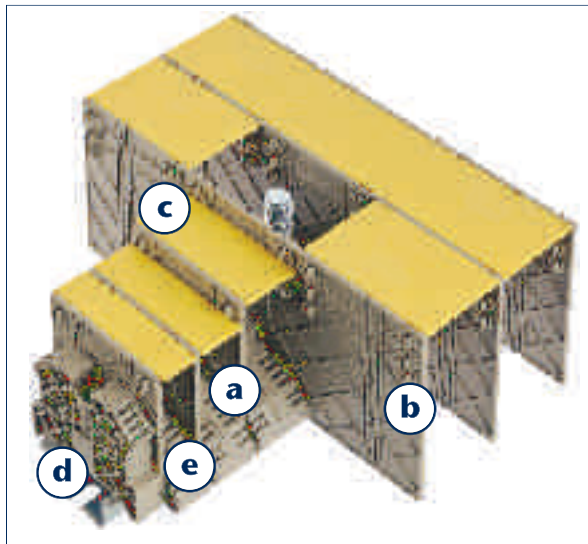


## High-power stud terminals HSK

The newest generation of stud terminals offers a secure connection for all energy-transmitting applications. Depending on the conductor cross-section, stud terminals can be used with threaded studs (bolts) from M5 to M12. The rated current reaches from 76 to 269 amps, with a rated voltage up to 1000 volts. The conductor range is from 0.1 mm<sup>2</sup> to 120 mm<sup>2</sup>. Conductors with crimped cable lugs are placed on the studs. They are then connected to each other by tightening the hex nut. Optimal security is guaranteed by the low voltage drop and by the use of self-extinguishing material with a V0 (UL94) flammability rating.

### Overview and accessories



### Approvals applied for (details upon request).

#### Features

- Voltage range up to 1000 V
- A secure connection of up to four conductors
- Low voltage drop
- Complete system construction with few individual parts
- Terminal housing from Polyamid PA 6.6-V0 (self-extinguishing)
- Stud connection from M5 to M12
- Securely mounted on the rail

#### Handling

##### 1 Stud terminals:

Up to four conductors can be connected without problems. Cable lugs are crimped onto the conductor ends to facilitate the connection. The cable lugs should be aligned opposite each other when there are multiple lugs per side. When the nut is tightened, the edges of the cable lug press against each other, and a secure connection is ensured.

Designed for mounting onto **TS 35** mounting rails, the stud terminals can be adapted with accessories such as **TW** partitions and **AD** covers to suit application requirements. These products are easy to use. They also stand out with their cost-optimised line of accessories which results in reduced storage costs and assembly times.

##### a The HSK basic terminals

stud terminals can be mounted as required on TS 35 mounting rails in accordance with EN 50035 and EN 50022.

##### b TW partitions

Special **TW** partitions can be securely snapped into the terminal housing. This allows for good optical and electrical separation of the terminals.

In addition, they are ready to be fit with covers, which simply snap over them

##### c AD covers

The **AD** covers can be snapped on, simply and securely, to the matching openings in the partitions. In this quick and reliable way, protection against direct touch of the terminal area is always guaranteed.

##### d The ES 35/K/ST end brackets

The **ES 35/K/ST** end brackets connect both sides of the mounting rail with a steel construction. They are a secure method of attachment in terminal rail design. The plastic PA 6.6 housing of the brackets encapsulates the metal parts.

##### e Labelling | Marking

The stud terminals have a labelling surface which is optimally suited for our Pocket-Maxicard **PMC** (PMC BSTR 6/30) standard marking systems. In addition to our large variety of standard labels,

##### 2 Stud terminals:

Cable lugs are crimped onto the conductor ends to facilitate the connection. The cable lugs are placed on the studs between the safety washer and the busbar. The cable lugs should be aligned opposite each other when there are two lugs per stud. When the nut is tightened, the edges of the cable lug press against each other, and a secure connection is ensured.

## Detailed characteristics



### Stud connection

- Stud size from M5 to M12
- Conductor with cable lug according to DIN 46234 up to 120 mm<sup>2</sup>
- Up to four cable lugs per stud can be connected

### Ease of use

- One-stud terminals: place cable lug on the stud between the underlying washer and the safety washer
- Two-stud terminals: place cable lug on the stud between the busbar and the safety washer
- By tightening the steel nut, the cable lugs forms a contact with the other cable lug or with the busbar (B/B versions)



### Cross-connections

- 2- and 3-pole designs
- Can be used for all stud terminals
- Possible potentials distribution between the different sizes
- Designed for the rated current of the corresponding stud terminal
- Clearly saves time with its quick potentials distribution



### Terminal carriers made from Polyamide 6.6 V0

- Self-extinguishing, UL94-V0 flammability class
- Creepage-current protected, CTI = 600
- Temperature resistance: -40° to +120°C
- Spec. contact resistance: 10<sup>13</sup> Ohm/cm
- Spec. surface resistance: 10<sup>15</sup> Ohm/cm
- Temp. index, mechanical: 120°C (at 0.8 mm)
- Temp. index, electrical: 120°C (at 0.8 mm)
- Relative temp. index, electrical: 130°C (at 0.8 mm)
- Pollutant-free

### Secure handling

- Partitions give touch-protection and yellow covers

### Secure contacts

- Maintenance-free, later tightening of the nut is not needed
- High contact strength and vibration resistance from the safety/spring washer
- Direct contact of cable lugs, or contact via copper busbar

### Standards

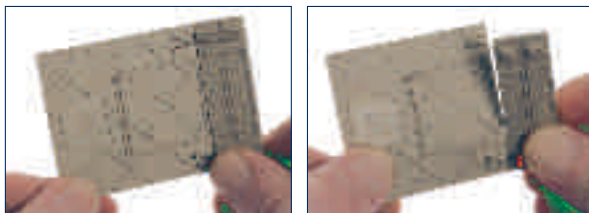
The following standard terminal block requirements are fulfilled:

- EN 60947-7-1
- EN 50124-1
- DIN EN 61373

## Handling accessories

### The use of TW partitions

The **HSK...B** single-stud terminals and the **HSK...B/B** two-stud versions make use of two **TW** partitions. The partitions can be adjusted to the rated cross-section by using the pre-determined breakage points. For your further assistance, the **TW** partitions list the cross-section range and additional dimension lines. Remember that the clearance and creepage distances for a rated voltage of 1000 V, and dependent on the corresponding cross-section, must be followed.



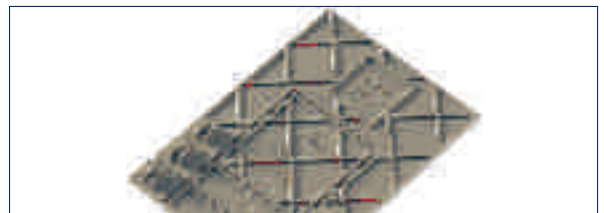
Simple breaking off of the TW partition

### Snapping on the partition into the high-power HSK stud terminals

You can snap on the **TW** partitions and the **HSK** stud terminals by using the locking pegs on the partition. The pegs lock into the foot of the stud terminal.



HSK installed with TW partition and AD cover



TW partition with dimension lines



Snapping together the TW partition with a high-power HSK stud terminal

### Using the AD covers

An individual **AD** cover is available for each width of stud terminal. Their length takes into consideration the creepage and clearance distances on the two-stud terminals. If the covers are to be used with the one-stud versions, you can shorten the cover by breaking it along the breakage points. For your further assistance, the **AD** covers have additional dimension lines on them. Locking pegs are used to mount the **AD** cover. The cover snaps in securely from above to the **TW** partitions. Thus a high degree of touch-safety is guaranteed.



Simple breakage with the AD cover



AD cover with dimension lines

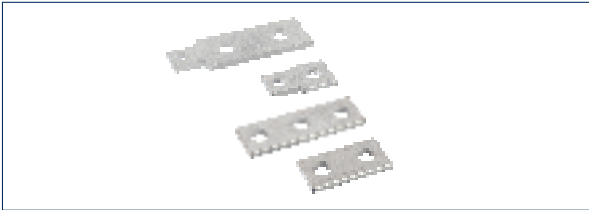
# Handling accessories



The HSK fitted with the Q cross-connection

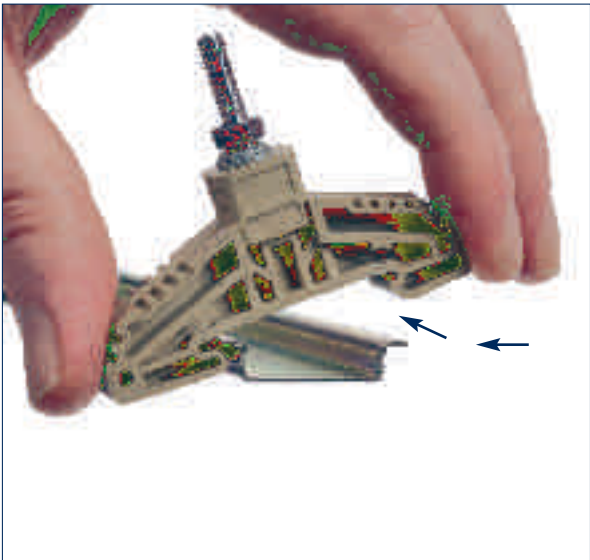
## Cross-connection/Potential distribution Q | Omitting the TW partitions

With neighboring stud terminals, it is possible to implement potential distribution over a two- or three-pole cross-connection. The corresponding windows on the **TW** partition must be punched out first, in order to mount the cross-connections.



The cross-connection type Q

| Cat. no. | Type            | Stud (bolt) size | Possibilities for cross-connections | Cross-connection type | Cat. no.          |
|----------|-----------------|------------------|-------------------------------------|-----------------------|-------------------|
| 17000.2  | HSK 16/M5 B     | M5               | 2- and 3-pole, from M5 to M5        | Q2/16   Q3/16         | 17008.0   17009.0 |
| 17001.2  | HSK 35/M6 B     | M6               | 2- and 3-pole, from M6 to M6        | Q2/35   Q3/35         | 17010.0   17011.0 |
| 17005.2  | HSK 35/M6 B/B   | M6               | 2-pole from M6 to M8                | Q2 HSK 35/M6 - M8     | 99199.0           |
|          |                 |                  | 3-pole from M6 to M10               | Q3 HSK 35/M6 - M10/2  | 99199.4           |
| 17002.2  | HSK 50/M8 B     | M8               | 2- and 3-pole, from M8 to M8        | Q2/50   Q3/50         | 17012.0   17013.0 |
| 17006.2  | HSK 50/M8 B/B   | M8               | 2-pole from M6 to M8                | Q2 HSK 35/M6 - M8     | 99199.0           |
| 17003.2  | HSK 120/M10 B   | M10              | 2- and 3-pole, from M10 to M10      | Q2/120-10   Q3/120-10 | 17014.0   17015.0 |
| 17007.2  | HSK 120/M10 B/B | M10              | 3-pole from M6 to M10               | Q3 HSK 35/M6 - M10/2  | 99199.4           |
| 17004.2  | HSK 120/M12 B   | M12              | 2- and 3-pole, from M12 to M12      | Q2/120-12   Q3/120-12 | 17016.0   17017.0 |

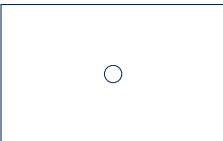
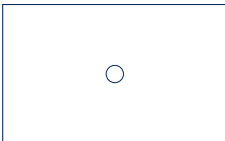
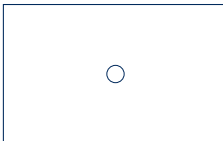
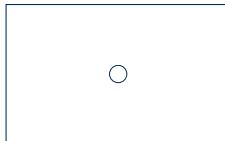


The press-swivel movement for unlocking the springs in the terminal foot

## Unlocking the mounting rails

The stud terminal can be snapped off the rail by using a combination press-swivel movement which unlocks the pressure springs located in the terminal foot.

## High-power stud terminals HSK

|                                                                       |                                                                                         |                                                                                          |                                                                                           |                                                                                            |
|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| <b>Stud connection system</b>                                         | <b>HSK 16/M5 B</b>                                                                      | <b>HSK 35/M6 B</b>                                                                       | <b>HSK 50/M8 B</b>                                                                        | <b>HSK 120/M10 B</b>                                                                       |
| Insulated housing PA 6.6 V0<br>Mounts on TS 35<br>One-stud connection | <br>M5 | <br>M6 | <br>M8 | <br>M10 |
|                                                                       |        |        |        |         |
|                                                                       | High-power terminal<br>1 connection                                                     | High-power terminal<br>1 connection                                                      | High-power terminal<br>1 connection                                                       | High-power terminal<br>1 connection                                                        |
| <b>Connection diagram</b>                                             |                                                                                         |                                                                                          |                                                                                           |                                                                                            |
| <b>Connection type</b>                                                | <b>Stud (bolt) connection</b>                                                           | <b>Stud (bolt) connection</b>                                                            | <b>Stud (bolt) connection</b>                                                             | <b>Stud (bolt) connection</b>                                                              |
| <b>Dimensions (L x W x H)</b>                                         | 67 x 13 x 55.5                                                                          | 67 x 16 x 55.5                                                                           | 67 x 21 x 63.5                                                                            | 67 x 32 x 73.5                                                                             |
| with TS 35 x 7.5 mm                                                   | 67 x 13 x 58                                                                            | 67 x 16 x 58                                                                             | 67 x 21 x 66                                                                              | 67 x 32 x 76                                                                               |
| with TS 35 x 7.5 mm with TW/AH                                        |                                                                                         |                                                                                          |                                                                                           |                                                                                            |
| <b>Type</b>                                                           |                                                                                         |                                                                                          |                                                                                           |                                                                                            |
| <b>Type</b>                                                           | HSK 16/M5 B                                                                             | HSK 35/M6 B                                                                              | HSK 50/M8 B                                                                               | HSK 120/M10 B                                                                              |
| <b>Cat. no./Qty. p.pck.</b>                                           | <b>17000.2/10</b>                                                                       | <b>17001.2/10</b>                                                                        | <b>17002.2/10</b>                                                                         | <b>17003.2/10</b>                                                                          |
| <b>Rated data with partition</b>                                      | <b>IEC</b>                                                                              | <b>IEC</b>                                                                               | <b>IEC</b>                                                                                | <b>IEC</b>                                                                                 |
| Rated voltage V                                                       | 1000                                                                                    | 1000                                                                                     | 1000                                                                                      | 1000                                                                                       |
| Rated current A                                                       | 76                                                                                      | 125                                                                                      | 150                                                                                       | 269                                                                                        |
| Rated conductor cross-section mm²/AWG                                 | 16   10-0                                                                               | 35   14-2                                                                                | 50   14-1/0                                                                               | 120   10-Kcmil 250                                                                         |
| Rated surge voltage kV / Contamination degree                         | 8   3                                                                                   | 8   3                                                                                    | 8   3                                                                                     | 8   3                                                                                      |
| Gauge plug to EN 60947-1/Flamm. class UL 94                           | -   V0                                                                                  | -   V0                                                                                   | -   V0                                                                                    | -   V0                                                                                     |
| Approvals                                                             | applied for                                                                             | applied for                                                                              | applied for                                                                               | applied for                                                                                |
| <b>Connection data</b>                                                |                                                                                         |                                                                                          |                                                                                           |                                                                                            |
| Contact wire range mm²                                                | ≤ 16                                                                                    | ≤ 35                                                                                     | ≤ 50                                                                                      | ≤ 120                                                                                      |
| Stud size                                                             | M5                                                                                      | M6                                                                                       | M8                                                                                        | M10                                                                                        |
| <b>Clampable cable lug</b>                                            |                                                                                         |                                                                                          |                                                                                           |                                                                                            |
| DIN 46234 / 1 cable lug per side mm                                   | 0.1 - 16                                                                                | 2.5 - 35                                                                                 | 2.5 - 50                                                                                  | 6 - 120                                                                                    |
| DIN 46234 / 2 cable lugs per side mm                                  | 0.1 - 16                                                                                | 2.5 - 35                                                                                 | 2.5 - 50                                                                                  | 6 - 120                                                                                    |
| DIN 46235 / 1 cable lug per side mm                                   | 0.1 - 10                                                                                | 6.0 - 35                                                                                 | 6.0 - 35                                                                                  | 10 - 95                                                                                    |
| DIN 46235 / 2 cable lugs per side mm                                  | 0.1 - 10                                                                                | 6.0 - 35                                                                                 | 6.0 - 12                                                                                  | 10 - 95                                                                                    |
| Torque Nm                                                             | 2.0 - 4,0                                                                               | 3.0 - 6.0                                                                                | 6.0 - 12                                                                                  | 10 - 20                                                                                    |
| <b>Accessories</b>                                                    |                                                                                         |                                                                                          |                                                                                           |                                                                                            |
| Partition TW up to 1000 V                                             | TW 16-120                                                                               | TW 16-120                                                                                | TW 16-120                                                                                 | TW 35-120                                                                                  |
| <b>Cat. no./Qty. p.pck.</b>                                           | <b>17018.2/20</b>                                                                       | <b>17018.2/20</b>                                                                        | <b>17018.2/20</b>                                                                         | <b>17022.2/20</b>                                                                          |
| Partition TW up to 1000 V for insul. cable lugs                       | -                                                                                       | -                                                                                        | -                                                                                         | TW 16-120                                                                                  |
| <b>Cat. no./Qty. p.pck.</b>                                           | -                                                                                       | -                                                                                        | -                                                                                         | <b>17018.2/20</b>                                                                          |
| Cover profile AD                                                      | AD 16                                                                                   | AD 35                                                                                    | AD 50                                                                                     | AD 120                                                                                     |
| <b>Cat. no./Qty. p.pck.</b>                                           | <b>17019.8/20</b>                                                                       | <b>17020.8/20</b>                                                                        | <b>17021.8/20</b>                                                                         | <b>17026.8/20</b>                                                                          |
| Cross-connection Q                                                    | Q2/16                                                                                   | Q2/35                                                                                    | Q2/50                                                                                     | Q2/120-10                                                                                  |
| <b>Cat. no./Qty. p.pck.</b>                                           | <b>17008.0/10</b>                                                                       | <b>17010.0/10</b>                                                                        | <b>17012.0/10</b>                                                                         | <b>17014.0/10</b>                                                                          |
| Cross-connection Q                                                    | Q3/16                                                                                   | Q3/35                                                                                    | Q3/50                                                                                     | Q3/120-10                                                                                  |
| <b>Cat. no./Qty. p.pck.</b>                                           | <b>17009.0/10</b>                                                                       | <b>17011.0/10</b>                                                                        | <b>17013.0/10</b>                                                                         | <b>17015.0/10</b>                                                                          |
| Cross-connection Q from M6 to M8                                      | 2-pole                                                                                  | Q2 HSK 35/M6 - M8                                                                        | Q2 HSK 35/M6 - M8                                                                         | -                                                                                          |
| <b>Cat. no./Qty. p.pck.</b>                                           | -                                                                                       | <b>99199.0</b>                                                                           | <b>99199.0</b>                                                                            | -                                                                                          |
| Cross-connection Q from M6 to M10                                     | 3-pole                                                                                  | Q3 HSK 35/M6 - M10/2                                                                     | -                                                                                         | Q3 HSK 35/M6 - M10/2                                                                       |
| <b>Cat. no./Qty. p.pck.</b>                                           | -                                                                                       | <b>99199.4</b>                                                                           | -                                                                                         | <b>99199.4</b>                                                                             |
| End bracket                                                           | PA 6.6                                                                                  | ES 35/K/ST                                                                               | ES 35/K/ST                                                                                | ES 35/K/ST                                                                                 |
| <b>Cat. no./Qty. p.pck.</b>                                           | <b>2828.0/50</b>                                                                        | <b>2828.0/50</b>                                                                         | <b>2828.0/50</b>                                                                          | <b>2828.0/50</b>                                                                           |
|                                                                       |                                                                                         |                                                                                          |                                                                                           |                                                                                            |
|                                                                       |                                                                                         |                                                                                          |                                                                                           |                                                                                            |
|                                                                       |                                                                                         |                                                                                          |                                                                                           |                                                                                            |
|                                                                       |                                                                                         |                                                                                          |                                                                                           |                                                                                            |
|                                                                       |                                                                                         |                                                                                          |                                                                                           |                                                                                            |

