

FKDSO 2,5/ 3-R1 - PCB terminal block

1868033

<https://www.phoenixcontact.com/us/products/1868033>

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The figure shows the 4-pos. version of the product

PCB terminal block, nominal current: 20 A, rated voltage (III/2): 320 V, nominal cross section: 2.5 mm², number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: FKDSO 2,5/ ..R1, pitch: 5 mm, connection method: Push-in spring connection, 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

Your advantages

- Orthogonal alignment of the terminal block with the PCB for optimum accessibility in DIN-rail-mounted devices
- Time saving push-in connection, tools not required
- Intuitive operation due to color-coded actuating push button

Commercial data

Item number	1868033
Packing unit	50 pc
Minimum order quantity	50 pc
Product key	AAMBBC
GTIN	4055626268408
Weight per piece (including packing)	3.96 g
Weight per piece (excluding packing)	3.94 g
Country of origin	SK

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Technical data

Product properties

Product type	PCB terminal block
Product family	FKDSO 2,5/ ..R1
Product line	COMBICON Terminals M
Number of positions	3
Pitch	5 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Properties

Nominal current I_N	20 A
Nominal voltage U_N	320 V
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

Nominal cross section	2.5 mm ²
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Conductor connection

Connection method	Push-in spring connection
Conductor cross-section rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross-section flexible	0.2 mm ² ... 4 mm ²
Conductor cross-section AWG	24 ... 12
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 the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm ² ... 1 mm ²
Stripping length	10 mm

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

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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 µm - 7 µm Sn)
Metal surface soldering area (top layer)	Tin (5 µm - 7 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

Material data – actuating element

Color (Actuating element)	orange (2003)
Insulating material	PBT GF
Insulating material group	IIIa
CTI according to IEC 60112	275
Flammability rating according to UL 94	V0

Dimensions

Dimensional drawing	
Pitch	5 mm
Width [w]	15.6 mm
Height [h]	17 mm
Length [l]	18.8 mm
Installed height	15.9 mm
Solder pin length [P]	3.5 mm
Pin dimensions	0.8 x 1 mm

PCB design

Pin spacing	5 mm
Hole diameter	1.4 mm

Mechanical tests

Test for conductor damage and slackening

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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 mm ² / solid / > 10 N
	2.5 mm ² / solid / > 50 N
	0.2 mm ² / flexible / > 10 N
	4 mm ² / flexible / > 60 N

Electrical tests

Temperature-rise test

Specification	IEC 60947-7-4:2013-08
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 60947-7-4:2013-08
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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 60947-1:2007-06 + A1:2010-12
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 275
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

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Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

Glow-wire test

Specification	IEC 60695-2-10:2000-10
Temperature	850 °C
Time of exposure	5 s

Aging

Specification	IEC 60947-7-4:2013-08
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Ambient conditions

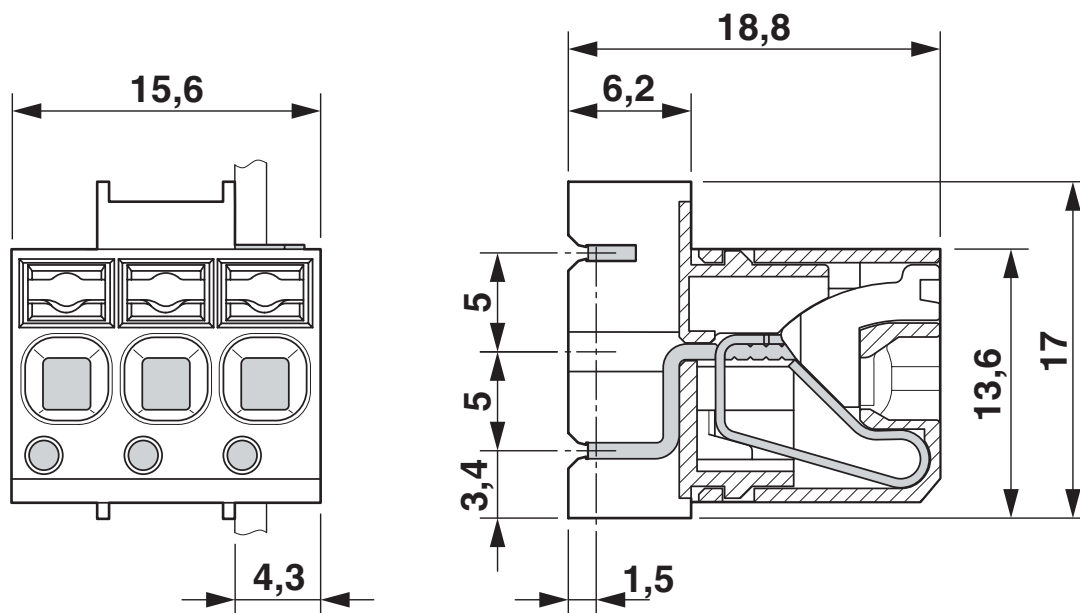
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-25 °C ... 105 °C
Ambient temperature (operation)	-40 °C ... 100 °C (Depending on the current carrying capacity/derating curve)

Packaging specifications

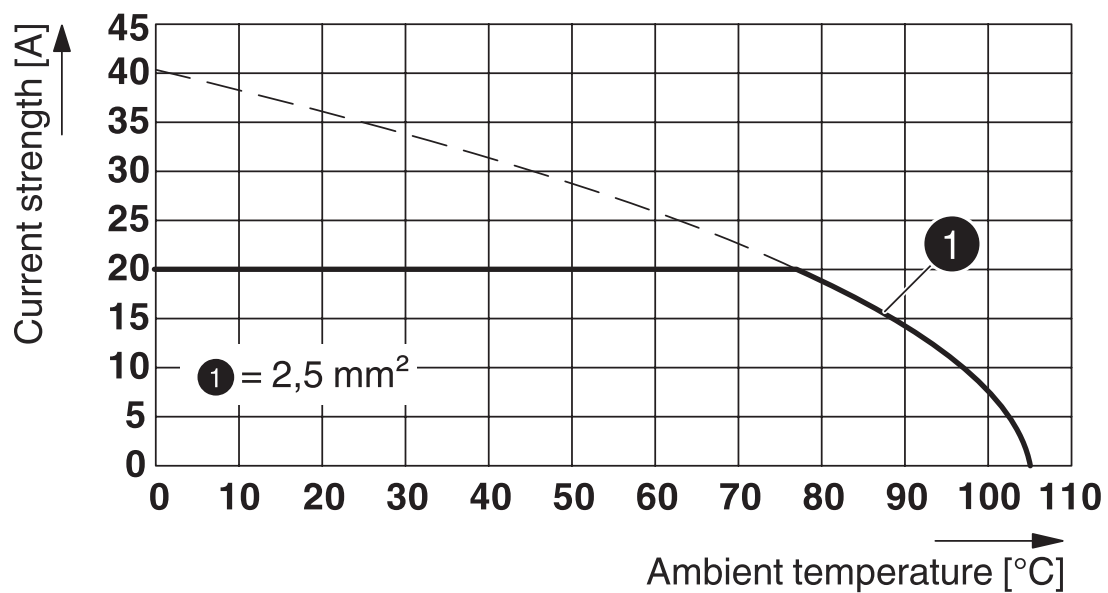
Type of packaging	packed in cardboard
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Drawings

Dimensional drawing



Diagram



Type: FKDSO 2,5/...-R(L)1

Tested according to DIN EN 60512-5-2:2003-01

Reduction factor = 1

Number of positions: 4

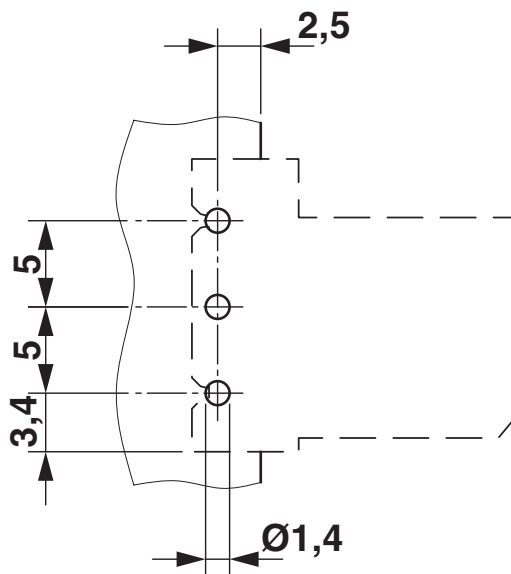
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Drilling plan/solder pad geometry



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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1868033>

 cULus Recognized Approval ID: E60425-20110930				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B	300 V	20 A	24 - 12	-
D	150 V	15 A	24 - 12	-

 VDE approval of drawings Approval ID: 40043675				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine	320 V	20 A	-	0.2 - 4

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Classifications

ECLASS

ECLASS-13.0	27460101
ECLASS-15.0	27460101

ETIM

ETIM 10.0	EC002643
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UNSPSC

UNSPSC 21.0	39121400
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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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%
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EF3.1 Climate Change

CO2e kg	0.099 kg CO2e
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