

MKDS 10 HV/ 1-B-10,16 - PCB terminal block



1993776

<https://www.phoenixcontact.com/us/products/1993776>

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Printed circuit board terminal, nominal current: 76 A, rated voltage (III/2): 400 V, nominal cross section: 16 mm², number of potentials: 1, number of rows: 1, number of positions per row: 1, product range: MKDS 10 HV, pitch: 10.16 mm, connection method: Screw connection, screw head form: L Slotted, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear back pinning, Solder pin [P]: 5 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Integrated protective guide prevents incorrect insertion of the conductor underneath the tension sleeve

Commercial data

| | |
|--------------------------------------|---------------|
| Item number | 1993776 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Sales key | AA14 |
| Product key | AANFFA |
| GTIN | 4046356037617 |
| Weight per piece (including packing) | 8.69 g |
| Weight per piece (excluding packing) | 8.442 g |
| Customs tariff number | 85369010 |
| Country of origin | CN |

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Technical data

Product properties

| | |
|---------------------------|----------------------------------|
| Product type | Printed circuit board terminal |
| Product family | MKDS 10 HV |
| Product line | COMBICON Terminals L |
| Type | PC terminal block can be aligned |
| Number of positions | 1 |
| Pitch | 10.16 mm |
| Number of connections | 1 |
| Number of rows | 1 |
| | 1 |
| Number of potentials | 1 |
| Pin layout | Linear back pinning |
| Solder pins per potential | 2 |

Electrical properties

Properties

| | |
|-----------------------------|-------|
| Nominal current I_N | 76 A |
| Nominal voltage U_N | 400 V |
| Rated voltage (III/3) | 400 V |
| Rated surge voltage (III/3) | 4 kV |
| Rated voltage (III/2) | 400 V |
| Rated surge voltage (III/2) | 4 kV |
| Rated voltage (II/2) | 800 V |
| Rated surge voltage (II/2) | 4 kV |

Connection data

Connection technology

| | |
|-----------------------|--------------------|
| Nominal cross section | 16 mm ² |
|-----------------------|--------------------|

Conductor connection

| | |
|---|--|
| Connection method | Screw connection |
| Conductor cross-section rigid | 0.5 mm ² ... 16 mm ² |
| Conductor cross-section flexible | 0.5 mm ² ... 16 mm ² |
| Conductor cross-section AWG | 20 ... 6 |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.5 mm ² ... 16 mm ² |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve | 0.5 mm ² ... 16 mm ² |
| 2 conductors with same cross section, rigid | 0.5 mm ² ... 6 mm ² |
| 2 conductors with same cross section, flexible | 0.5 mm ² ... 6 mm ² |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve | 0.5 mm ² ... 4 mm ² |

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| | |
|---|---|
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm ² ... 6 mm ² |
| Stripping length | 10 mm |
| Drive form screw head | Slotted (L) |
| Tightening torque | 1.2 Nm ... 1.5 Nm |

Conductor connection

| | |
|-----------------------|-------------------|
| Connection method | Screw connection |
| Stripping length | 10 mm |
| Drive form screw head | Slotted (L) |
| Tightening torque | 1.2 Nm ... 1.5 Nm |

Mounting

| | |
|---------------|---------------------|
| Mounting type | Wave soldering |
| Pin layout | Linear back pinning |

Material specifications

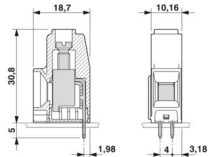
Material data - contact

| | |
|---|--|
| Note | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material | Cu alloy |
| Surface characteristics | Tin-plated |
| Metal surface terminal point (top layer) | Tin (5 µm - 7 µm Sn) |
| Metal surface terminal point (middle layer) | Nickel (2 µm - 3 µm Ni) |
| Metal surface soldering area (top layer) | Tin (5 µm - 7 µm Sn) |
| Metal surface soldering area (middle layer) | Nickel (2 µm - 3 µm Ni) |

Material data - housing

| | |
|---|--------------|
| Color (Housing) | green (6021) |
| Insulating material | PA |
| Insulating material group | I |
| 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

| | |
|---------------------|--|
| Dimensional drawing |  |
|---------------------|--|

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| | |
|-----------------------|----------|
| Pitch | 10.16 mm |
| | 10.16 mm |
| Width [w] | 10.16 mm |
| Height [h] | 35.8 mm |
| Length [l] | 18.7 mm |
| Installed height | 30.8 mm |
| Solder pin length [P] | 5 mm |

PCB design

| | |
|---------------|--------|
| Hole diameter | 1.5 mm |
|---------------|--------|

Electrical tests

Air clearances and creepage distances |

| | |
|--|-----------------------|
| Specification | IEC 60947-7-4:2019-01 |
| Insulating material group | I |
| Comparative tracking index (IEC 60112) | CTI 600 |
| Rated insulation voltage (III/3) | 400 V |
| Rated surge voltage (III/3) | 4 kV |
| minimum clearance value - non-homogenous field (III/3) | 3 mm |
| minimum creepage distance (III/3) | 5 mm |
| Rated insulation voltage (III/2) | 400 V |
| Rated surge voltage (III/2) | 4 kV |
| minimum clearance value - non-homogenous field (III/2) | 3 mm |
| minimum creepage distance (III/2) | 3 mm |
| Rated insulation voltage (II/2) | 800 V |
| Rated surge voltage (II/2) | 4 kV |
| minimum clearance value - non-homogenous field (II/2) | 3 mm |
| minimum creepage distance (II/2) | 4 mm |

Environmental and real-life conditions

Ambient conditions

| | |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C |
| Relative humidity (storage/transport) | 30 % ... 70 % |
| Ambient temperature (assembly) | -5 °C ... 100 °C |
| Ambient temperature (operation) | -40 °C ... 105 °C (Depending on the current carrying capacity/derating curve) |

Packaging specifications

| | |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

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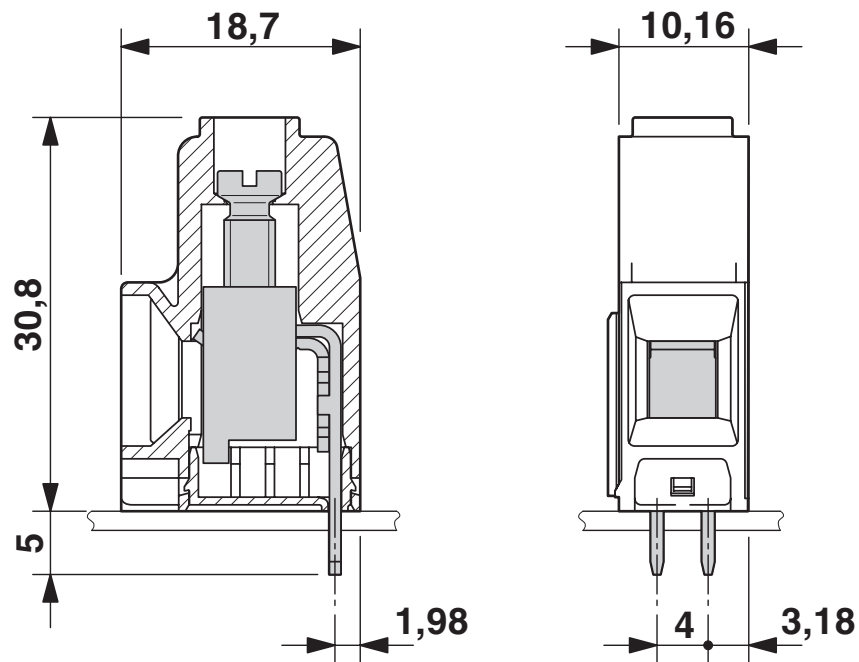


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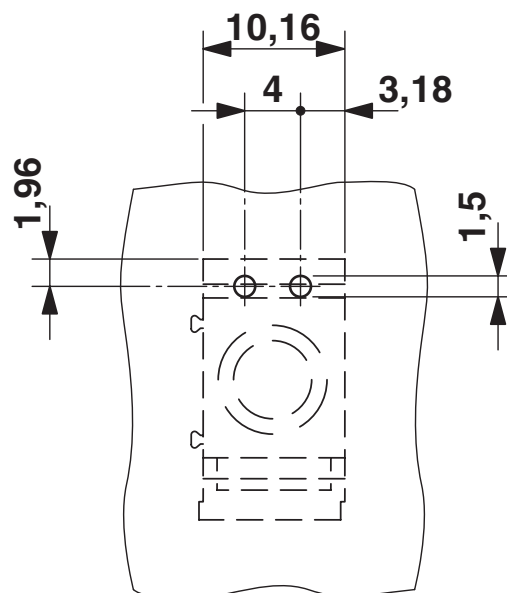
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Drawings

Dimensional drawing



Drilling plan/solder pad geometry



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Approvals

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|  cULus Recognized Approval ID: E60425-19770427 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | 300 V | 60 A | 20 - 6 | - |
| C | 150 V | 60 A | 20 - 6 | - |
| D | 300 V | 10 A | 20 - 6 | - |

|  VDE approval of drawings Approval ID: 40055535 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | 1000 V | 76 A | - | 0.2 - 16 |

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27460101 |
| ECLASS-15.0 | 27460101 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC002643 |
|-----------|----------|

UNSPSC

| | |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

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Environmental product compliance

EU RoHS

| | |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

China RoHS

| | |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E |
| | No hazardous substances above the limits |

EU REACH SVHC

| | |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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