

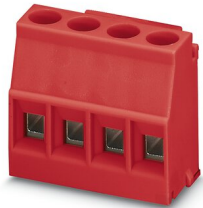
PCB terminal block - MKDSO 2,5/ 4-L RD



2909400

<https://www.phoenixcontact.com/us/products/2909400>

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PCB terminal block, nominal current: 24 A, rated voltage (III/2): 400 V, nominal cross section: 2.5 mm², number of potentials: 4, number of rows: 1, number of positions per row: 4, product range: MKDSO 2,5/..-L, pitch: 5 mm, connection method: Screw connection with tension sleeve, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: red, Pin layout: Linear pinning, Solder pin [P]: 3.5 mm, number of solder pins per potential: 1, type of packaging: packed in cardboard. Product with pin output on left side

Your advantages

- Maintenance-free and vibration-resistant, thanks to the Reakdyn principle or spring-loaded elements
- PCB terminal block is orthogonal to the PCB
- Internationally recognized and proven screw connection

Commercial Data

Item number	2909400
Packing unit	1 pc
Minimum order quantity	50 pc
Sales Key	A13
Product Key	ACHADA
GTIN	4017918401696
Weight per Piece (including packing)	8.281 g
Weight per Piece (excluding packing)	7.681 g
Customs tariff number	85369010
Country of origin	DE

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Technical Data

Product properties

Type	PCB termination block perpendicular to the PCB
Product line	COMBICON Terminals M
Product type	Printed circuit board terminal
Number of positions	4
Pitch	5 mm
Number of connections	4
Number of rows	1
Number of potentials	4
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Nominal current I_N	24 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

Connection data

Connection technology

Nominal cross section	2.5 mm ²
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Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross section solid	0.14 mm ² ... 2.5 mm ²
Conductor cross section flexible	0.14 mm ² ... 2.5 mm ²
Conductor cross section AWG	26 ... 14
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 2.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 2.5 mm ²
2 conductors with same cross section, solid	0.14 mm ² ... 0.75 mm ²
2 conductors with same cross section, flexible	0.14 mm ² ... 0.75 mm ²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm ² ... 0.75 mm ²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm ² ... 1.5 mm ²
Stripping length	8 mm
Tightening torque	0.5 Nm ... 0.6 Nm

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Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

Material specifications

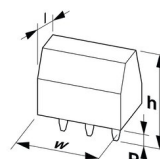
Material data - contact

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

Housing color	red (RAL 3001)
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

Dimensional drawing	
Pitch	5 mm
Width [w]	20.95 mm
Height [h]	21.25 mm
Length [l]	15.3 mm
Solder pin length [P]	3.5 mm

Mechanical tests

Test for conductor damage and slackening

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

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Pull-out test

Specification	IEC 60999-1:1999-11
Conductor cross section/conductor type/tractive force setpoint/actual value	0.14 mm ² / solid / > 10 N
	0.14 mm ² / flexible / > 10 N
	2.5 mm ² / solid / > 50 N
	2.5 mm ² / 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
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Insulation resistance

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

Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
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
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)	2 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)
Sweep speed	5g (60.1 - 150 Hz)

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Test duration per axis	2.5 h
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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
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Ambient conditions

Ambient temperature (operation)	-40 °C ... 105 °C (Depending on the current carrying capacity/derating curve)
Ambient temperature (storage/transport)	-40 °C ... 55 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

Type of packaging	packed in cardboard
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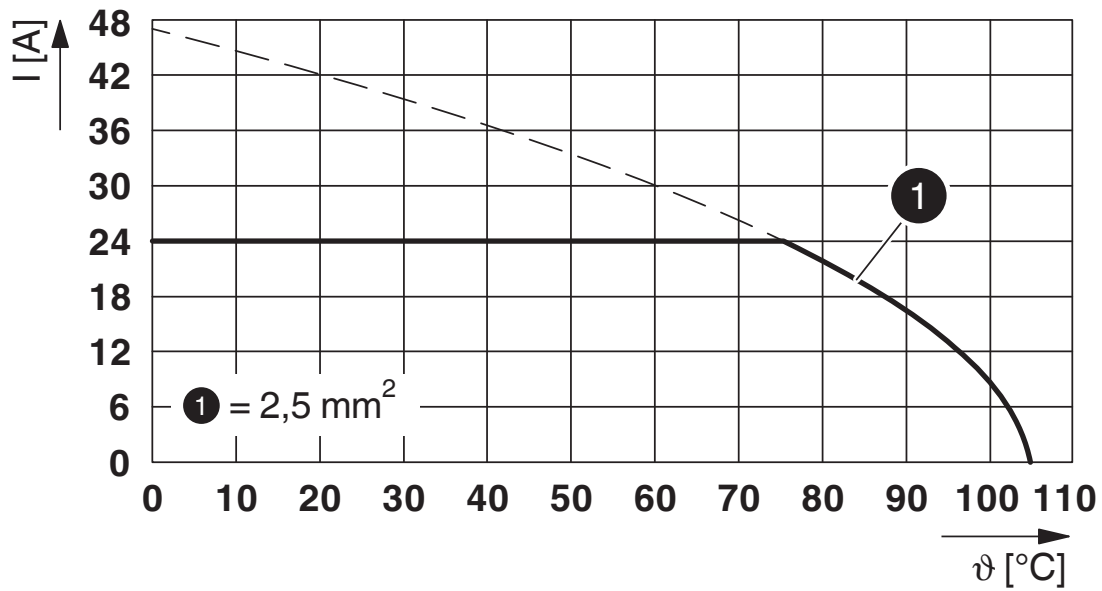


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Drawings

Diagram



Type: MKDSO 2,5/...-L


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Approvals

 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	-

 IECEE CB Scheme Approval ID: CB DE1-60046				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	450 V	24 A	-	- 2.5

 EAC Approval ID: B.01687				
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 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	20 A	30 - 12	-

 VDE report with production monitoring Approval ID: 40023968				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	450 V	24 A	-	0.2 - 2.5

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Classifications

ECLASS

ECLASS-9.0	27440401
ECLASS-10.0.1	27440401
ECLASS-11.0	27460101

ETIM

ETIM 8.0	EC002643
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UNSPSC

UNSPSC 21.0	39121400
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Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years For information on hazardous substances, refer to the manufacturer's declaration available under "Downloads"
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