MKDS 1,5/ 5 - PCB terminal block

1715187

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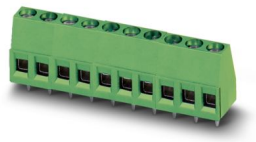


PCB terminal block, nominal current: 17.5 A, rated voltage (III/2): 400 V, nominal cross section: 1.5 mm^2, number of potentials: 5, number of rows: 1, number of positions per row: 5, product range: MKDS 1,5, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 3.5 mm, number of solder pins per potential: 1, type of packaging: packed in cardboard. The article can be aligned to create different nos. of positions!

Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- The latching on the side enables various numbers of positions to be combined

Commercial data

Item number	1715187
Packing unit	250 pc
Minimum order quantity	250 pc
Sales key	AA12
Product key	AALFGF
GTIN	4017918257873
Weight per piece (including packing)	7.04 g
Weight per piece (excluding packing)	6.75 g
Customs tariff number	85369010
Country of origin	DE

Technical data

Product properties

Product type	Printed circuit board terminal
Product family	MKDS 1,5
Product line	COMBICON Terminals S
Type	PC terminal block can be aligned
Number of positions	5
Pitch	5 mm
Number of connections	5
Number of rows	1
Number of potentials	5
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Nominal current I_N	17.5 A
Nominal voltage U_N	400 V
Degree of pollution	3
Rated voltage (III/3)	250 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)	630 V
Rated surge voltage (II/2)	4 kV

Connection data

Connection technology

Type	PC terminal block can be aligned
Nominal cross section	1.5 mm²

Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross section rigid	0.14 mm² ... 2.5 mm²
Conductor cross section flexible	0.14 mm² ... 1.5 mm²
Conductor cross section AWG	26 ... 14
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 1.5 mm²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² ... 1.5 mm²
2 conductors with same cross section, solid	0.14 mm² ... 1 mm²
2 conductors with same cross section, flexible	0.14 mm² ... 0.75 mm²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm² ... 0.5 mm²
2 conductors with the same cross section, flexible, with TWIN	0.5 mm² ... 1 mm²

ferrule with plastic sleeve	
Stripping length	7 mm
Tightening torque	0.5 Nm ... 0.6 Nm

Mounting

Mounting type	Wave 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	Tin-plated
Metal surface terminal point (top layer)	Tin (4 - 8 µm Sn)
Metal surface soldering area (top layer)	Tin (4 - 8 µm Sn)

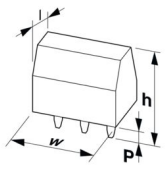
Material data - housing

Color (Housing)	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

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 mm
Width [w]	25 mm

Height [h]	17.3 mm
Length [l]	9.8 mm
Installed height	13.8 mm
Solder pin length [P]	3.5 mm
Pin dimensions	0.9 x 0.9 mm

PCB design

Pin spacing	5 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	0.14 mm² / solid / > 10 N
	0.14 mm² / flexible / > 10 N
	2.5 mm² / solid / > 50 N
	1.5 mm² / flexible / > 40 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	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	250 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
Note on connection cross section	With connected conductor 2.5 mm² (solid).
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)	630 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

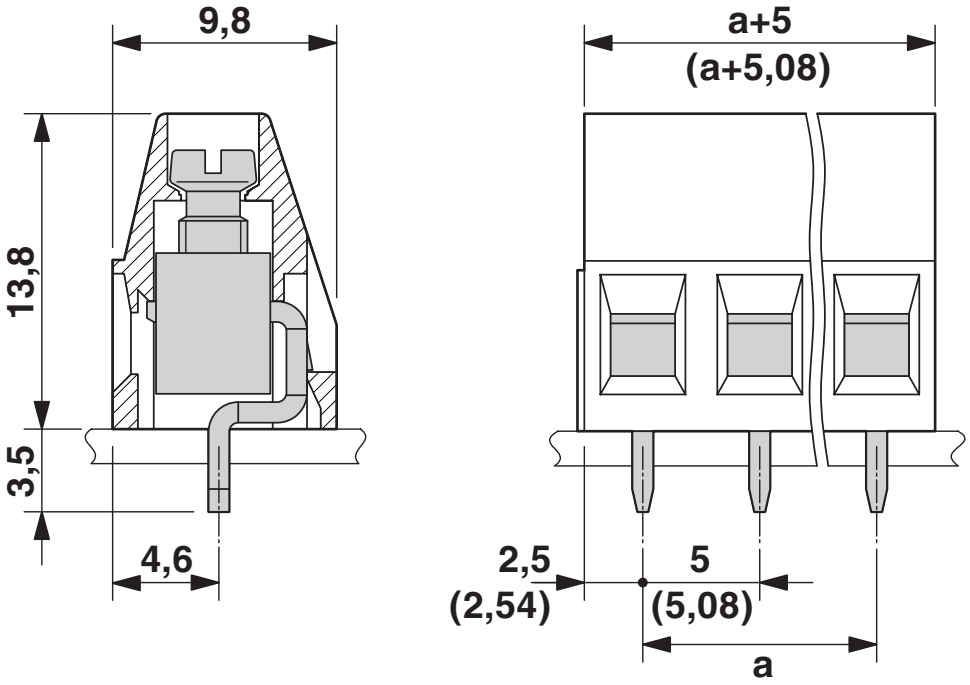
Ambient temperature (operation)	-40 °C ... 105 °C (Depending on the current carrying capacity/derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

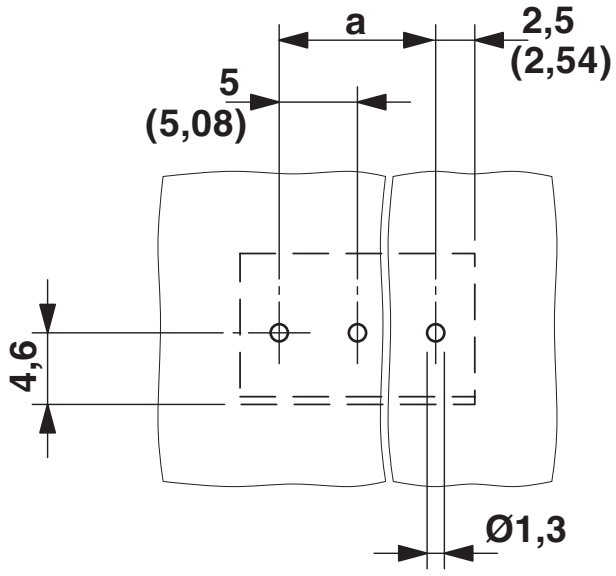
Type of packaging	packed in cardboard

Drawings

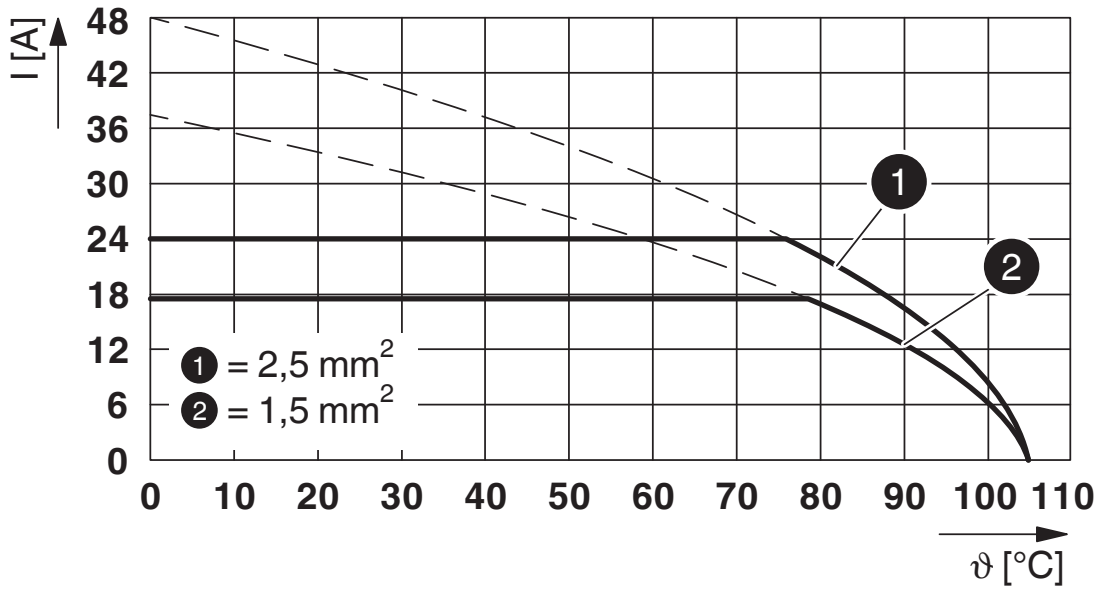
Dimensional drawing



Drilling plan/solder pad geometry



Diagram



Type: MKDS 1,5/...

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1715187

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 - 14	-
Use group D				
	300 V	10 A	28 - 14	-

cULus Recognized
Approval ID: E60425-19770427

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
	300 V	15 A	30 - 14	-
Use group D				
	300 V	10 A	30 - 14	-

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
	400 V	24 A	-	0.2 - 2.5

Classifications

ECLASS

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

ETIM

ETIM 9.0	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

Note: Applying some accessories below might limit this product.

EBP 4- 5 - Insertion bridge

1733185

https://www.phoenixcontact.com/us/products/1733185

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

Max. current carrying capacity: 12 A

EBP 5- 5 - Insertion bridge

1733198

https://www.phoenixcontact.com/us/products/1733198

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

Max. current carrying capacity: 12 A

SZS 0,6X3,5 - Screwdriver

1205053

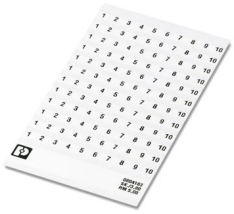
https://www.phoenixcontact.com/us/products/1205053

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

RZ 1,25-MKDS 1,5 - Pitch spacer

1702048

https://www.phoenixcontact.com/us/products/1702048

Pitch spacer, for adjusting the pitches between MKDS and GMKDS terminal blocks in mixed rows, 1.25 mm thick

CRIMPFOX 6 - Crimping pliers

1212034

https://www.phoenixcontact.com/us/products/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 mm^2 ... 6.0 mm^2, lateral entry, trapezoidal crimp

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