MKDS 3/ 2-5,08 HT BK - PCB terminal block

1985988

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PCB terminal block, nominal current: 24 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm^2, number of potentials: 2, number of rows: 1, number of positions per row: 2, product range: MKDS 3/..-HT, pitch: 5.08 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: THR soldering, conductor/PCB connection direction: 0 °, color: black, Pin layout: Linear pinning, Solder pin [P]: 5 mm, number of solder pins per potential: 1, type of packaging: packed in cardboard. This article can be soldered in the reflow furnace together with SMD components.

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Designed for integration into the SMT soldering process
- Integrated protective guide prevents incorrect insertion of the conductor underneath the tension sleeve
- The latching on the side enables various numbers of positions to be combined

Commercial data

Item number	1985988
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA13
Product key	AAMGBB
Catalog page	Page 77 (C-1-2013)
GTIN	4017918929381
Weight per piece (including packing)	5.403 g
Weight per piece (excluding packing)	4.2 g
Customs tariff number	85369010
Country of origin	DE

Technical data

Product properties

Product type	Printed circuit board terminal
Product family	MKDS 3/..-HT
Product line	COMBICON Terminals M
Type	PC termination block
Number of positions	2
Pitch	5.08 mm
Number of connections	2
Number of rows	1
Number of potentials	2
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Nominal current I_N	24 A
Nominal voltage U_N	320 V
Degree of pollution	3
Rated voltage (III/3)	200 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Rated voltage (II/2)	320 V
Rated surge voltage (II/2)	4 kV

Connection data

Connection technology

Type	PC termination block
Nominal cross section	2.5 mm²

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross section rigid	0.2 mm² ... 4 mm²
Conductor cross section flexible	0.2 mm² ... 2.5 mm²
Conductor cross section AWG	24 ... 12
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 2.5 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 1.5 mm²
2 conductors with same cross section, solid	0.2 mm² ... 1.5 mm²
2 conductors with same cross section, flexible	0.2 mm² ... 1.5 mm²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm² ... 0.75 mm²
2 conductors with the same cross section, flexible, with TWIN	0.5 mm² ... 1.5 mm²

ferrule with plastic sleeve	
Stripping length	8 mm
Tightening torque	0.5 Nm ... 0.6 Nm

Mounting

Mounting type	THR soldering
Pin layout	Linear pinning
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	hot-dip tin-plated
Metal surface terminal point (top layer)	Tin (4 - 8 µm Sn)
Metal surface soldering area (top layer)	Tin (4 - 8 µm Sn)

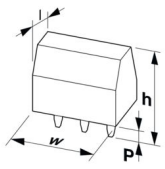
Material data - housing

Color (Housing)	black (9005)
Insulating material	PA
Insulating material group	IIIa
CTI according to IEC 60112	250 - 399
Flammability rating according to UL 94	V0

Notes

Note on application	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).

Dimensions

Dimensional drawing	
Pitch	5.08 mm
Width [w]	10.16 mm
Height [h]	18 mm
Length [l]	11.2 mm
Installed height	18 mm
Solder pin length [P]	5 mm

Pin dimensions	0.9 x 0.9 mm

PCB design

Pin spacing	5.08 mm
Hole diameter	1.3 mm

Mechanical tests

Test for conductor damage and slackening

Specification	IEC 60999-1:1999-11
Result	Test passed

Pull-out test

Specification	IEC 60999-1:1999-11
Conductor cross section/conductor type/tractive force setpoint/actual value	0.2 mm² / solid / > 10 N
	0.2 mm² / flexible / > 10 N
	4 mm² / solid / > 60 N
	2.5 mm² / flexible / > 50 N

Electrical tests

Temperature-rise test

Specification	IEC 60947-7-4:2019-01
Requirement temperature-rise test	The sum of ambient temperature and temperature rise of the PCB terminal block shall not exceed the upper limiting temperature.

Short-time withstand current

Specification	IEC 60947-7-4:2019-01

Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

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 - 399
Rated insulation voltage (III/3)	200 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	3.2 mm
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	3.2 mm
Rated insulation voltage (II/2)	320 V
Rated surge voltage (II/2)	4 kV

minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	3.2 mm

Environmental and real-life conditions

Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

Glow-wire test

Specification	IEC 60695-2-10:2013-04
Temperature	850 °C
Time of exposure	5 s

Aging

Specification	IEC 60947-7-4:2019-01

Ambient conditions

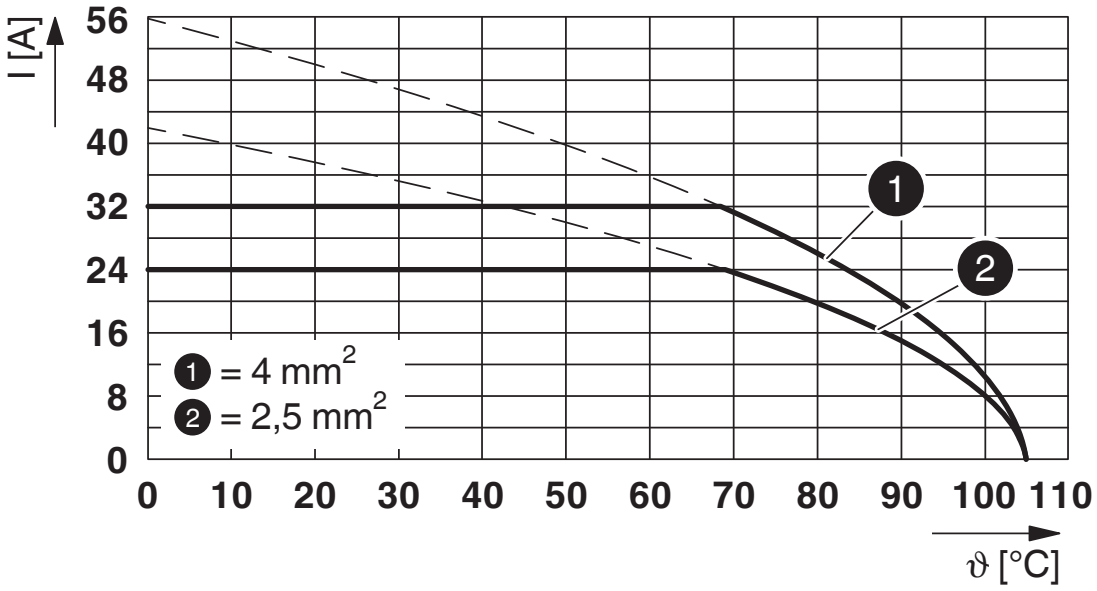
Ambient temperature (operation)	-40 °C ... 105 °C (Depending on the current carrying capacity/derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

Type of packaging	packed in cardboard
Outer packaging type	Dry bag

Drawings

Diagram



Type: MKDS 3/...-5,08 HT BK

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1985988

CSA
Approval ID: 13631

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
	300 V	10 A	28 - 12	-
Use group D				
	300 V	10 A	28 - 12	-

cULus Recognized
Approval ID: E60425-19770427

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
Multi-conductor connection	300 V	15 A	30 - 18	-
Screw connection	300 V	15 A	30 - 12	-
Use group D				
Multi-conductor connection	300 V	10 A	30 - 18	-
Screw connection	300 V	10 A	30 - 12	-

DNV GL
Approval ID: TAE00001EV

VDE Zeichengenehmigung
Approval ID: 40055394

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	320 V	32 A	-	0.2 - 4

Classifications

ECLASS

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

ETIM

ETIM 8.0	EC002643

UNSPSC

UNSPSC 21.0	39121400

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%

Accessories

SZS 0,6X3,5 - Screwdriver

1205053

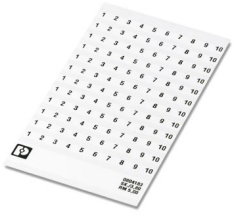
https://www.phoenixcontact.com/us/products/1205053

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

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

0804183

https://www.phoenixcontact.com/us/products/0804183



Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5 mm, lettering field size: 5 x 3.8 mm

EBP 2- 5 - Insertion bridge

1733169

https://www.phoenixcontact.com/us/products/1733169

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

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