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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

#### 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           |
|--------------|-----------------|
| GTIN         | 4 046356 180139 |
| GTIN         | 4046356180139   |

## Technical data

#### Item properties

| Brief article description | Panel feed-through terminal block    |
|---------------------------|--------------------------------------|
| Range of articles         | HDFK 10-HV                           |
| Pitch                     | 10.1 mm                              |
| Number of positions       | 1                                    |
| Connection method         | Screw connection with tension sleeve |
| Number of connections     | 2                                    |

#### **Electrical parameters**

| Nominal current             | 57 A   |
|-----------------------------|--------|
| Nom. voltage                | 1000 V |
| Rated voltage               | 1000 V |
| Rated surge voltage (III/3) | 8 kV   |



## Technical data

### 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 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                          |

### 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 mm² 10 mm²                       |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.5 mm² 10 mm²                       |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.5 mm² 10 mm²                       |
| 2 conductors with same cross section, solid                                               | 0.5 mm² 4 mm²                        |
| 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                        |

#### 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         |



## Technical data

#### Material data - housing

| 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 |
|--------------|---------|
| Height [ h ] | 31.2 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                                                                                                                                             |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Note         | The cable entry funnel is not touch-proof. Never connect or disconnect the terminal when it is energized. Take appropriate steps to ensure touch proofness. |

#### Ambient conditions

| Ambient temperature (storage/transport) | -40 °C 70 °C                                                              |
|-----------------------------------------|---------------------------------------------------------------------------|
| Ambient temperature (assembly)          | -5 °C 100 °C                                                              |
| Ambient temperature (operation)         | -40 °C 100 °C (Depending on the current carrying capacity/derating curve) |

### 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 |
|--|--------------------|---------------|
|--|--------------------|---------------|

#### Electrical tests

| Rated current           | 57 A               |
|-------------------------|--------------------|
| Conductor cross section | 10 mm <sup>2</sup> |

Air clearances and creepage distances



## Technical data

### Air clearances and creepage distances

| Clearances and creepage distances               | IEC 60947-1:2007-06 + A1:2010-12 |
|-------------------------------------------------|----------------------------------|
| Specification                                   | IEC 60947-1:2007-06 + A1:2010-12 |
| Minimum clearance - inhomogeneous field (III/3) | 8 mm                             |
| Minimum creepage distance value (III/3)         | 12.5 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-HV                              |
|---------------------|-----------------------------------------------|
| 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       | CUL                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                        | IEC 60947-7-1                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Flammability rating according to UL 94 | V0                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Safety note                            | • WARNING: Only electrically qualified personnel may install and operate the product. They must observe the following safety notes. The qualified personnel must be familiar with the basics of electrical engineering. They must be able to recognize and prevent danger. The relevant symbol on the packaging indicates that only personnel familiar 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

| 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            |



## Technical data

### Glow-wire test

| Temperature      | 960 °C |
|------------------|--------|
| Time of exposure | 30 s   |

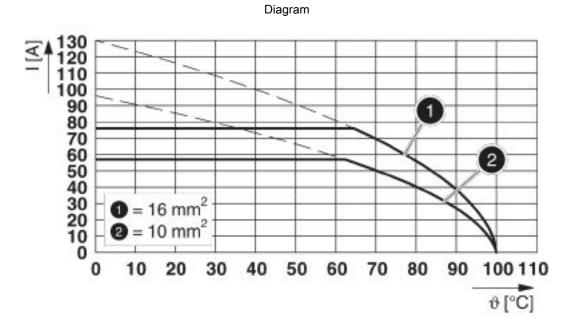
#### Needle flame test

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

### **Environmental Product Compliance**

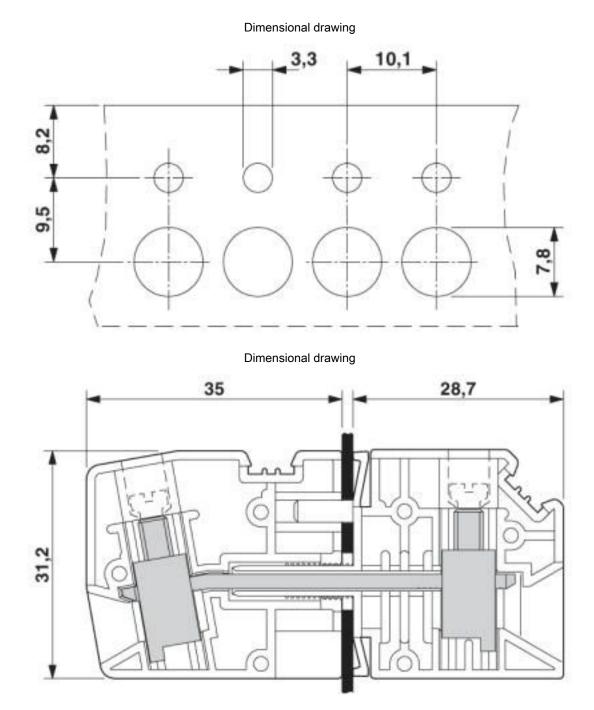
| REACh SVHC | Lead 7439-92-1                                                                                         |  |
|------------|--------------------------------------------------------------------------------------------------------|--|
| China RoHS | Environmentally Friendly Use Period = 50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

## Drawings



Type: HDFK 10-HV





# Classifications

eCl@ss

| eCl@ss 10.0.1 | 27141134 |
|---------------|----------|
| eCl@ss 4.0    | 27141100 |
| eCl@ss 4.1    | 27141100 |
| eCl@ss 5.0    | 27141100 |



## Classifications

## eCl@ss

| 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 2.0 | EC001283 |
|----------|----------|
| 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 |
| 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

EAC / cULus Recognized

#### Ex Approvals

## Approval details

EAC

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B.01687



## Approvals

Γ

| cULus Recognized   | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm E60425-19870911 |       |  |
|--------------------|-------------------------------------------------------------------------------------|-------|--|
|                    | В                                                                                   | С     |  |
| Nominal voltage UN | 600 V                                                                               | 600 V |  |
| Nominal current IN | 65 A                                                                                | 65 A  |  |
| mm²/AWG/kcmil      | 24-6                                                                                | 24-6  |  |

#### Accessories

Accessories

Insertion bridge

Insertion bridge - EB 2-10 - 0203153

Insertion bridge, pitch: 10 mm, number of positions: 2, color: gray



Insertion bridge - EB 3-10 - 0203328



Insertion bridge, pitch: 10 mm, number of positions: 3, color: gray

Insertion bridge - EB 10-10 - 0203137



Insertion bridge, pitch: 10 mm, number of positions: 10, color: gray

Labeled terminal marker

Marker for terminal blocks - ZB 8,LGS:1-9 - 1052125

Marker for terminal blocks, Strip, white, labeled, printed horizontally: consecutive numbers 1 ... 9, mounting type: snap into tall marker groove, for terminal block width: 8.2 mm, lettering field size: 10.5 x 8.15 mm, Number of individual labels: 10



Accessories

#### Zack marker strip - ZB 8,LGS:FORTL.ZAHLEN - 1052015



Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, printed horizontally: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snap into tall marker groove, for terminal block width: 8.2 mm, lettering field size: 10.5 x 8.15 mm, Number of individual labels: 10

#### Marker for terminal blocks - ZB 8,LGS:L1-N,PE - 1052413



Marker for terminal blocks, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, horizontal: L1, L2, L3, N, PE, L1, L2, L3, N, PE, mounting type: snap into tall marker groove, for terminal block width: 8.2 mm, lettering field size: 10.5 x 8.15 mm, Number of individual labels: 10

#### Zack marker strip - ZB 8,QR:FORTL.ZAHLEN - 1052028



Zack marker strip, Strip, white, labeled, can be labeled with: CMS-P1-PLOTTER, Printed vertically: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: snap into tall marker groove, for terminal block width: 8.2 mm, lettering field size: 10.5 x 8.15 mm, Number of individual labels: 10

#### 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

Terminal marking

#### Zack marker strip - ZB 8/WH-100:UNBEDRUCKT - 5060896



Zack marker strip, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snap into tall marker groove, for terminal block width: 8.2 mm, lettering field size: 10.5 x 8.15 mm, Number of individual labels: 10



### Accessories

Zack marker strip - ZB 8:UNBEDRUCKT - 1052002



Zack marker strip, Strip, white, unlabeled, can be labeled with: CMS-P1-PLOTTER, PLOTMARK, mounting type: snap into tall marker groove, for terminal block width: 8.2 mm, lettering field size: 10.5 x 8.15 mm, Number of individual labels: 10

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PHOENIX CONTACT GmbH & Co. KG Flachsmarktstr. 8 32825 Blomberg Germany Tel. +49 5235 300 Fax +49 5235 3 41200 http://www.phoenixcontact.com

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