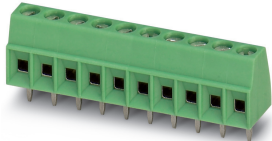


PCB terminal block - MKDS 1/ 3-3,5 - 1751251

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)

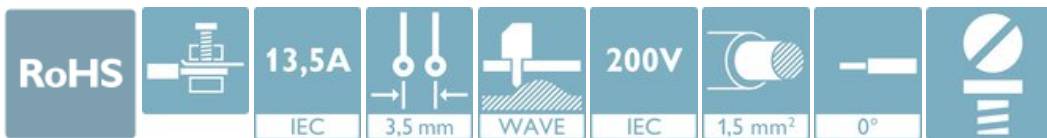


The figure shows a 10-position version of the product


PCB terminal block, nominal current: 13.5 A, rated voltage (III/2): 200 V, nominal cross section: 1.5 mm², number of potentials: 3, Number of rows: 1, Number of positions per row: 3, product range: MKDS 1, pitch: 3.5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 3.5 mm, 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
- ✓ Extremely small design for the respective conductor cross section



Key Commercial Data

| | |
|--------------------------------------|---|
| Packing unit | 1 pc |
| Minimum order quantity | 250 pc |
| GTIN |  4 017918 028336 |
| GTIN | 4017918028336 |
| Weight per Piece (excluding packing) | 1.610 g |
| Custom tariff number | 85369010 |
| Country of origin | Germany |

Technical data

Item properties

| | |
|---------------------------|--------------------|
| Brief article description | PCB terminal block |
| Range of articles | MKDS 1 |
| Pitch | 3.5 mm |

PCB terminal block - MKDS 1/ 3-3,5 - 1751251

Technical data

Item properties

| | |
|-----------------------|----------------|
| Number of positions | 3 |
| Drive form screw head | Slotted (L) |
| Screw thread | M2 |
| Mounting type | Wave soldering |
| Pin layout | Linear pinning |
| Number of rows | 1 |
| Number of connections | 3 |
| Number of potentials | 3 |

Electrical parameters

| | |
|-----------------------------|--------|
| Nominal current | 13.5 A |
| Nom. voltage | 200 V |
| Rated voltage (III/3) | 160 V |
| Rated voltage (III/2) | 200 V |
| Rated voltage (II/2) | 400 V |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated surge voltage (II/2) | 2.5 kV |

Connection capacity

| | |
|---|---|
| Connection method | Screw connection with tension sleeve |
| pluggable | no |
| Conductor cross section solid | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section flexible | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section AWG / kcmil | 26 ... 16 |
| Conductor cross section flexible, with ferrule without plastic sleeve | 0.25 mm ² ... 0.5 mm ² |
| Conductor cross section, flexible, with ferrule, with plastic sleeve | 0.25 mm ² ... 0.5 mm ² |
| 2 conductors with same cross section, solid | 0.14 mm ² ... 0.5 mm ² |
| 2 conductors with same cross section, flexible | 0.14 mm ² ... 0.34 mm ² |
| Cylindrical gauge a x b / diameter | - / 1.6 mm |
| Stripping length | 5 mm |
| Torque | 0.22 Nm ... 0.25 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) |

PCB terminal block - MKDS 1/ 3-3,5 - 1751251

Technical data

Material data - contact

| | |
|---|----------------------|
| 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 |
| 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 | Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center |
| Length [l] | 7.3 mm |
| Width [w] | 11 mm |
| Height [h] | 12 mm |
| Pitch | 3.5 mm |
| Height (without solder pin) | 8.5 mm |
| Solder pin [P] | 3.5 mm |
| Pin dimensions | 0.5 x 0.9 mm |

Dimensions for PCB design

| | |
|---------------|--------|
| Hole diameter | 1.1 mm |
|---------------|--------|

Packaging information

| | |
|----------------------------|---------------------|
| Type of packaging | packed in cardboard |
| Pieces per package | 250 |
| Denomination packing units | Pcs. |

General product information

| | |
|--------------|--|
| Type of note | Note on application |
| Note | For safe conductor connection, always adhere to a defined tightening torque. Particularly in the case of PCB terminal blocks with two or three positions, the individual solder pin for each contact point cannot compensate for this. That is why the terminal blocks must be supported during conductor connection (held with one hand, support on the housing). |

Ambient conditions

PCB terminal block - MKDS 1/ 3-3,5 - 1751251

Technical data

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 ... 100 °C (Depending on the current carrying capacity/derating curve) |

Termination and connection method

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

Pull-out test

| | |
|--|--|
| Pull-out test | IEC 60998-2-1:2002-12 |
| Conductor cross section / conductor type / tensile force | 0.14 mm ² / solid / > 10 N |
| | 0.14 mm ² / flexible / > 10 N |
| | 1.5 mm ² / solid / > 40 N |
| | 1.5 mm ² / flexible / > 40 N |

Mechanical tests according to standard

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

Electrical tests

| | |
|-----------------------------|---------------------|
| Rated current | 13.5 A |
| Conductor cross section | 1.5 mm ² |
| Rated voltage (III/2) | 200 V |
| Rated surge voltage (III/2) | 2.5 kV |

Air clearances and creepage distances

| | |
|---|--|
| Clearances and creepage distances | IEC 60947-1:2007-06 + A1:2010-12 + A2:2014-09 |
| Specification | IEC 60947-1:2007-06 + A1:2010-12 + A2:2014-09 |
| Minimum clearance - inhomogeneous field (III/3) | 1.5 mm |
| Minimum clearance - inhomogeneous field (III/2) | 1.5 mm |
| Minimum clearance - inhomogeneous field (II/2) | 1.5 mm |
| Minimum creepage distance value (III/3) | 2 mm |
| Minimum creepage distance value (III/2) | 1.5 mm |
| Minimum creepage distance value (II/2) | 2 mm |
| Note on connection cross section | With connected conductor 1.5 mm ² (stranded). |

Temperature-rise test

| | |
|-----------------------------------|--------------------------------|
| Specification | IEC 60998-1:2002-12 |
| Requirement temperature-rise test | Increase in temperature ≤ 45 K |

Current carrying capacity / derating curves

PCB terminal block - MKDS 1/ 3-3,5 - 1751251

Technical data

Current carrying capacity / derating curves

| | |
|---------|---|
| Caption | Type: MKDS 1/5-3,5 Test following DIN EN 60512-5-2:2003-01 Reduction factor = 1 No. of positions = 5 |
|---------|---|

Vibration test

| | |
|------------------------|------------------------|
| Specification | IEC 60068-2-6:1995-03 |
| Frequency | 10 - 150 - 10 Hz |
| Sweep speed | 1 octave/min |
| Amplitude | 0.35 mm (10 - 60.1 Hz) |
| Acceleration | 5g (60.1 - 150 Hz) |
| Test duration per axis | 2.5 h |

Insulation resistance

| | |
|--|---------------------|
| Specification | IEC 60998-1:2002-12 |
| Result | Test passed |
| Insulation resistance, neighboring positions | > 5 MΩ |

Glow-wire test

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

Mechanical strength/tumbling barrel test

| | |
|-----------------------|---------------------|
| Specification | IEC 60998-1:2002-12 |
| Number of drop cycles | 50 |

Test finger safety

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

Standards and Regulations

| | |
|----------------------------------|--------|
| Connection in acc. with standard | EN-VDE |
| | CSA |

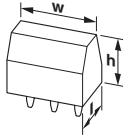
Environmental Product Compliance

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

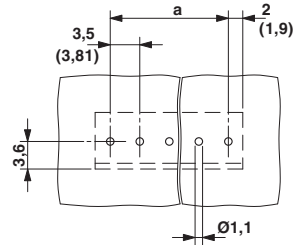
Drawings

PCB terminal block - MKDS 1/ 3-3,5 - 1751251

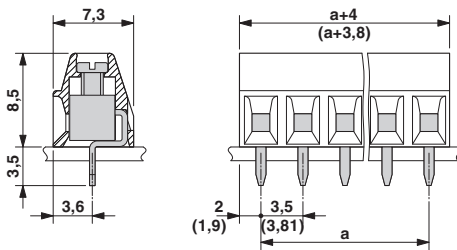
Dimensional drawing



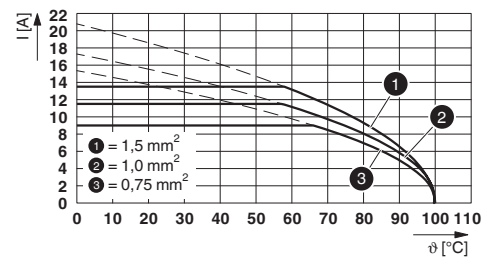
Drilling diagram



Dimensional drawing



Diagram



Type: MKDS 1/5-3,5
 Test following DIN EN 60512-5-2:2003-01
 Reduction factor = 1
 No. of positions = 5

Classifications

eCl@ss

| | |
|---------------|----------|
| eCl@ss 10.0.1 | 27440401 |
| eCl@ss 11.0 | 27460101 |
| 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 9.0 | 27440401 |

ETIM

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

PCB terminal block - MKDS 1/ 3-3,5 - 1751251

Classifications

UNSPSC

| | |
|---------------|----------|
| UNSPSC 6.01 | 30211801 |
| UNSPSC 7.0901 | 39121432 |
| 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-10787 |
| Nominal voltage UN | 160 V | | |
| Nominal current IN | 12 A | | |
| mm ² /AWG/kcmil | 1.5 | | |

| | | | |
|----------------------------|---|---|---------|
| SEV |  | https://www.eurofins.ch/de/ | IK-4497 |
| Nominal voltage UN | 160 V | | |
| Nominal current IN | 12 A | | |
| mm ² /AWG/kcmil | 1.5 | | |

PCB terminal block - MKDS 1/ 3-3,5 - 1751251

Approvals

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

| | | | |
|----------------------------|-------|---|-----------------|
| cULus Recognized | | http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm | E60425-19770427 |
| | B | D | |
| Nominal voltage UN | 300 V | 300 V | |
| Nominal current IN | 10 A | 10 A | |
| mm ² /AWG/kcmil | 30-16 | 30-16 | |

Accessories

Accessories

Labeled terminal marker

Marker card - SK 3,5/2,8:FORTL.ZAHLEN - 0804073



Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 3.5 mm, lettering field size: 3.5 x 2.8 mm

Marker pen

Marker pen - B-STIFT - 1051993



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

Screwdriver tools

PCB terminal block - MKDS 1/ 3-3,5 - 1751251

Accessories

Screwdriver - SZS 0,4X2,5 VDE - 1205037



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

Terminal marking

Marker card - SK U/2,8 WH:UNBEDRUCKT - 0803883



Marker card, Sheet, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, Office printing systems, mounting type: adhesive, for terminal block width: 210 mm, lettering field size: 186 x 2.8 mm, Number of individual labels: 3600