

PCB terminal block - MKDS 10 HV/ 7-ZB-10,16 - 1709733

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PCB terminal block, nominal current: 76 A, rated voltage (III/2): 1000 V, nominal cross section: 10 mm², pitch: 10.16 mm, number of positions: 7, connection method: Screw connection with tension sleeve, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Zigzag pinning W, Solder pin [P]: 5 mm


The figure shows a 5-pos. version of the product

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Unrestricted 600-V-UL approval thanks to compact zig-zag pinning
- Integrated protective guide prevents incorrect insertion of the conductor underneath the tension sleeve



Key Commercial Data

| | |
|--------------|---|
| Packing unit | 50 pc |
| GTIN |  4 046356 074155 |
| GTIN | 4046356074155 |

Technical data

Item properties

| | |
|---------------------------|--------------------------------------|
| Brief article description | PCB terminal block |
| Range of articles | MKDS 10 HV |
| Pitch | 10.16 mm |
| Number of positions | 7 |
| Connection method | Screw connection with tension sleeve |
| Drive form screw head | Slotted (L) |
| Screw thread | M4 |
| Mounting type | Wave soldering |
| Pin layout | Zigzag pinning W |
| Number of levels | 1 |

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Technical data

Item properties

| | |
|-----------------------|---|
| Number of connections | 7 |
| Number of potentials | 7 |

Electrical parameters

| | |
|-----------------------------|--------|
| Nominal current | 76 A |
| Nom. voltage | 1000 V |
| Rated voltage | 800 V |
| Rated voltage (III/2) | 1000 V |
| Rated voltage (II/2) | 1000 V |
| Rated surge voltage (III/3) | 8 kV |
| Rated surge voltage (III/2) | 8 kV |
| Rated surge voltage (II/2) | 8 kV |

Connection capacity

| | |
|---|--|
| Connection method | Screw connection with tension sleeve |
| Conductor cross section solid | 0.5 mm ² ... 16 mm ² |
| Conductor cross section flexible | 0.5 mm ² ... 16 mm ² |
| Conductor cross section AWG / kcmil | 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, solid | 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 |
| 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 |
| Torque | 1.2 Nm ... 1.5 Nm |

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 - 7 µm Sn) |
| Metal surface terminal point (middle layer) | Nickel (2 - 3 µm Ni) |
| Metal surface soldering area (top layer) | Tin (5 - 7 µm Sn) |
| Metal surface soldering area (middle layer) | Nickel (2 - 3 µm Ni) |

Material data - housing

| | |
|----------------------------|--------------|
| Housing color | green (6021) |
| Insulating material | PA |
| Insulating material group | I |
| CTI according to IEC 60112 | 600 |

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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

| | |
|-----------------------------|---|
| Caption | Schematic representation – for additional information, see product range drawing in the Download Center |
| Length [l] | 18.7 mm |
| Width [w] | 71.12 mm |
| Height [h] | 35.8 mm |
| Pitch | 10.16 mm |
| Height (without solder pin) | 30.8 mm |
| Solder pin [P] | 5 mm |
| Pin dimensions | 1 x 0.9 mm |

Dimensions for PCB design

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

Packaging information

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

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

| | |
|--|-----------------------|
| Connection test | IEC 60998-2-2:2002-12 |
| Test result | Test passed |
| Test for conductor damage and slackening | IEC 60998-1:2002-12 |
| | Test passed |

Pull-out test

| | |
|--|---|
| Pull-out test | IEC 60998-2-1:2002-12 |
| | Test passed |
| Conductor cross section / conductor type / tensile force | 0.5 mm ² / solid / flexible / > 20 N |
| | 10 mm ² / flexible / > 90 N |
| | 16 mm ² / solid / > 100 N |

Mechanical tests according to standard

| | |
|--------------------|--------------------------|
| Test specification | IEC 60998-2-1 (in parts) |
|--------------------|--------------------------|

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Electrical tests

| | |
|-----------------------------|--------------------|
| Rated current | 76 A |
| Conductor cross section | 16 mm ² |
| Rated voltage (III/2) | 1000 V |
| Rated surge voltage (III/2) | 8 kV |

Air clearances and creepage distances

| | |
|---|---------------------|
| Clearances and creepage distances | IEC 60664-1:2007-04 |
| Specification | IEC 60664-1:2007-04 |
| Minimum clearance - inhomogeneous field (III/3) | 8 mm |
| Minimum clearance - inhomogeneous field (III/2) | 8 mm |
| Minimum clearance - inhomogeneous field (II/2) | 8 mm |
| Minimum creepage distance value (III/3) | 10 mm |
| Minimum creepage distance value (III/2) | 8 mm |
| Minimum creepage distance value (II/2) | 10 mm |

Temperature-rise test

| | |
|---------------|---------------------|
| Specification | IEC 60998-1:2002-12 |
| Result | Test passed |

Current carrying capacity / derating curves

| | |
|---------------------|---|
| Caption | Type: MKDS 10 HV/...-ZB-10,16 Tested in accordance with DIN EN 60512-5-2:2003-01 Reduction factor = 1 No. of positions = 5 |
| Specification | Following IEC 60512-5-2:2002-02 |
| Number of positions | 5 |
| Reduction factor | 1 |

Vibration test

| | |
|------------------------|------------------------|
| Specification | IEC 60068-2-6:1995-03 |
| 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 |

Resistance to ageing, humidity and penetration of solids

| | |
|------------|-----------------|
| Dry heat | 168 h/100°C |
| Humid heat | 48 h/30 °C/92 % |

Insulation resistance

| | |
|--|---------------------|
| Specification | IEC 60998-1:2002-12 |
| Result | Test passed |
| Insulation resistance, neighboring positions | 10 ⁹ Ω |

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Technical data

Glow-wire test

| | |
|------------------|---------------------|
| Specification | IEC 60998-1:2002-12 |
| Result | Test passed |
| Temperature | 850 °C |
| Time of exposure | 5 s |

Mechanical strength/tumbling barrel test

| | |
|-----------------------|---------------------|
| Specification | IEC 60998-1:2002-12 |
| Height of fall | 50 cm |
| Number of drop cycles | 50 |
| Rotation speed | 5 rpm |

Standards and Regulations

| | |
|--|--------|
| Connection in acc. with standard | EN-VDE |
| | CUL |
| Flammability rating according to UL 94 | V0 |

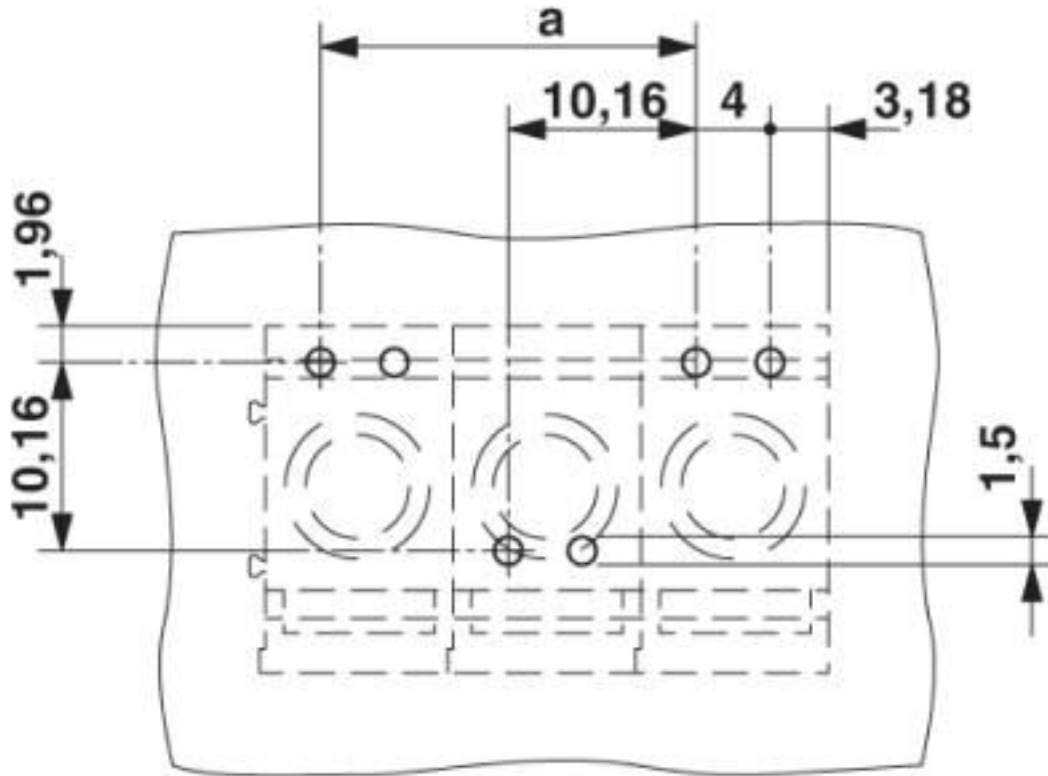
Environmental Product Compliance

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

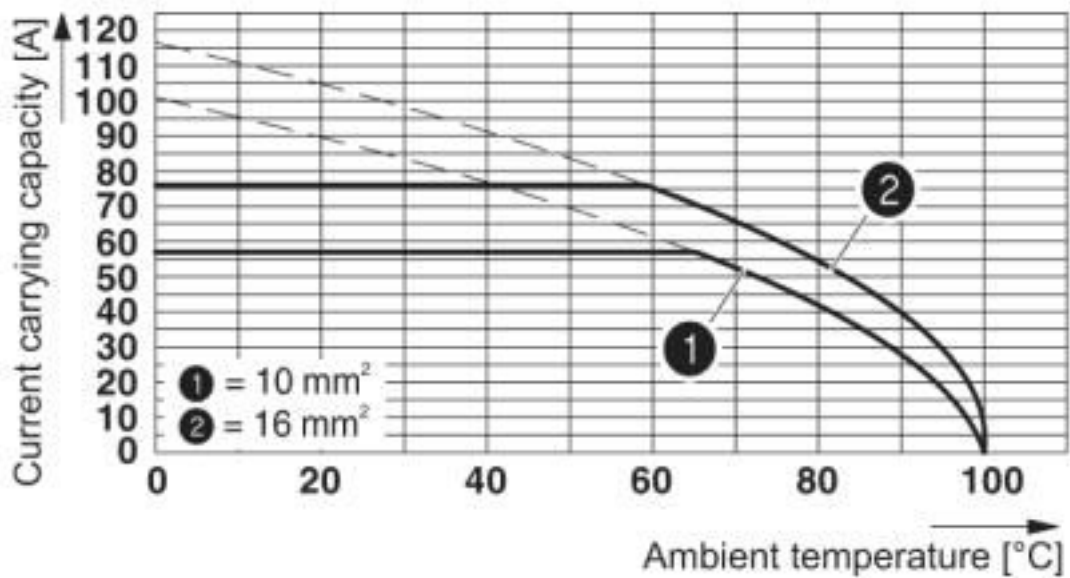
Drawings

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Drilling diagram

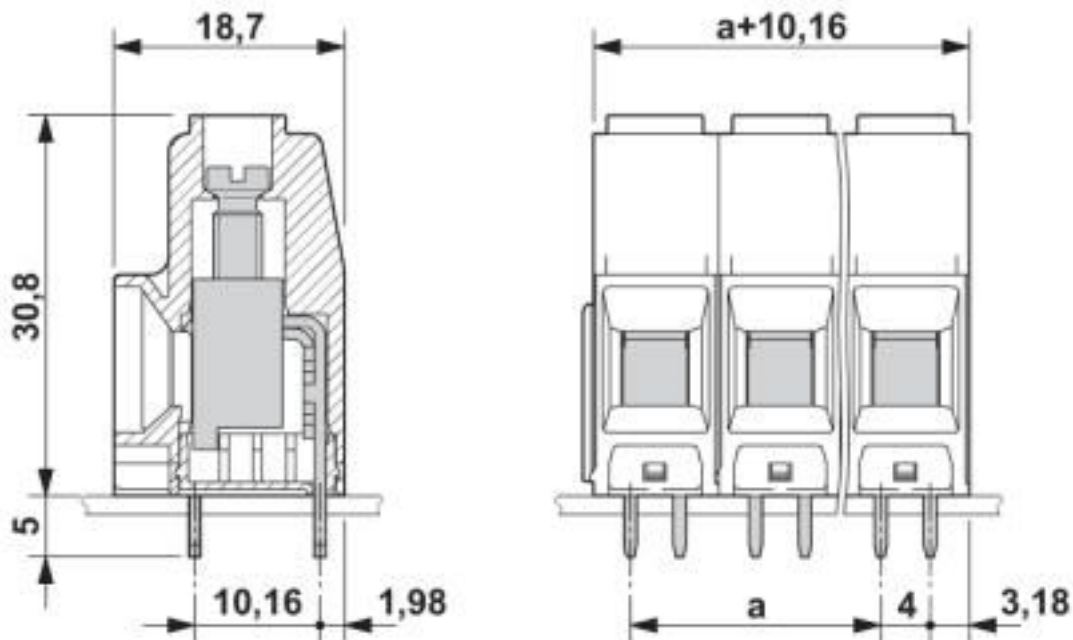


Diagram



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Dimensional drawing



The figure shows the dimensional drawing of the 3-pos. version of the product

Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27440401 |
| eCl@ss 4.0 | 27141100 |
| eCl@ss 4.1 | 27141100 |
| eCl@ss 5.0 | 27141100 |
| eCl@ss 5.1 | 27261100 |
| eCl@ss 6.0 | 27261100 |
| eCl@ss 7.0 | 27440401 |
| eCl@ss 8.0 | 27440401 |
| eCl@ss 9.0 | 27440401 |

ETIM

| | |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002643 |
| ETIM 5.0 | EC002643 |
| ETIM 6.0 | EC002643 |
| ETIM 7.0 | EC002643 |

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211801 |
| UNSPSC 7.0901 | 39121432 |

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Classifications

UNSPSC

| | |
|--------------|----------|
| UNSPSC 11 | 39121432 |
| UNSPSC 12.01 | 39121432 |
| UNSPSC 13.2 | 39121432 |
| UNSPSC 18.0 | 39121432 |
| UNSPSC 19.0 | 39121432 |
| UNSPSC 20.0 | 39121432 |
| UNSPSC 21.0 | 39121432 |

Approvals


Approvals


Approvals


IECEE CB Scheme / SEV / EAC / cULus Recognized

Ex Approvals

Approval details

| | | | |
|----------------------------|---|---|-------------|
| IECEE CB Scheme |  | http://www.iecee.org/ | CH-10724-A1 |
| Nominal voltage UN | 800 V | | |
| Nominal current IN | 76 A | | |
| mm ² /AWG/kcmil | 10 | | |

| | | | |
|----------------------------|---|---|------------|
| SEV |  | https://www.eurofins.ch/de/ | IK-4486-A1 |
| Nominal voltage UN | 800 V | | |
| Nominal current IN | 76 A | | |
| mm ² /AWG/kcmil | 10 | | |

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

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Approvals

| | | | |
|----------------------------|-------|---|-----------------|
| cULus Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | E60425-19770427 |
| | B | C | |
| Nominal voltage UN | 600 V | 600 V | |
| Nominal current IN | 60 A | 60 A | |
| mm ² /AWG/kcmil | 20-6 | 20-6 | |

Accessories

Accessories

Crimping tool

Crimping pliers - CRIMPFOX 6 - 1212034



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm² ... 6.0 mm², lateral entry, trapezoidal crimp

Crimping pliers - CRIMPFOX 16 S - 1207983



Crimping pliers for ferrules up to 16 mm²

Screwdriver tools

Screwdriver - SZS 0,6X3,5 - 1205053



Actuation tool, for ST terminal blocks, insulated, also suitable for use as a bladed screwdriver, size: 0.6 x 3.5 x 100 mm, 2-component grip, with non-slip grip

Terminal marking

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Accessories

Marker strip - SK 5,0 WH:REEL - 0805221



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: continuous x 5#mm, Number of individual labels: 90000

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