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Panel feed-through terminal block, connection method: Screw connection with tension sleeve, Screw connection with tension sleeve, number of positions: 1, load current: 57 A, cross section: 0.5 mm<sup>2</sup> - 16 mm<sup>2</sup>, connection direction of the conductor to plug-in direction: 0 °, width: 10.1 mm, color: gray

The figure shows a 1-pos. version of the product

#### **Product Description**

External part, with current bar

#### Your advantages

- ☑ Well-known connection principle allows worldwide use
- ☑ Low temperature rise, thanks to maximum contact force
- ☑ Tool-free snap-in principle enables easy mounting on the device panel
- Automatic panel thickness compensation enables universal use



#### Key Commercial Data

| Packing unit           | 50 pc                     |
|------------------------|---------------------------|
| Minimum order quantity | 50 pc                     |
| GTIN                   | 4 0 4 6 3 5 6 1 4 8 6 1 0 |
| GTIN                   | 4046356148610             |

#### **Technical data**

#### Item properties

| Brief article description | Panel feed-through terminal block    |
|---------------------------|--------------------------------------|
| Range of articles         | HDFK 10                              |
| Pitch                     | 10.1 mm                              |
| Number of positions       | 1                                    |
| Connection method         | Screw connection with tension sleeve |

Electrical parameters



## Technical data

#### Electrical parameters

| Nominal current             | 57 A                                     |
|-----------------------------|--|
| Nom. voltage                | 400 V (With metal panels of 1 mm 2.5 mm) |
| Rated voltage               | 400 V                                    |
| Rated voltage (III/2)       | 500 V                                    |
| Rated voltage (II/2)        | 1000 V                                   |
| Rated surge voltage (III/3) | 6 kV                                     |
| Rated surge voltage (III/2) | 6 kV                                     |
| Rated surge voltage (II/2)  | 6 kV                                     |

#### Connection capacity, external

| Connection method   | Screw connection with tension sleeve   |
|---|--|
| Connection direction of the conductor to plug-in direction                                | 0 °                                    |
| Conductor cross section solid   | 0.5 mm <sup>2</sup> 16 mm <sup>2</sup> |
| Conductor cross section flexible  | 0.5 mm <sup>2</sup> 10 mm <sup>2</sup> |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.5 mm <sup>2</sup> 10 mm <sup>2</sup> |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.5 mm <sup>2</sup> 10 mm <sup>2</sup> |
| 2 conductors with same cross section, solid   | 0.5 mm <sup>2</sup> 4 mm <sup>2</sup>  |
| 2 conductors with same cross section, flexible  | 0.5 mm² 4 mm²                          |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve       | 0.5 mm² 2.5 mm²                        |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm² 6 mm²                          |
| Internal cylindrical gage   | B6                                     |
| Stripping length  | 10 mm                                  |
| Torque  | 1.5 Nm 1.8 Nm                          |

#### Connection capacity, internal

| Connection method   | Screw connection with tension sleeve   |
|---|--|
| Connection direction of the conductor to plug-in direction                                | 0 °                                    |
| Conductor cross section solid   | 0.5 mm² 16 mm²                         |
| Conductor cross section flexible  | 0.5 mm <sup>2</sup> 10 mm <sup>2</sup> |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.5 mm <sup>2</sup> 10 mm <sup>2</sup> |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.5 mm <sup>2</sup> 10 mm <sup>2</sup> |
| 2 conductors with same cross section, solid   | 0.5 mm <sup>2</sup> 4 mm <sup>2</sup>  |
| 2 conductors with same cross section, flexible  | 0.5 mm <sup>2</sup> 4 mm <sup>2</sup>  |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve       | 0.5 mm² 2.5 mm²                        |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm² 6 mm²                          |
| Internal cylindrical gage   | B6                                     |
| Stripping length  | 10 mm                                  |
| Torque  | 1.5 Nm 1.8 Nm                          |



# Technical data

#### Material data - contact

| Note                    | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/<br>JEDEC JESD 201 |
|-------------------------|--|
| Contact material        | Cu alloy   |
| Surface characteristics | tin-plated   |

#### Material data - housing

| Housing color   | gray (7042) |
|---|-------------|
| Insulating material   | РА          |
| Insulating material group   | 1           |
| CTI according to IEC 60112  | 600         |
| Flammability rating according to UL 94                            | V0          |
| Glow wire flammability index GWFI according to EN 60695-2-12      | 850         |
| Glow wire ignition temperature GWIT according to EN 60695-2-13    | 775         |
| Temperature for the ball pressure test according to EN 60695-10-2 | 125 °C      |

#### Dimensions for the product

| Width [ w ] | 10.1 mm |
|-------------|---------|
| Pitch       | 10.1 mm |

#### Packaging information

| Type of packaging          | packed in cardboard |
|----------------------------|---------------------|
| Pieces per package         | 50                  |
| Denomination packing units | Pcs.                |

#### General product information

| Type of note | Notes on safety   |
|--------------|---|
|              | The cable entry funnel is not touch-proof. Never connect or disconnect<br>the terminal when it is energized. Take appropriate steps to ensure<br>touch proofness. |

#### Termination and connection method

| Test for conductor damage and slackening | IEC 60947-7-1:2009-04 |
|--|-----------------------|
|  | Test passed           |

#### Pull-out test

| Pull-out test  | IEC 60947-7-1:2009-04       |
|--|-----------------------------|
|  | Test passed                 |
| Conductor cross section / conductor type / tensile force | 0.5 mm² / solid / > 20 N    |
|  | 0.5 mm² / flexible / > 20 N |
|  | 16 mm² / solid / > 100 N    |
|  | 10 mm² / flexible / > 90 N  |

#### Mechanical tests according to standard

| Test specification | IEC 60947-7-1 |
|--------------------|---------------|
|--------------------|---------------|



## Technical data

#### Electrical tests

| Rated current               | 57 A               |
|-----------------------------|--------------------|
| Conductor cross section     | 10 mm <sup>2</sup> |
| Rated voltage (III/2)       | 500 V              |
| Rated surge voltage (III/2) | 6 kV               |

#### Air clearances and creepage distances

| Clearances and creepage distances               | Metal wall 1.0 mm 2.5 mm IEC 60947-1:2007-06 + A1:2010-12 |
|---|---|
| Application                                     | Metal wall 1.0 mm 2.5 mm                                  |
| Specification                                   | IEC 60947-1:2007-06 + A1:2010-12                          |
| Minimum clearance - inhomogeneous field (III/3) | 5.5 mm  |
| Minimum clearance - inhomogeneous field (III/2) | 5.5 mm  |
| Minimum clearance - inhomogeneous field (II/2)  | 5.5 mm  |
| Minimum creepage distance value (III/3)         | 5.5 mm  |
| Minimum creepage distance value (III/2)         | 5.5 mm  |
| Minimum creepage distance value (II/2)          | 5.5 mm  |

#### Temperature-rise test

| Specification                     | IEC 60947-7-1:2009-04               |
|-----------------------------------|-------------------------------------|
| Result                            | Test passed                         |
| Requirement temperature-rise test | Increase in temperature $\leq$ 45 K |

#### Current carrying capacity / derating curves

| Caption             | Type: HDFK 10                                 |
|---------------------|---|
| Specification       | IEC 60947-7-1:2009-04                         |
| Number of positions | 5   |
| Reduction factor    | 1   |
| Note                | Representation based on IEC 60512-5-2:2002-02 |

#### Standards and Regulations

| Connection in acc. with standard | CSA   |
|----------------------------------|---|
| Safety note                      | • WARNING: Only electrically qualified personnel may install and<br>operate the product. They must observe the following safety notes.<br>The qualified personnel must be familiar with the basics of electrical<br>engineering. They must be able to recognize and prevent danger. The<br>relevant symbol on the packaging indicates that only personnel familiar<br>with electrical engineering are allowed to install and operate the product. |
|                                  | • The installation notes/Design In documents online on the download page at phoenixcontact.com/products must be observed for this product.  |
|                                  | • The cable entry funnel is not safe to touch. Never connect or disconnect the terminal when it is energized. Take appropriate steps to ensure touch protection.  |
|                                  | # There is no electrical contact to the housing. Ensure protective grounding is established for green-yellow color versions.  |

Vibration test



### Technical data

#### Vibration test

| Specification          | IEC 60068-2-6:2007-12  |
|------------------------|------------------------|
| Result                 | Test passed            |
| Frequency              | 10 - 150 - 10 Hz       |
| Sweep speed            | 1 octave/min           |
| Amplitude              | 0.35 mm (10 - 60.1 Hz) |
| Acceleration           | 5 g (60.1 - 150 Hz)    |
| Test duration per axis | 2.5 h                  |

#### Glow-wire test

| Specification    | IEC 60695-2-11:2014-02 |
|------------------|------------------------|
| Result           | Test passed            |
| Temperature      | 960 °C                 |
| Time of exposure | 30 s                   |

#### Needle flame test

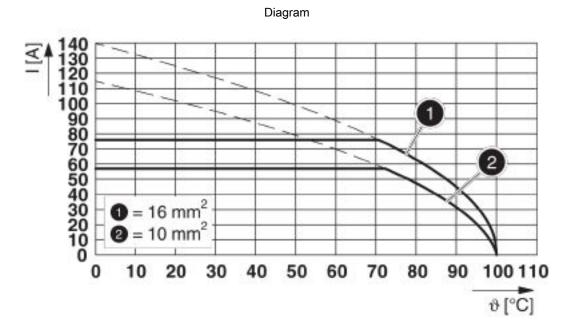
| Specification    | IEC 60947-7-1:2009-04 |
|------------------|-----------------------|
| Result           | Test passed           |
| Time of exposure | 30 s                  |

#### **Environmental Product Compliance**

| REACh SVHC | Lead 7439-92-1   |
|------------|--|
| China RoHS | Environmentally Friendly Use Period = 50 years   |
|            | For details about hazardous substances go to tab "Downloads",<br>Category "Manufacturer's declaration" |

### Drawings





Type: HDFK 10

### Classifications

eCl@ss

| eCl@ss 10.0.1 | 27141134 |
|---------------|----------|
| eCl@ss 4.0    | 27141100 |
| eCl@ss 4.1    | 27141100 |
| eCl@ss 5.0    | 27141100 |
| eCl@ss 5.1    | 27141100 |
| eCl@ss 6.0    | 27141100 |
| eCl@ss 7.0    | 27141134 |
| eCl@ss 8.0    | 27141134 |
| eCl@ss 9.0    | 27141134 |

### ETIM

| ETIM 3.0 | EC001283 |
|----------|----------|
| ETIM 4.0 | EC001283 |
| ETIM 5.0 | EC001283 |
| ETIM 6.0 | EC001283 |
| ETIM 7.0 | EC001283 |

UNSPSC

| UNSPSC 6.01   | 30211811 |
|---------------|----------|
| UNSPSC 7.0901 | 39121410 |



## Classifications

#### UNSPSC

| UNSPSC 11    | 39121410 |
|--------------|----------|
| UNSPSC 12.01 | 39121410 |
| UNSPSC 13.2  | 39121410 |
| UNSPSC 18.0  | 39121410 |
| UNSPSC 19.0  | 39121410 |
| UNSPSC 20.0  | 39121410 |
| UNSPSC 21.0  | 39121410 |

### Approvals

#### Approvals

#### Approvals

CSA / EAC / cULus Recognized

#### Ex Approvals

#### Approval details

| CSA                | <b>()</b> | http://www.csagroup.org/services-industries/product-listing/ |       | 13631 |
|--------------------|-----------|--|-------|-------|
|                    |           |  |       |       |
| Nominal voltage UN |           |  | 300 V |       |
| Nominal current IN |           |  | 65 A  |       |
| mm²/AWG/kcmil      |           |  | 22-6  |       |

| EAC | EAC | B.01687 |
|-----|-----|---------|
|     |     |         |

| cULus Recognized http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm E60425-19870911 |       |       |       |  |  |
|--|-------|-------|-------|--|--|
|  | В     | С     | D     |  |  |
| Nominal voltage UN   | 300 V | 150 V | 300 V |  |  |
| Nominal current IN   | 65 A  | 65 A  | 10 A  |  |  |
| mm²/AWG/kcmil  | 24-6  | 24-6  | 24-6  |  |  |



### Accessories

Accessories

Screwdriver tools

Screwdriver - SZS 1,0X4,0 VDE - 1205066



Screwdriver, slot-headed, VDE insulated, size: 1.0 x 4.0 x 100 mm, 2-component grip, with non-slip grip

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