General information

In addition to the standard feed-through modular terminal blocks, modular terminal blocks with different functions are also needed. For some applications, for example, it must be possible to disconnect the signal paths individually in order to switch them off load or to loop in a measuring device. Different knife disconnect terminal blocks are available for such applications.

Test socket screws are integrated on the right and left of the disconnect zone, so that the measuring device can be directly looped in with the test plugs. Space-saving solutions such as double-level terminal blocks also exist for the disconnect terminal blocks. Here, two feed-through levels that can each be independently disconnected from the other with a knife are integrated. This solution saves 50% more space in comparison with a single-level terminal block.

To implement components in signal paths, plugs are available that can be plugged onto the basic terminal blocks without the risk of polarity reversal. Either components such as resistors, diodes or fine fuses can be inserted into these plugs.

If the components are to be integrated permanently in the terminal block instead of being pluggable, component and diode terminal blocks are available.
Knife disconnect terminal blocks  
MTK

In measurement, regulation and control systems, disconnect terminal blocks are becoming more and more popular in order to rapidly localize faults and to permit inspection work to be carried out under zero voltage conditions.

In addition to the easy-to-use disconnect knife, this range is characterized by:
- Space-saving design
- High current carrying capacity up to 16 A
- Type versions with soldering tags
- Screws with integrated test sockets.

Double-level terminal blocks with disconnect knives for both levels, UDMTK

Besides the easy-to-use disconnect knives, the UDMTK S-P/P terminal block features are:
- A sturdy and closed housing
- Double connection and
- Double disconnection.

The disconnect knife on the lower level is characterized by a slight vertical offset.

The UDMTK S-TWIN-P/P terminal block has the same advantages as the UDMTKS-P/P. It has a conductor connection on the system side, however, which can be split and disconnected via both disconnect knives.

Basic terminal blocks

Basic terminal blocks for fuse, component and isolating plugs are used in almost all electrical systems for the most varied switching tasks. As feed-through and basic terminal blocks are often combined on one DIN rail, these are available in the designs of the different terminal block ranges:
- Mini-strip terminal blocks, MBK 5
- Universal terminal blocks, UK 5 N
- Double terminal blocks, UDK 4
- Three-conductor actuator terminal blocks, DOK 1,5
- Double-level terminal blocks, UKK 5.

Component terminal blocks

Component terminal blocks can be used as an alternative to using component connectors. These terminal blocks are the same shape as:
- Mini double-level terminal blocks, MBKKB 2,5
- Universal double-level terminal blocks, UKK 5
- Double terminal blocks, UDK 4.

Components such as diodes, resistors or LEDs are integrated directly in the terminal housing.

Diode terminal blocks

Various diode circuits are available for different applications. In double-level terminal blocks, for example, a diode conducting from bottom right to bottom left is possible as well as a further diode conducting from top to bottom left. In this case, the designation would be as follows: ...

Phoenix Contact
Knife disconnect terminal blocks, MTK

In measurement, regulation and control systems, disconnect terminal blocks are becoming more and more popular in order to rapidly localize faults and to permit inspection work to be carried out under zero voltage conditions.

In addition to the easy-to-use disconnect knife, this range is characterized by:
- The narrow space saving construction, only 5 mm wide
- The high current carrying capacity of up to 16 A due to low contact resistances
- The versions with Wire-Wrap® (WW) or TERMI-POINT® (TP) connection and
- The versions with soldering tags in zigzag layout, onto which 2.8 mm slip-on sleeves can be pushed.

A test socket hole for 2.3 mmØ test plugs is located in the vicinity of the screw shaft.

Knife disconnect terminal block
UK-MTK

The UK 5-MTK terminal blocks feature:
- A sturdy and closed housing
- Low and stable contact resistances
- A high dielectric strength of 500 V
- A construction profile similar to the installation part, MTK
- A test socket hole for 2.3 mmØ test plugs is located in the vicinity of the screw shaft.

Note:
Suitable test plugs are documented starting on page 386.

---

**Knife disconnect terminal block, for mounting on C- or L-... with test socket screws on both sides**
- **Color:** Gray
- **Technical data in accordance with IEC / DIN / VDE**
  - **Max. load current / cross section:** 16 A
  - **Max. cross section with insertion bridge (solid/stranded):** 4 / 2.5 mm²
  - **Surge voltage category / insulating material group:** III / I
  - **Connection capacity:** Stranded with ferrules without plastic sleeve 2.05 - 1.5 mm²
  - **Stranded with TWIN ferrule with plastic sleeve:** 0.5 - 1.5 mm²
  - **Stripping length:** 7
  - **Internal cylindrical gauge (IEC 60 947-1):** A3
  - **Thread:** M3
  - **Torque:** 0.5 - 0.6 Nm
  - **Insulation material:** PA
  - **Inflammability class in acc. with UL 94:** V0
  - **Approval data (UL / CUL and CSA):** UL / CUL: [V] / [A] / AWG
  - **CSA: [V] / [A] / AWG
  - **Nominal voltage / current / conductor sizes:**
    - **UL / CUL:** 600 / 10 / 28 - 12
    - **CSA:** 600 / 10 / 28 - 12

---

MTK-P/P with test socket screws

---

**MTK-P/P**

**Type**
- **Order No.**
  - **MTK-P/P**
    - **Order No.:** 31 04 31
    - **Pcs:** 50
  - **MTK**
    - **Order No.:** 31 01 01
    - **Pcs:** 60
  - **MTK BU**
    - **Order No.:** 31 01 19
    - **Pcs:** 50
  - **MTKD-P/P**
    - **Order No.:** 31 00 02
    - **Pcs:** 50
  - **MTKD**
    - **Order No.:** 31 00 17
    - **Pcs:** 50

---

**Color**
- **Gray**
- **Blue**

---

| Terminals | Width / length / cover width [mm] | Height (NS 357.5 / NS 357.4 / NS 32) [mm] | Technical data in accordance with IEC / DIN / VDE | Max. load current / cross section [A] / [mm²] | Max. cross section with insertion bridge (solid/stranded) [mm²] | Surge voltage category / insulating material group | Connection capacity Stranded with ferrules without plastic sleeve [mm²] | Stranded with TWIN ferrule with plastic sleeve [mm²] | Stripping length [mm] | Internal cylindrical gauge (IEC 60 947-1) | Thread | Torque [Nm] | Insulation material | Inflammability class in acc. with UL 94 | Approval data (UL / CUL and CSA) | Nominal voltage / current / conductor sizes |
|-----------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| 2-pos. | Width / length / cover width [mm] | Height (NS 357.5 / NS 357.4 / NS 32) [mm] | Technical data in accordance with IEC / DIN / VDE | Max. load current / cross section [A] / [mm²] | Max. cross section with insertion bridge (solid/stranded) [mm²] | Surge voltage category / insulating material group | Connection capacity Stranded with ferrules without plastic sleeve [mm²] | Stranded with TWIN ferrule with plastic sleeve [mm²] | Stripping length [mm] | Internal cylindrical gauge (IEC 60 947-1) | Thread | Torque [Nm] | Insulation material | Inflammability class in acc. with UL 94 | Approval data (UL / CUL and CSA) | Nominal voltage / current / conductor sizes |
| 3-pos. | | | | | | | | | | | | | | | | |
| 10-pos. | | | | | | | | | | | | | | | | |
**UK 5-MTK-P/P**

With test socket screws.

Terminal width 6.2

<table>
<thead>
<tr>
<th>(IEC)</th>
<th>rigid</th>
<th>solid</th>
<th>stranded</th>
<th>AWG</th>
<th>I [A]</th>
<th>U [V]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2-4</td>
<td>0.2-4</td>
<td>24-12</td>
<td>16</td>
<td>16</td>
<td>500</td>
<td></td>
</tr>
</tbody>
</table>

**MTK-LOE**

With screw / solder connection

Terminal width 5.2

<table>
<thead>
<tr>
<th>(IEC)</th>
<th>rigid</th>
<th>flexible</th>
<th>stranded</th>
<th>AWG</th>
<th>I [A]</th>
<th>U [V]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2-4</td>
<td>0.2-0.5</td>
<td>24-12</td>
<td>12</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.2-1.5</td>
<td>0.2-1.5</td>
<td>24-16</td>
<td>12</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Slip-on conn.</td>
<td>2.8 x 0.8 mm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MTK-TP**

With screw, WW or TP connection

Terminal width 5.2

<table>
<thead>
<tr>
<th>(IEC)</th>
<th>rigid</th>
<th>flexible</th>
<th>stranded</th>
<th>AWG</th>
<th>I [A]</th>
<th>U [V]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2-4</td>
<td>0.2-2.5</td>
<td>24-12</td>
<td></td>
<td>24-12</td>
<td>10</td>
<td>210</td>
</tr>
<tr>
<td>WW conn.</td>
<td>1.6 x 0.8</td>
<td></td>
<td></td>
<td>28-22</td>
<td>10</td>
<td>230</td>
</tr>
<tr>
<td>TP conn.</td>
<td>2.4 x 0.8</td>
<td></td>
<td></td>
<td>26-30</td>
<td>10</td>
<td>125</td>
</tr>
</tbody>
</table>

**Connection data**

- 0.2-4
- 0.2-2.5
- 24-12
- 12
- 400
- 12
- 400
- 2.8 x 0.8 mm

**Type**

<table>
<thead>
<tr>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 05 01</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>31 07 01</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>31 09 01</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

**MTK-LOE... (see illustration)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 05 01</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 07 01</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 09 01</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MTK-LOG/LOE**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 05 01</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 07 01</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 09 01</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MTK-WW (1 x 1)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 10 11</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MTK-TP (2.4 x 0.8)**

- 1L
- 1Q

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 10 41</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 10 01</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**D-MTK**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 01 02</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 01 09</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**D-MTK BU**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 01 02</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 01 09</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ATS-MTK**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 01 22</td>
<td>50</td>
<td></td>
<td></td>
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</tbody>
</table>

**SZG 0.6 x 3.5**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 05 12</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**ZB 5**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>31 01 22</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Close housing, soldout cover**

- 12 A
- 02 01 15 5 | 100 |
- 12 A
- 02 01 14 2 | 100 |
- 12 A
- 02 01 13 8 | 10  |

**30-0 0 x 3.5**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 05 12</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**600/15/22-12**

- 600/15/22-12
- 600/10/16-10

**Phoenix Contact 277**
Double and double-level terminal blocks with disconnect knife

Circuit diagram: UDMTK 5-TWIN-P/P

UDK 4-MTK-P/P

UDK 4-MTK-P/P BU

UKK 5-MTK-P/P

UKK 5-MTKD-P/P

Closed housing, without cover

FBI 106

ISSBI 10-6

IS-K 4

Dimensions

Width / length / cover width [mm]
Height (NS 35/7.5 / NS 35/15 / NS 32) [mm]

Technical data in accordance with IEC / DIN VDE

Max. load current / cross section [A] / [mm2]
Max. cross section with insertion bridge (solid/stranded) [mm2]
Flanged surge voltage / contamination class [kV] / -
Surge voltage category / insulating material group [III] / -

Connection capacity

Stranded with ferrule without / with plastic sleeve [mm2]
Stranded with ferrule with plastic sleeve [mm2]

Stripping length [mm]

Internal cylindrical gauge (IEC 60 947-1) [mm]

Thread

Toque

Insulation material

Inflammability class in acc. with UL 94

Aprovral data (UL/CUL and CSA)

Nominal voltage / current / conductor sizes

ULCUL: [V] / [A] / AWG
ULCUL: [V] / [A] / AWG
CSA: [V] / [A] / AWG

Screwdriver

Zack marker strip, 10-section

Cover

Fixed bridge, for cross connections in the terminal center, screw heads with insulating collar, 10-position, divwise, with 10 screws

Insertion bridge, fully insulated, 3-pos. divwise, insulated spine 10-pos.

Isolator bridge, 10-position, divwise, with 10 screws for switchable branches with Bridge bar IS-K 4 as distance piece

Partition plate, for visual and electrical separation of terminal groups, 3 mm thick

Screwdriver

FBI 10-6

IS-K 4

Suitable test plugs are documented starting on page 386.
UDMTK 5-TWIN-P/P
Disconnect knife for each level

UDMTK 5-P/P
Disconnect knife for each level

UDMTKB 5-P/P
Disconnect knife for each level

Connection data
upper level
lower level
0.2-4
0.2-4
0.2-4
0.2-4
24-12
24-12
10
10
400
400

Connection data
upper level
tower level
0.2-4
0.2-4
24-12
24-12
10
10
400
400

Kinds of order
Type
UDMTK 5-TWIN-P/P
UDMTK 5-TWIN-P/P BU
UDMTK 5-P/P
UDMTK 5-P/P BU
UDMTKB 5-P/P
UDMTKB 5-P/P BU

Terminal width 6.2
(IEC) rigid flexible I U solid stranded AWG [A] [V]

Connection data
upper level
lower level
0.2-4
0.2-4
24-12
24-12
10
10
400
400

Current carrying capacity of the branches is max. 8 A each.
Basic terminal blocks for cartridge fuse, component and isolating plugs

The 6 mm wide fuse or component terminal blocks consist of basic terminal blocks which hold fuse, component and isolating plugs.

The basic terminal blocks are available in the following forms:
- The mini-strip terminal blocks MBK 5
- The universal terminal blocks UK 5 N
- The double terminal blocks UDK 4
- And the double-level terminal blocks UKK 5.

The three and four-conductor actuator basic terminal blocks DOK 1,5-TG, DOKD 1,5-TG and VIOK 1,5-D/TG/D/PE are documented in the chapter "Double-level, three-level and four-level terminal blocks" (see pages 244 and 246).

Basic terminal blocks with spring-cage connection can be found on page 84.

For fuse, component and isolating plugs, see page 282.

---

### MBK 5/E-TG

**Terminal width 6.2 (IEC)**

- **rigid**
- **flexible**
- **solid**
- **stranded**
- **AWG**
- **V**

<table>
<thead>
<tr>
<th>Connection data</th>
<th>0.20-4</th>
<th>2.2-4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I</strong></td>
<td>24-12</td>
<td>16-10</td>
</tr>
<tr>
<td><strong>U</strong></td>
<td>500</td>
<td>500</td>
</tr>
</tbody>
</table>

*The current and voltage are determined by the component and fuse plug.*

---

### Description

- **Basic terminal block**
  - for component and fuse plugs

- **Basic terminal block**
  - with test socket screws on both sides

### Cover

- **Fixed bridge**
  - for cross connections in the terminal center, screw heads with insulating collar, 10-position, divisible, with 10 screws

- **Insertion bridge**
  - fully insulated, 2-pos.
  - fully insulated, 3-pos.

- **Isolator bridge bar**
  - 10-position, divisible, with 10 screws, for switchable branches with Bridge bar IS-K 4 as distance piece

- **Partition plate**
  - for visual and electrical separation of terminal groups, 1.5 mm thick

### Screwdriver

- **Zack marker strip**
  - 10-section

### Dimensions

<table>
<thead>
<tr>
<th>Width / length / cover width (mm)</th>
<th>6.2 / 26 / 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height (NS 35/7.5 / NS 35/15 / NS 35 / NS 15) (mm)</td>
<td>16 / 4</td>
</tr>
</tbody>
</table>

### Technical data in accordance with IEC / DIN VDE

- **Max. load current / cross section (A/[mm²])**
- **Max. cross-section with insertion bridge (solid/stranded)** (mm²)
- **Rated surge voltage / contamination class** (kV / -)
- **Surge voltage category / insulating material group** (III / -)

### Connection capacity

- **Stranded with ferrule without plastic sleeve (mm²)**
- **Multi-conductor connection (2 cond. with same cross section)**
  - Solid / stranded
  - Stranded with ferrules without plastic sleeve
  - Stranded with TWIN ferrule with plastic sleeve

- **Stripping length (mm)**
- **Internal cylindrical gauge (IEC 60 947-1)**
- **Thread**
- **Insulation material**
- **Infammability class in acc. with UL 94**

### Approval data (ULCUL and CSA)

- **Nominal voltage / current / conductor sizes**

<table>
<thead>
<tr>
<th>ULCUL: [V] / [A] / AWG</th>
<th>150 / 20 / 28-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>ULCUL: [V] / [A] / AWG</td>
<td>360 / 10 / 28-12</td>
</tr>
<tr>
<td>ULCUL: [V] / [A] / AWG</td>
<td>-</td>
</tr>
<tr>
<td>CSA: [V] / [A] / AWG</td>
<td>360 / 15 / 28-12</td>
</tr>
</tbody>
</table>

### Note

Suitable test plugs are documented starting on page 386.
The current and voltage are determined by the component and fuse plug.

Terminal width 6.2

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Prt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK 4-TG</td>
<td>28 12 01 8</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>UK 4-TG-P/P</td>
<td>28 12 03 4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>DUK 4/10</td>
<td>30 03 02 0</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>LIT-UK</td>
<td>30 03 22 4</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>DSIM 0.6 x 3.5</td>
<td>12 05 05 3</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Connection data

- 0.20-4 / 0.5-1.5
- 0.25-1.5
- 0.5-2.5
- 1.5 / 1.5
- 2.5 / 1.5
- 4 / 4
- 6 / 6
- 10 / 10

Phoenix Contact
Fuse, component and isolating plugs

The ST-SI-UK 4 fuse plugs for 5 x 20 mm cartridge fuse inserts are available with or without light indicator. The version with light indicator includes light diodes connected back-to-back as well as preresistors for the three voltage levels up to 60 V and glow lamp with preresistors for the voltage level above 110 V. The plug housing is flapped open at the side to change the fuse.

The component plugs, ST-BE are available as single plugs for 2-position components and as double plugs (four-position plugs) with or without inserted components.

The component itself is inserted from above and reliably clamped.
The special advantage of this component plug is that any components with two positions, such as diodes, varistors, etc., can be inserted at a later time between two neighboring standard feed-through terminal blocks.

The BES 6 is supplied as a set with two sockets. The sockets are screwed into the center thread of the feed-through terminal blocks. They are different lengths, and this determines the correct functional direction corresponding to the vertically offset multiple-spring wire plugs and prevents later confusion. If several BES 6 plugs are placed next to each other, separating plates could be provided between the pairs of terminal blocks in order to prevent incorrect plugging.

To insert the components, the upper half of the housing is lifted, thus exposing the plug pins for soldering.

The BES 6 is also available with a 1N 4007 diode fitted for the protection circuit of DC consumers with nominal operating data up to 1300 V and 0.5 A. In addition, the BES 6 is available with a light indicator for voltages of 15-30 V DC and 110-250 V AC.
Component terminal blocks

MBKKB 2,5-DIO
with integrated diodes

<table>
<thead>
<tr>
<th>Terminal width</th>
<th>Type</th>
<th>Order No.</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>(IEC)</td>
<td>MBKKB 2,5-DIO/O-U</td>
<td>28 00 56 7</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>MBKKB 2,5-DIO/U-O</td>
<td>28 00 57 0</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td>MBKKB 2,5-2DIOO-UL/O-UR</td>
<td>30 03 87 1</td>
<td>50</td>
</tr>
</tbody>
</table>

Description

Terminal block, with integrated 1N 4007 diode, conducting from top to bottom

Terminal block, with integrated 1N 4007 diode, conducting from bottom to top

Terminal block, with integrated 1N 4007 diode, conducting from bottom left to bottom right

Terminal block, with two integrated 1N 4007 diodes, conducting from top to bottom left and from top to bottom right or from bottom right to bottom left

Terminal block, for soldering in a component from top to bottom

Terminal block, for soldering in a component from top to bottom left and from bottom right to bottom left

Cover

Spacer cover, compensates for level offset if standard terminal blocks are aligned

Spacer plate, compensates for level offset if standard terminal blocks are to be fitted adjacent, 2.5 mm thick

Fixed bridge, for cross connections in the terminal center, with permanently crimped rolls, screw heads with insulating collar as shock protection

2-pos.

3-pos.

4-pos.

10-pos.

Screwdriver

MBKKB 2,5-DIO

With integrated diodes

Terminal width 5.2 (IEC) rigid solid flexible stranded AWG [A] [V]
Connection data 0.2-2.5 0.2-2.5 24-12 24 500

Integrated: Diode 1N 4007
Reverse voltage: 1300 V
Maximum cont. current: 0.5 A

Data is based on the dielectric strength of adjacent terminal blocks or the DIN rail.

Type | Order No. | Unit |
-----|-----------|------|
D-MBKKB 2.5 | 14 13 05 2 | 50   |
DP-MBKKB 2.5 | 14 13 06 5 | 50   |
FBRN 35 N | 30 00 17 5 | 10   |
FBRN 35 N | 30 00 16 2 | 10   |
FBRN 40 N | 30 00 15 9 | 10   |
FBRN 55 N | 27 70 63 9 | 10   |
SZS 3,5 x 3,5 | 12 05 05 3 | 10   |
ZB 5 (for order data, see page 367) | | |

Zack marker strip, 10-section, white

Dimensions

Width / length / cover width [mm] 5.2 / 62 / 2.5
Height (NS 35/7.5 / NS 35/15 / NS 32) [mm] 48 / 55 / 67

Technical data in accordance with IEC / DIN VDE

Max. load current / cross section [A][mm²] 10 / 1.5
Rated surge voltage / contamination class [kV] 15
Surge voltage category / insulating material - / II

Connection capacity

Stretched with ferrule without / with plastic sleeve [mm²] 0.25 - 2.5 / 0.25 - 2.5

Multi-conductor connection (2 cond. with same cross section)

Solid / stranded [mm] 0.2 - 1 / 0.2 - 1.5
Stretched with ferrules without plastic sleeve [mm] 0.35 - 1.5
Stretched with TWIN ferrule with plastic sleeve [mm] 0.5 - 1.5

Stripping length [mm] 7

Internal cylindrical gauge (IEC 60 947-1) A3

Thread M3

Insulation material PA

Inflammability class in acc. with UL 94 V2

Approval data (ULCUL and CSA)

**MBKKB 2,5-BE**

Terminal width 5.2

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBKKB 2,5-BE</td>
<td>14 14 10 3</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>DP-MBKKB 2,3</td>
<td>14 13 05 2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>DP-MBKKB 2,5</td>
<td>14 13 06 5</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

**UKK 5-DIO with integrated diodes**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UKK 5-DIO-U</td>
<td>27 91 01 8</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>UKK 5-DIO-U</td>
<td>27 91 03 2</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>UKK 5-DIOUL-UR</td>
<td>27 91 02 9</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>UKK 5-2 DIO-UL-UL</td>
<td>27 91 11 3</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

**UKK 5-BE**

Terminal width 6.2

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UKK 5-BE</td>
<td>30 48 02 7</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>UKK 5-2 BE</td>
<td>30 48 03 0</td>
<td>50</td>
<td></td>
</tr>
</tbody>
</table>

**Type**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBI 10-4</td>
<td>02 03 25 0</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>SZS 0.6 x 3.5</td>
<td>12 05 05 3</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

**Order No.**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBI 10-6</td>
<td>02 03 25 0</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>SZS 0.6 x 3.5</td>
<td>12 05 05 3</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

**ZB 6** (for order data, see page 397)

- 5.3 / 60 / 2.5
- 48 / 55.5 / 41.5
- 26 / 2.5
- 6 / 9
- III / I
- 0.25 - 2.5 / 0.25 - 2.5
- 0.2 - 1 / 0.2 - 1.5
- 0.25 - 1.5
- 0.5 - 1.5
- A3
- M3
- 0.6 - 0.8
- PA
- V2
- 600 / 30 / 26 / 10

---

**Maximum installation width of components to be soldered in: 5 mm**

**Type**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBI 10-6</td>
<td>02 03 25 0</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>SZS 0.6 x 3.5</td>
<td>12 05 05 3</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

**Order No.**

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
<th>Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FBI 10-6</td>
<td>02 03 25 0</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>SZS 0.6 x 3.5</td>
<td>12 05 05 3</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

**ZB 6** (for order data, see page 397)

- 6.2 / 60 / 2.5
- 52 / 68.5 / 67.1
- 32 / 4
- 6 / 3
- III / I
- 0.25 - 2.5 / 0.25 - 2.3
- 0.2 - 1 / 0.2 - 1.5
- 0.25 - 1.5
- 0.5 - 1.5
- A3
- M3
- 0.6 - 0.8
- PA
- V2
- 600 / 30 / 26 / 10

---

 Phoenix Contact 285
Component terminal blocks

The constant current circuits common in process automation transmit the measured values as a load-independent current of 0(4) - 20 mA. A voltage signal pick-off can be implemented in the measuring conductor using the UDK 4-DUR terminal block, thus allowing the signal to be used as an analog signal for process computers. The four-conductor connection makes for convenient wiring. The lower level is assigned to the measuring line and the upper level is used for the voltage pick-off via the 249 Ω resistor.

The integrated light indicator in UKK 5-LA indicates the voltage condition of the lower feed-through level.

---

**UDK 4-DUR**

*with differential voltage resistor*

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pack Pcs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) UDK 4-DUR</td>
<td>27 75 20 7</td>
<td>50</td>
</tr>
<tr>
<td>b) UDK 4-DUR 249</td>
<td>27 75 24 9</td>
<td>50</td>
</tr>
</tbody>
</table>

**UKK 5-LA**

*with light indicator*

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pack Pcs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UDK 5-LA 24 RDU-O</td>
<td>27 91 32 0</td>
<td>50</td>
</tr>
<tr>
<td>UDK 5-LA 60 RDU-O</td>
<td>27 91 33 3</td>
<td>50</td>
</tr>
<tr>
<td>UDK 5-LA 230</td>
<td>27 91 34 9</td>
<td>50</td>
</tr>
<tr>
<td>D-UKK 35</td>
<td>27 70 02 4</td>
<td>50</td>
</tr>
<tr>
<td>DG-UKK 35</td>
<td>27 70 81 7</td>
<td>50</td>
</tr>
<tr>
<td>DP-UKK 35</td>
<td>27 70 79 4</td>
<td>50</td>
</tr>
<tr>
<td>FBI 10-6</td>
<td>02 03 25 0</td>
<td>10</td>
</tr>
<tr>
<td>EB 2-6</td>
<td>02 01 15 5</td>
<td>100</td>
</tr>
<tr>
<td>EB 3-6</td>
<td>02 01 14 2</td>
<td>100</td>
</tr>
<tr>
<td>EB 10-6</td>
<td>02 01 08 9</td>
<td>100</td>
</tr>
<tr>
<td>IS-SBI 10-6</td>
<td>03 01 56 5</td>
<td>100</td>
</tr>
<tr>
<td>IS-K 4</td>
<td>13 02 33 8</td>
<td>100</td>
</tr>
<tr>
<td>TS-KK 3</td>
<td>27 70 21 5</td>
<td>50</td>
</tr>
<tr>
<td>S2S 0.3 x 3.5</td>
<td>13 05 05 3</td>
<td>10</td>
</tr>
<tr>
<td>ZB 6 (for order data, see page 397)</td>
<td>6.2 / 03.0 / 1.5</td>
<td>1000</td>
</tr>
<tr>
<td>ZB 6 (for order data, see page 397)</td>
<td>6.2 / 03.0 / 1.5</td>
<td>1000</td>
</tr>
</tbody>
</table>
In thermocouple measurement circuits, the thermocouple is extended by using equalizers. This is the area of application of these special terminal blocks.

The equalizers are made of materials which, up to temperatures of approximately 200°C, have the same thermal characteristics as the corresponding thermocouples. The through contacts in these MTKD thermoelectric voltage terminal blocks are made of the same material as the equalizers in acc. with DIN 43 713 and DIN 43 714. This ensures that no false thermoelectric voltages result at the connection points of thermocouple/terminal block/equalizer and that the basic values according to EN 60 584/DIN EN 60 584 are observed.

The thermoelectric voltage terminal block pair is clearly marked with the compensating material used.

### Table for selecting thermoelectric voltage terminal blocks

<table>
<thead>
<tr>
<th>Thermocouple material</th>
<th>Equalizer material</th>
<th>Thermolectric terminal block pair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper/constantan (Cu/CuNi44)</td>
<td>Copper/constantan (Cu/CuNi44)</td>
<td>MTKD-CU/CUNI</td>
</tr>
<tr>
<td>Iron/constantan (Fe/CuNi44)</td>
<td>Iron/constantan (Fe/CuNi44)</td>
<td>MTKD-Fe/CUNI</td>
</tr>
<tr>
<td>Nickel/chrome/nickel (NiCr/Ni)</td>
<td>Nickel/chrome/nickel (NiCr/Ni)</td>
<td>MTKD-NICR/NI</td>
</tr>
<tr>
<td>Copper/copper-nickel (E-Cu/A-Cu)</td>
<td>Copper/copper-nickel (E-Cu/A-Cu)</td>
<td>MTKD-E-CU/A-CU</td>
</tr>
<tr>
<td>Copper/copper-nickel (E-Cu/A-Cu)</td>
<td>Copper/copper-nickel (E-Cu/A-Cu)</td>
<td>MTKD-E-CU/A-CU</td>
</tr>
<tr>
<td>S-copper/copper (S-Cu/E-Cu)</td>
<td>S-copper/copper (S-Cu/E-Cu)</td>
<td>MTKD-S-CU/E-CU</td>
</tr>
</tbody>
</table>

### Thermoelectric voltage terminal block pair

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs/Pkt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MTKD-CU/CUNI</td>
<td>31 00 05 9</td>
<td>50</td>
</tr>
<tr>
<td>MTKD-Fe/CUNI</td>
<td>31 00 04 6</td>
<td>50</td>
</tr>
<tr>
<td>MTKD-NICR/CUNI</td>
<td>31 00 07 5</td>
<td>50</td>
</tr>
<tr>
<td>MTKD-NICR/NI</td>
<td>31 00 06 2</td>
<td>50</td>
</tr>
<tr>
<td>MTKD-E-CU/A-CU</td>
<td>31 00 09 1</td>
<td>50</td>
</tr>
<tr>
<td>MTKD-S-CU/E-CU</td>
<td>31 00 10 1</td>
<td>50</td>
</tr>
<tr>
<td>D-MTK</td>
<td>31 00 02 9</td>
<td>50</td>
</tr>
<tr>
<td>ATS-MTK</td>
<td>31 00 22 3</td>
<td>50</td>
</tr>
<tr>
<td>SCS 1,0 x 4,0</td>
<td>12 00 06 6</td>
<td>10</td>
</tr>
</tbody>
</table>

### Dimensions

- Width / length / end cover width: 6.2 / 48 / 1
- Height (NS 35/7.5 / NS 35/15 / NS 32): 40 / 47.5 / 45
- Stripping length: 7
- Internal cylindrical gauge (IEC 60 947-1): A3
- Thread: M3
- Torque: 0.6 - 0.8
- Insulation material: V0
- Inflammability class in acc. with UL 94: 300 / 10 / 28 / 12

### Connection data

- Voltage to the neighboring feed-through terminal MTK:
  - C% US
  - Connection width 10.4 (IEC)

### Phoenix Contact

- Phoenix Contact: 287
Light indicator terminal blocks for voltage and current

Load current diagram of the current indicator terminal block, UD 4-ILA
Terminal current is dependent on the ambient temperature.
Duty cycle: 100%

![Load current diagram](image)

### UD 4-ULA

#### with voltage indicator

**Terminal width: 2,12**

<table>
<thead>
<tr>
<th>(EC)</th>
<th>[mm]</th>
<th>rigid</th>
<th>flexible</th>
<th>AWG</th>
<th>I [A]</th>
<th>U [V]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2-4</td>
<td>0.2-4</td>
<td>24-10</td>
<td>32</td>
<td>500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) The rated current must not be exceeded by the total current of all connected conductors.
2) To neighboring terminal blocks.

### UD 4-ILA

#### with current indicator

**Terminal width: 2,12**

<table>
<thead>
<tr>
<th>(EC)</th>
<th>[mm]</th>
<th>rigid</th>
<th>flexible</th>
<th>AWG</th>
<th>I [A]</th>
<th>U [V]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2-6</td>
<td>0.2-6</td>
<td>24-10</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1) To neighboring terminal blocks.
2) Observe load current diagram.

#### Technical data

- **Connection data**
  - UD 4-ILA 500: 0.2-6 24-10 0.5/1 500
  - UD 4-ILA 1000: 0.2-6 24-10 1.0/1 500

#### Ambient temperature

- **[°C]**
  - 0
  - 0.25
  - 0.5
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - 11
  - 12
  - 13
  - 14
  - 15
  - 16
  - 17
  - 18
  - 19
  - 20
  - 21
  - 22
  - 23
  - 24
  - 25
  - 26
  - 27
  - 28
  - 29
  - 30
  - 31
  - 32
  - 33
  - 34
  - 35
  - 36
  - 37
  - 38
  - 39
  - 40
  - 41
  - 42
  - 43
  - 44
  - 45
  - 46
  - 47
  - 48
  - 49
  - 50
  - 51
  - 52
  - 53
  - 54
  - 55
  - 56
  - 57
  - 58
  - 59
  - 60

#### Nominal voltage / current / conductor size

- **UL/CUL: [V] / [A] / AWG**
  - 28-60 / 20-10 / 10
  - 28-60 / 20-10 / 12

#### Insulation material

- **ZB 6 (for order data, see page 397)**

#### Screwdriver

- **For electrical separation of neighboring blocks, can be fitted later, no loss of pitch**

#### Separating plate

- **10 positions, divisible, with 10 screws with terminal center, screw heads with insulating collar. 10-position, divisible, insulated spine.**

#### Insertion bridge

- **Fully insulated, 10-position, divisible, with 10 screws**

#### Power terminal blocks

- **UDK 4-ILA 1000**
  - 27 75 03 2
  - 27 75 05 6

#### Dimensions

- **Width / length / cover width**
  - 6.2 / 63.6 / 1.5

#### Technical data in accordance with IEC / DIN VDE

- **Max. load current / cross section**
  - [A] [mm²]
  - 32 / 0.6
  - 64 / 2.5

#### Surge voltage category / insulating material group

- **U**
  - 6 / 3
  - 3 / 1

#### Connection capacity

- **Stranded with ferrule without / with plastic sleeve**
  - 0.25 - 4 / 0.25 - 1.5

#### Multi-conductor connection (2 cond. with same cross section)

- **Solid / stranded**
  - 0.2 / 1 / 0.2 / 1.5

#### Insulated conductor (IEC 6947-1)

- **Thread**
  - M3

- **Insulation material**
  - PA

- **Poorwax, in acc. with UL 67**

#### Approval data (UL/CUL and CSA)

- **Nominal voltage / current / conductor size**
  - UL/CUL: [V] / [A] / AWG
  - CSA: [V] / [A] / AWG

- **600 / 20-10 / 12**

#### Phoenix Contact
In EN 60 204-1/VDE 0113 part 1 "Electrical equipment of industrial machines", section 9.4.3.1 specifies that:"ground faults in control circuits must not lead to an unintentional startup or dangerous movement of a machine or prevent it shutting down...".

This requirement is fulfilled by the ground disconnect terminal block, GTF 76. With the disconnect slide closed in "ON" position, the yellow lamp indicates grounded normal operation. If the disconnect slide is moved to the "OFF" position, the red lamp indicates whether there is a ground fault in the control circuit.

---

### Ground disconnect terminal block, GTF 76

<table>
<thead>
<tr>
<th>Description</th>
<th>Current [mA]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground disconnect terminal block, with universal foot for mounting on L, N, U, or C, for 110-250 V AC/DC</td>
<td>0.5-1</td>
</tr>
<tr>
<td>Ground disconnect terminal block, with universal foot for mounting on L, N, U, or C, for 24-48 V AC/DC</td>
<td>3.5-8</td>
</tr>
</tbody>
</table>

---

**Warning**

During insulation testing in accordance with EN 60 204-1/VDE 0113 part 1, the GTF 76 should be either disconnected or bridged, as otherwise the light indicator will be damaged or a short circuit will result.

---

### GTF 76

<table>
<thead>
<tr>
<th>Type</th>
<th>Order No.</th>
<th>Pcs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GTF 76/230</td>
<td>31 2101 2</td>
<td>10</td>
</tr>
<tr>
<td>GTF 79/48</td>
<td>31 2102 5</td>
<td>10</td>
</tr>
<tr>
<td>SZS 1.0 x 4.0</td>
<td>12 0506 6</td>
<td>10</td>
</tr>
</tbody>
</table>

---

### Grounded operating mode

1. External operating indicator
2. Yellow operating indicator
3. Red earth fault indicator

---

### Ground fault

1. External operating indicator
2. Yellow operating indicator
3. Red earth fault indicator

---

**Note:**

Due to imbalances in the cable insulation, the red indicator may light up slightly when the disconnect slide is in the open position, even though there is no ground fault. This has no effect on the functional efficiency and does not influence the protective functions required by the VDE regulations.