi VS 400</td>
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<td>150 mm²</td>
<td>Mi VS 400</td>
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<td>400 A</td>
<td></td>
<td></td>
<td>Mi VS 630</td>
</tr>
<tr>
<td>630 A</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Examples

Each cable must be protected against overload and short circuits.

The dimensioning according to Table 1 requires a series-connected protective device for the overload and short-circuit protection.

In some cases, it may occur that the series-connected protective device cannot take over this protection e.g. when picking off one or several small loads from a busbar, see the following diagram.

Internal wiring shall be carried out in a way that under normal conditions no short circuit may occur.

The protective device F0 that is connected in series to the busbar system adopts neither the overload nor short-circuit protection of the outgoing cable to F1.

For this reason, the cable must be laid in front of the fuse F1 so that no short circuits may occur under normal conditions.

The following apply as short-circuit-proof cable installations e.g.

- rigid connections which do not come into contact with each other even in the event of a short circuit (fixing of the conductors)
- cables with special insulation etc.

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Rating of Conductors

Diversity Factors

Rating of the PE and N conductor per circuit

- Phase conductor ≤ 16 mm²: as phase conductor
- Phase conductor > 16 mm²: 1/2 phase conductor cross-section, at least however 16 mm², (not EMC-compliant)

In buildings with a high proportion of a.c. loads or sources of harmonic voltages (electronic ballasts or PCs), it can be necessary to implement the N conductor with the same current carrying capacity as the phase conductors.

For all Hensel busbar systems up to 630 A, the N conductor must be implemented with the same current carrying capacity.

Diversity factor for built-in devices according to IEC 61 439-2

The following loading factors may be applied where more than one circuit is installed in one box or installation assembly and if no details of the rated current are known:

<table>
<thead>
<tr>
<th>Number of circuits</th>
<th>Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3</td>
<td>0.9</td>
</tr>
<tr>
<td>4-5</td>
<td>0.8</td>
</tr>
<tr>
<td>6-9</td>
<td>0.7</td>
</tr>
<tr>
<td>10 and more</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Call for a Quote!
(800) 677-8942 / (303) 680-5159
Technical Data

Formation of Condensed Water and Retaliatory Actions

How does condensed water occur in enclosures with a high degree of protection?

The problem of condensed water forming in electrical installations only occurs in enclosures with a degree of protection ≥ IP 54 since the temperature adjustment that is carried out from inside to outside is too low due to the high density of the enclosure and its material.

System switched on.

The internal temperature is higher than the external temperature due to the power dissipation of the built-in devices.

System switched off.

The warm air inside the enclosure attempts to accumulate moisture. This comes from outside through the seal as the enclosures are not gas-tight.

How does condensed water occur in enclosures with a high degree of protection?

System switched on.

The internal temperature is reduced by cooling down the system e.g. by switching off the loads. The cooler air emits moisture which is collected as condensed water on the cooling inner surfaces.

System switched off.

Formation of condensed water for indoor installations:

Formation of condensed water for indoor installations:

In areas where high levels of air humidity and large temperature fluctuations are expected e.g. in laundry rooms, kitchens, car washes etc.

1. Select the installation site (avoid temperature differences).
2. Open condensed water membrane at the lowest point of the cable junction box (maybe drill hole Ø 5 mm).
3. Enable exchange of air via ventilation.

Example:
Open condensation water membrane

Measures against formation of condensation water

e.g. MI Distribution boards

Ventilation flange for vertical mounting on lateral box walls in case of extremely high inside temperature or the risk of water condensation, degree of protection IP 44.

Cable entry and ventilation

Combi climate glands ensure pressure compensation between enclosure interior and ambient air via an inserted, breathable membrane and ingress of water from outside is prevented.

Measure against accumulation of condensed water

e.g. Cable junction boxes

Measures against formation of condensation water

e.g. MI Distribution boards

Ventilation flange for vertical mounting on lateral box walls in case of extremely high inside temperature or the risk of water condensation, degree of protection IP 44.

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## Definition of Terms

**Rated voltage** \((U)\)

Highest nominal value of the a.c. (r.m.s.) or d.c. voltage, declared by the assembly manufacturer, to which the main circuit(s) of the assembly is (are) designed to be connected.

**Rated operational voltage** \((U, o)\) *(of a circuit of an assembly)*

Value of voltage, declared by the assembly manufacturer, which combined with the rated current determines its application.

**Rated insulation voltage** \((U;i)\)

R.m.s. withstand voltage value, assigned by the assembly manufacturer to the equipment or to a part of it, characterising the specified (long-term) withstand capability of the insulation.

**Rated impulse voltage** \((U;i,m)\)

Impulse withstand voltage value, declared by the assembly manufacturer, characterising the specified withstand capability of the insulation against transient overvoltages.

**Rated current** \((I)\)

Value of current, declared by the assembly manufacturer taking into consideration the ratings of the components, their disposition and application, which can be carried without the temperature-rise of various parts of the assembly exceeding specified limits under specified conditions.

**Prospective short circuit current** \((I,c)\)

Current which flows when the supply conductors to the circuit are short-circuited by a conductor of negligible impedance located as near as practicable to the supply terminals of the assembly.

**Rated peak withstand current** \((I,p,w)\)

Value of peak short-circuit current, declared by the assembly manufacturer, that can be withstood under specified conditions.

**Rated short-time withstand current** \((I,s)\)

R.m.s. value of short-time current, declared by the assembly manufacturer, that can be carried without damage under specified conditions, defined in terms of a current and time.

**Rated conditional short-circuit current** \((I,c)\)

Value of prospective short-circuit current, declared by the assembly manufacturer, that can be withstood for the total operating time (clearing time) of the short-circuit protective device (SCP-D) under specified conditions.

**Rated current of the assembly** \((I,n)\)

The rated current of the assembly is the smaller of:
- the sum of the rated currents of the incoming circuits within the assembly operated in parallel;
- the total current which the main busbar is capable of distributing in the particular assembly arrangement.

This current shall be carried without the temperature rise of the individual parts exceeding the limits specified in the standard.

**Rated current of a circuit** \((I,n)\)

The rated current of a circuit is stated by the assembly manufacturer, taking into consideration the ratings of the devices within the circuit, their disposition and application. This current shall be carried without the temperature rise of the various parts of the assembly exceeding the limits specified in the standard when the circuit is loaded alone.

**Rated diversity factor** \((RDF)\)

Per unit value of the rated current, assigned by the assembly manufacturer, to which outgoing circuits of an assembly can be continuously and simultaneously loaded taking into account the mutual thermal influences.
Copy Template

Power Dissipation Calculation

Design certification of the max. permissible operating temperature according to IEC 61 439-1 Section 10.10

Max. enclosure interior temperature 55°C
Max. ambient temperature 35°C
Temperature difference 20 K

1. Installed power dissipation of the devices

<table>
<thead>
<tr>
<th>Pos.</th>
<th>No.</th>
<th>Manufacturer</th>
<th>Type</th>
<th>Description</th>
<th>$I_1$ / A</th>
<th>Derating</th>
<th>$I_{0.8}$ / A</th>
<th>$P_1$ / Watt</th>
<th>$\Sigma P_1$ / Watt</th>
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<tbody>
<tr>
<td>Feeding</td>
<td>E 1</td>
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<td>Outgngs</td>
<td>A 1</td>
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<td>A 4</td>
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Total installed power dissipation of the devices (W)

2. Installed power dissipation of busbars

<table>
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<th>Pos.</th>
<th>Length</th>
<th>Description</th>
<th>Pv / Watt</th>
<th>$\Sigma Pv$ / Watt</th>
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<tr>
<td>1</td>
<td>250 A</td>
<td>Busbars</td>
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<td>2</td>
<td>400 A</td>
<td>Busbars</td>
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<tr>
<td>3</td>
<td>630 A</td>
<td>Busbars</td>
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Total installed power dissipation of busbars (W)

3. Power dissipation of enclosures

<table>
<thead>
<tr>
<th>Pos.</th>
<th>Number</th>
<th>Description</th>
<th>Pv / Watt</th>
<th>$\Sigma Pv$ / Watt</th>
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<tr>
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Total power dissipation of enclosures (W)

4. Calculating

<table>
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<th>Pos.</th>
<th>Description</th>
<th>$I_{0.8}$ / A</th>
<th>$I_{\text{edm}}$ / A</th>
<th>$E_{\text{edm}}$ / A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Total installed power dissipation of the devices</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Total installed power dissipation of busbars</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proportional wiring of Pos. 2 and 3 (e.g. 30% recommended)</td>
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<tr>
<td></td>
<td>... % Reserve for additional equipment acc. to specification</td>
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<tr>
<td></td>
<td>Subtotal</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>Total power dissipation of enclosures</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Difference between power dissipation and installed power dissipation</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:
1. Rated current
2. DERATING: According to the manufacturer, but at least 0.8 according to DIN EN 61 439 Part 1
3. The current $I_{0.8}$ defines the value for feeding $I_{\text{edm}}$
4. Data for power switchgear and controlgear assemblies made of sheet steel as well as for insulation-enclosed assemblies in box-type design are possible.
5. Power dissipation according to the original manufacturer.

Through ventilation or larger enclosures the power dissipation can be increased in case of a negative difference. Another measure could be the reduction of the RDF.

Calculating reduced RDF: $\text{RDF} = \sqrt{\frac{\text{power dissipation}}{\text{installed power dissipation}}}$

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Erklärung
der EG-Konformität

Declaration of EC-Conformity

Das Produkt, 
The product

Typ / Type: D ..., DE ..., DM ..., DN ..., DP ..., DPC ..., K ..., KC ..., KM ...

Hersteller: Gustav Hensel GmbH & Co. KG
Manufacturer: Gustav-Hensel-Straße 6
               57368 Lennestadt

Beschreibung: Kabelabzweigkästen
Description: cable junction boxes

auf das sich diese Erklärung bezieht, stimmt mit folgenden Normen oder normativen Dokumenten überein:
to which this declaration relates is in conformity with the following standard(s) or normative document(s):

Norm / Standard:
- DIN EN 60670-22
- EN 60670-22
- IEC 60670-22

und entspricht den Bestimmungen der folgenden EG-Richtlinie(n):
and is in accordance with the provisions of the following EC-directive(s):

Niederspannings-Richtlinie 2006/95/EG
Low voltage directive 2006/95/EC


This Declaration of Conformity is suitable to the European Standard EN 17050-1 “General requirements for supplier's declaration of conformity”. The company Gustav Hensel GmbH & Co. KG is member of ALPHÁ, Association for testing and certification of low voltage equipment. The declaration is world-wide valid as the manufacturer’s declaration of compliance with the requirements of the a.m. national and international standards.

Jahr der Anbringung der CE-Kennzeichnung: 2012
Year of affixing CE-Marking

Ausstellungsdatum: 01.02.2013
Date of issue:

Gustav Hensel GmbH & Co. KG
R. Cater
- Technische Geschäftsleitung -
- Technical Managing Director -
## Erklärung der EG-Konformität

**Declaration of EC-Conformity**

Das Produkt, The product

<table>
<thead>
<tr>
<th>Typ / Type:</th>
<th>KD ..., KF ..., KF WP ....</th>
</tr>
</thead>
</table>

**Hersteller:** Gustav Hensel GmbH & Co. KG
**Manufacturer:** Gustav-Hensel-Straße 6
57368 Lennestadt

**Beschreibung:** Kabelabzweigkästen für besondere Umgebungsbedingungen
cable junction boxes for special environmental conditions

auf das sich diese Erklärung bezieht, stimmt mit folgenden Normen oder normativen Dokumenten überein:
to which this declaration relates is in conformity with the following standard(s) or normative document(s):

<table>
<thead>
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<th>Norm / Standard:</th>
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<td>DIN EN 60670-22</td>
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<td>IEC 60670-22</td>
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<td>DIN VDE V 0606-22-100 (KF WP)</td>
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</tbody>
</table>

und entspricht den Bestimmungen der folgenden EG-Richtlinie(n):
and is in accordance with the provisions of the following EC-directive(s):

**Niederspannungs-Richtlinie 2006/95/EG**
**Low voltage directive 2006/95/EC**

Diese Konformitätserklärung entspricht der Europäischen Norm EN 17050-1 „Allgemeine Anforderungen für Konformitätserklärungen von Anbietern“. Das Unternehmen Gustav Hensel GmbH & Co. KG ist Mitglied von ALPHA, Gesellschaft zur Prüfung und Zertifizierung von Niederspannungsgeräten e.V. Diese Erklärung gilt weltweit als Erklärung des Herstellers zur Übereinstimmung mit den oben genannten internationalen und nationalen Normen.

This Declaration of Conformity is suitable to the European Standard EN 17050-1 "General requirements for supplier’s declaration of conformity". The company Gustav Hensel GmbH & Co. KG is member of ALPHA, Association for testing and certification of low voltage equipment. The declaration is world-wide valid as the manufacturer’s declaration of compliance with the requirements of the a.m. national and international standards.

**Jahr der Anbringung der CE-Kennzeichnung:** 2012
**Year of affixing CE-Marking**

**Ausstellungsdatum:** 01.02.2013
**Date of Issue:**

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R. Cater
- Technische Geschäftsleitung -
- Technical Managing Director -

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Erklärung
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Das Produkt,
The product

Typ / Type: FK 9025, FK 9105, FK 9255,
FK 7045, FK 7105, FK 7165

Hersteller: Gustav Hensel GmbH & Co. KG
Manufacturer: Gustav-Hensel-Straße 6
57368 Lennestadt

Beschreibung: Kabelabzweigkästen mit Funktionserhalt E30-E90
Description: Cable junction boxes tested for intrinsic fire resistance E30-E90

auf das sich diese Erklärung bezieht, stimmt mit folgenden Normen oder normativen Dokumenten überein:
to which this declaration relates is in conformity with the following standard(s) or normative document(s):

Norm / Standard: DIN EN 60670-22
EN 60670-22
IEC 60670-22
DIN 4102-12

und entspricht den Bestimmungen der folgenden EG-Richtlinie(n):
and is in accordance with the provisions of the following EC-directive(s):

Niederspannungs-Richtlinie 2006/95/EG
Low voltage directive 2006/95/EC

Diese Konformitätserklärung entspricht der Europäischen Norm EN 17050-1 „Allgemeine Anforderungen für Konformitätserklärungen von Anbietern“. Das Unternehmen Gustav Hensel GmbH & Co. KG ist Mitglied von ALPHA, Gesellschaft zur Prüfung und Zertifizierung von Niederspannungsgeräten e.V. Diese Erklärung gilt weltweit als Erklärung des Herstellers zur Übereinstimmung mit den oben genannten internationalen und nationalen Normen.

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Jahr der Anbringung der
CE-Kennzeichnung: 2009

Ausstellungsdatum: 01.02.2013

Gustav Hensel GmbH & Co. KG

R. Cater
- Technische Geschäftsleitung -
- Technical Managing Director -
Erklärung
der EG-Konformität

Declaration of EC-Conformity

Das Produkt, The product

Typ / Type: Kleinverteiler

Small distribution boards

Typ / type: KV...

Hersteller: Gustav Hensel GmbH & Co. KG

Gustav-Hensel-Straße 6

57368 Lennestadt

Beschreibung: Isolierstoffgehäuse, geeignet zum Bau von Niederspannungs-

Schaltgeräte-Kombinationen bis 63 A, zu deren Bedienung Laien

Zugang haben

Description: Enclosures, made of insulating material, suitable for assembling of low-

voltage switchgear and controlgear assemblies up to 63 A intended to be

installed in places where unskilled persons have access for their use

auf das sich diese Erklärung bezieht, stimmt mit folgenden Normen oder normativen Dokumenten überein:
to which this declaration relates is in conformity with the following standard(s) or normative document(s):

Norm / Standard: DIN EN 60439-3

EN 60439-3

IEC 60439-3

und entspricht den Bestimmungen der folgenden EG-Richtlinie(n):
and is in accordance with the provisions of the following EC-directive(s)

Niederspannungs-Richtlinie 2006/95/EG

Low voltage directive 2006/95/EC


This Declaration of Conformity is suitable to the European Standard EN 17050-1 "General requirements for supplier’s declaration of conformity". The company Gustav Hensel GmbH & Co. KG is member of ALPHA, Association for testing and certification of low voltage equipment. The declaration is world-wide valid as the manufacturer’s declaration of compliance with the requirements of the a.m. national and international standards.

Jahr der Anbringung der CE-Kennzeichnung: 2012

Year of affixing CE-Marking

Ausstellungsdatum: 01.02.2013

Date of issue:

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R. Cater
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- Technical Managing Director -

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Erklärung
der EG-Konformität

Declaration of EC-Conformity

Das Produkt,
The product:

Typ / Type: ENYSTAR
Typ / type: FP ....

Hersteller:
Manufacturer:
Gustav Hensel GmbH & Co. KG
Gustav-Hensel-Straße 6
57368 Lennestadt

Beschreibung:
Description:
Installationsverteiler bis 250A “DBO”
Distribution boards up to 250A “DBO”

auf das sich diese Erklärung bezieht, stimmt mit folgenden Normen oder normativen Dokumenten überein:
to which this declaration relates is in conformity with the following standard(s) or normative document(s):

Norm / Standard:
DIN EN 61439-3
EN 61439-3
IEC 61439-3

und entspricht den Bestimmungen der folgenden EG-Richtlinie(n):
and is in accordance with the provisions of the following EC-directive(s):

Niederspannungs-Richtlinie 2006/95/EG
Low voltage directive 2006/95/EC


This Declaration of Conformity is suitable to the European Standard EN 17050-1 "General requirements for supplier’s declaration of conformity". The company Gustav Hensel GmbH & Co. KG is member of ALPHÁ, Association for testing and certification of low voltage equipment. The declaration is world-wide valid as the manufacturer’s declaration of compliance with the requirements of the a.m. national and international standards.

Jahr der Anbringung der CE-Kennzeichnung: 2013
Year of affixing CE-Marking

Ausstellungsdatum: 01.02.2013
Date of issue:

Gustav Hensel GmbH & Co. KG

R. Cater
- Technische Geschäftsleitung -
- Technical Managing Director -
Erklärung
der EG-Konformität
Declaration of EC-Conformity

Das Produkt,
The product

Typ / Type: Mi-Verteiler
Mi-Distributor
Typ / type: Mi ....

Hersteller:
Manufacturer
Gustav Hensel GmbH & Co. KG
Gustav-Hensel-Straße 6
57368 Lennestadt

Beschreibung:
Description:
Niederspannungs-Schaltgerät kombination „PSC”
Low-voltage switchgear and controlgear assemblies “PSC”

auf das sich diese Erklärung bezieht, stimmt mit folgenden Normen oder normativen Dokumenten überein:
to which this declaration relates is in conformity with the following standard(s) or normative document(s):

Norm / Standard:
DIN EN 61439-2
EN 61439-2
IEC 61439-2

und entspricht den Bestimmungen der folgenden EG-Richtlinie(n):
and is in accordance with the provisions of the following EC-directive(s)

Niederspannungs-Richtlinie 2006/95/EG
Low voltage directive 2006/95/EC

EMV-Richtlinie (EMC) 2004/108/EG


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Jahr der Anbringung der
CE-Kennzeichnung: 2012
Year of affixing CE-Marking.

Ausstellungsdatum: 19.02.2013
Date of issue:

Gustav Hensel GmbH & Co. KG

R. Cater
- Technische Geschäftsleitung -
- Technical Managing Director -
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# Index of Types and Page Register

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