

MKDS 1/ 8-3,81 SMD BK - PCB terminal block



1727175

<https://www.phoenixcontact.com/us/products/1727175>

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 documentation. Our general terms of use for downloads are valid.



PCB terminal block, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1 mm², number of potentials: 8, number of rows: 1, number of positions per row: 8, product range: MKDS 1/..-SMD, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: SMD soldering, conductor/PCB connection direction: 0 °, color: black, Pin layout: Linear pad geometry, number of solder pins per potential: 1, type of packaging: Tube magazine

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
- Designed for integration into the SMT soldering process

Commercial data

| | |
|--------------------------------------|--------------------|
| Item number | 1727175 |
| Packing unit | 14 pc |
| Minimum order quantity | 14 pc |
| Sales key | AA12 |
| Product key | AALHAB |
| Catalog page | Page 82 (C-1-2013) |
| GTIN | 4017918025595 |
| Weight per piece (including packing) | 8.214 g |
| Weight per piece (excluding packing) | 8.214 g |
| Customs tariff number | 85369010 |
| Country of origin | PL |

MKDS 1/ 8-3,81 SMD BK - PCB terminal block



1727175

<https://www.phoenixcontact.com/us/products/1727175>

Technical data

Product properties

| | |
|---------------------------|--------------------------------|
| Product type | Printed circuit board terminal |
| Product family | MKDS 1/..-SMD |
| Product line | COMBICON Terminals S |
| Type | PC termination block |
| Number of positions | 8 |
| Pitch | 3.81 mm |
| Number of connections | 8 |
| Number of rows | 1 |
| Number of potentials | 8 |
| Pin layout | Linear pad geometry |
| Solder pins per potential | 1 |

Electrical properties

| | |
|-----------------------------|--------|
| Nominal current I_N | 8 A |
| Nominal voltage U_N | 160 V |
| Degree of pollution | 3 |
| Rated voltage (III/3) | 160 V |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated voltage (III/2) | 160 V |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated voltage (II/2) | 250 V |
| Rated surge voltage (II/2) | 2.5 kV |

Connection data

Connection technology

| | |
|-----------------------|----------------------|
| Type | PC termination block |
| Nominal cross section | 1 mm ² |

Conductor connection

| | |
|---|--|
| Connection method | Screw connection with tension sleeve |
| Conductor cross section rigid | 0.14 mm ² ... 1.5 mm ² |
| Conductor cross section flexible | 0.14 mm ² ... 1 mm ² |
| Conductor cross section AWG | 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 ... 0.2 mm ² |
| Stripping length | 5 mm |
| Tightening torque | 0.22 Nm ... 0.25 Nm |

MKDS 1/ 8-3,81 SMD BK - PCB terminal block



1727175

<https://www.phoenixcontact.com/us/products/1727175>

Mounting

| | |
|-----------------------|---------------------|
| Mounting type | SMD soldering |
| Pin layout | Linear pad geometry |
| Drive form screw head | Slotted (L) |

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 - 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

| | |
|---|--------------|
| Color (Housing) | black (9005) |
| Insulating material | PA |
| Insulating material group | IIIa |
| CTI according to IEC 60112 | 250 |
| 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 |

Notes

| | |
|---------------------|---|
| Note on application | Pick and place pads may protrude beyond the components. The PCB layout must ensure that collisions are avoided when components are assembled. |
|---------------------|---|

Dimensions

| | |
|---------------------|----------|
| Dimensional drawing | |
| Pitch | 3.81 mm |
| Width [w] | 30.47 mm |
| Height [h] | 9.2 mm |
| Length [l] | 7.3 mm |
| Installed height | 9.2 mm |

MKDS 1/ 8-3,81 SMD BK - PCB terminal block



1727175

<https://www.phoenixcontact.com/us/products/1727175>

PCB design

| | |
|--------------|--------------|
| Pad geometry | 1.5 x 2.5 mm |
|--------------|--------------|

Electrical tests

Air clearances and creepage distances |

| | |
|--|---|
| Specification | IEC 60947-1:2007-06 + A1:2010-12 + A2:2014-09 |
| Insulating material group | IIIa |
| Comparative tracking index (IEC 60112) | CTI 250 |
| Rated insulation voltage (III/3) | 160 V |
| Rated surge voltage (III/3) | 2.5 kV |
| minimum clearance value - non-homogenous field (III/3) | 1.5 mm |
| minimum creepage distance (III/3) | 2.5 mm |
| Rated insulation voltage (III/2) | 160 V |
| Rated surge voltage (III/2) | 2.5 kV |
| minimum clearance value - non-homogenous field (III/2) | 1.5 mm |
| minimum creepage distance (III/2) | 1.6 mm |
| Rated insulation voltage (II/2) | 250 V |
| Rated surge voltage (II/2) | 2.5 kV |
| minimum clearance value - non-homogenous field (II/2) | 1.5 mm |
| minimum creepage distance (II/2) | 2.5 mm |

Environmental and real-life conditions

Ambient conditions

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

Packaging specifications

| | |
|-------------------|---------------|
| Type of packaging | Tube magazine |
|-------------------|---------------|

MKDS 1/ 8-3,81 SMD BK - PCB terminal block

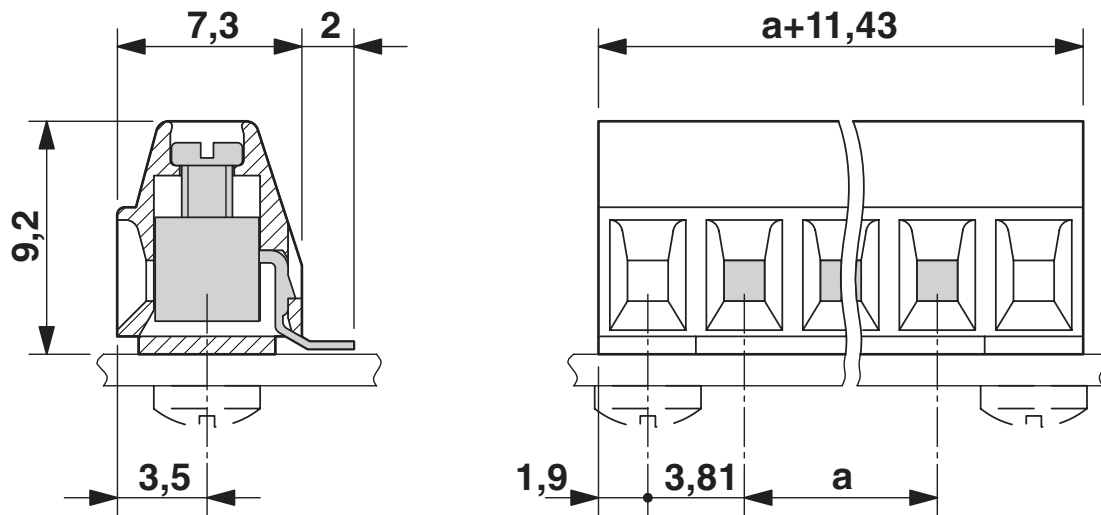


1727175

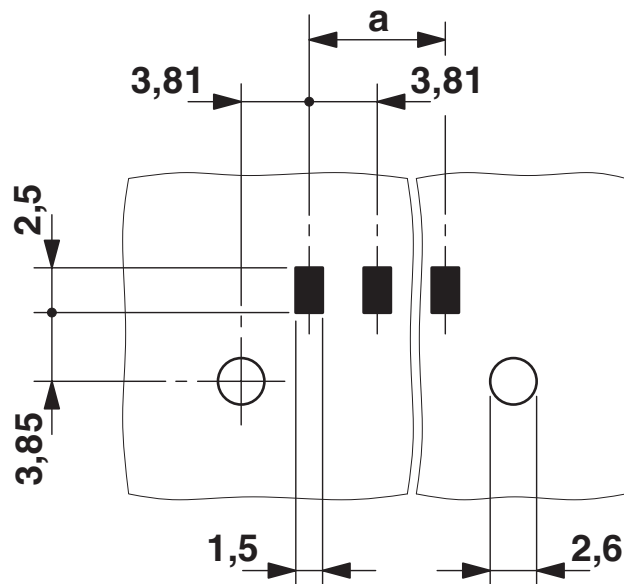
<https://www.phoenixcontact.com/us/products/1727175>

Drawings

Dimensional drawing



Drilling plan/solder pad geometry



MKDS 1/ 8-3,81 SMD BK - PCB terminal block





1727175

<https://www.phoenixcontact.com/us/products/1727175>

Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1727175>

|  cULus Recognized Approval ID: E60425-19770427 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| Use group B | | | | |
| Only flexible conductors | 300 V | 13.5 A | 30 - 16 | - |
| Standard | 300 V | 10 A | 30 - 16 | - |
| Use group D | | | | |
| Only flexible conductors | 150 V | 13.5 A | 30 - 16 | - |
| Standard | 300 V | 10 A | 30 - 16 | - |

|  VDE Zeichengenehmigung Approval ID: 40055394 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| | 200 V | 17.5 A | - | 0.2 - 1.5 |

MKDS 1/ 8-3,81 SMD BK - PCB terminal block



1727175

<https://www.phoenixcontact.com/us/products/1727175>

Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-11.0 | 27460101 |
| ECLASS-12.0 | 27460101 |
| ECLASS-13.0 | 27460101 |

ETIM

| | |
|----------|----------|
| ETIM 8.0 | EC002643 |
|----------|----------|

UNSPSC

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

MKDS 1/ 8-3,81 SMD BK - PCB terminal block



1727175

<https://www.phoenixcontact.com/us/products/1727175>

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% |
|-------------------------------------|----------------------------|

MKDS 1/ 8-3,81 SMD BK - PCB terminal block



1727175

<https://www.phoenixcontact.com/us/products/1727175>

Accessories

SK 3,81/2,8:FORTL.ZAHLEN - Marker card

0804109

<https://www.phoenixcontact.com/us/products/0804109>



Marker card, Sheet, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 .. 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 3.81 mm, lettering field size: 3.81 x 2.8 mm, Number of individual labels: 14

SZS 0,4X2,5 VDE - Screwdriver

1205037

<https://www.phoenixcontact.com/us/products/1205037>



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

MKDS 1/ 8-3,81 SMD BK - PCB terminal block



1727175

<https://www.phoenixcontact.com/us/products/1727175>

B-STIFT - Marker pen

1051993

<https://www.phoenixcontact.com/us/products/1051993>



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

Phoenix Contact 2024 © - all rights reserved

<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com