

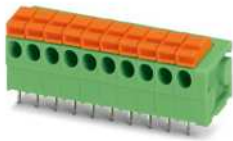
PCB terminal block - FFKDSA1/H-3,81- 3



1888221

<https://www.phoenixcontact.com/pc/products/1888221>

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PCB terminal block, nominal current: 12 A, rated voltage (III/2): 160 V, nominal cross section: 1 mm², number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: FFKDS(A) 1,5/..-H, pitch: 3.81 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 0 °, color: green, Pin layout: Linear pinning, Solder pin [P]: 3.4 mm, number of solder pins per potential: 2, type of packaging: packed in cardboard

Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Intuitive use through colour coded actuation lever
- Operation and conductor connection from one direction enable integration into front of device
- Two solder pins reduce the mechanical strain on the soldering spots
- The latching on the side enables various numbers of positions to be combined

Commercial Data

Item number	1888221
Packing unit	50 pc
Minimum order quantity	1 pc
Product Key	AALBAA
GTIN	4017918323820
Weight per Piece (including packing)	2.89 g
Weight per Piece (excluding packing)	2.43 g
Customs tariff number	85369010
Country of origin	GR

1888221

<https://www.phoenixcontact.com/pc/products/1888221>

Technical Data

Product properties

Type	PC terminal block can be aligned
Product line	COMBICON Terminals S
Product type	Printed circuit board terminal
Number of positions	3
Pitch	3.81 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Pin layout	Linear pinning
Solder pins per potential	2

Electrical properties

Nominal current I_N	12 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

Connection data

Connection technology

Type	PC terminal block can be aligned
Nominal cross section	1 mm ²

Conductor connection

Connection method	Push-in spring connection
Conductor cross section solid	0.14 mm ² ... 1 mm ²
Conductor cross section flexible	0.14 mm ² ... 1 mm ²
Conductor cross section AWG	26 ... 18
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 0.34 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 0.34 mm ²
Stripping length	10 mm

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

Material specifications

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1888221

<https://www.phoenixcontact.com/pc/products/1888221>

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)

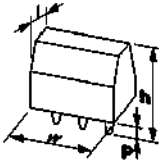
Material data - housing

Color (Housing)	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

Material data – actuating element

Color ()	()
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	3.81 mm
Width [w]	13.93 mm
Height [h]	16.1 mm
Length [l]	13.65 mm
Installed height	12.7 mm

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1888221

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Solder pin length [P]	3.4 mm
PCB design	
Pin spacing	5.08 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 mm ² / solid / > 10 N
	0.14 mm ² / flexible / > 10 N
	1 mm ² / solid / > 35 N
	1 mm ² / flexible / > 35 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 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)	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 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)	1.5 mm
Rated insulation voltage (II/2)	320 V
Rated surge voltage (II/2)	2.5 kV
minimum clearance value - non-homogenous field (II/2)	1.5 mm

PCB terminal block - FFKDSA1/H-3,81- 3



1888221

<https://www.phoenixcontact.com/pc/products/1888221>

minimum creepage distance (II/2)	1.6 mm
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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 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
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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 ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

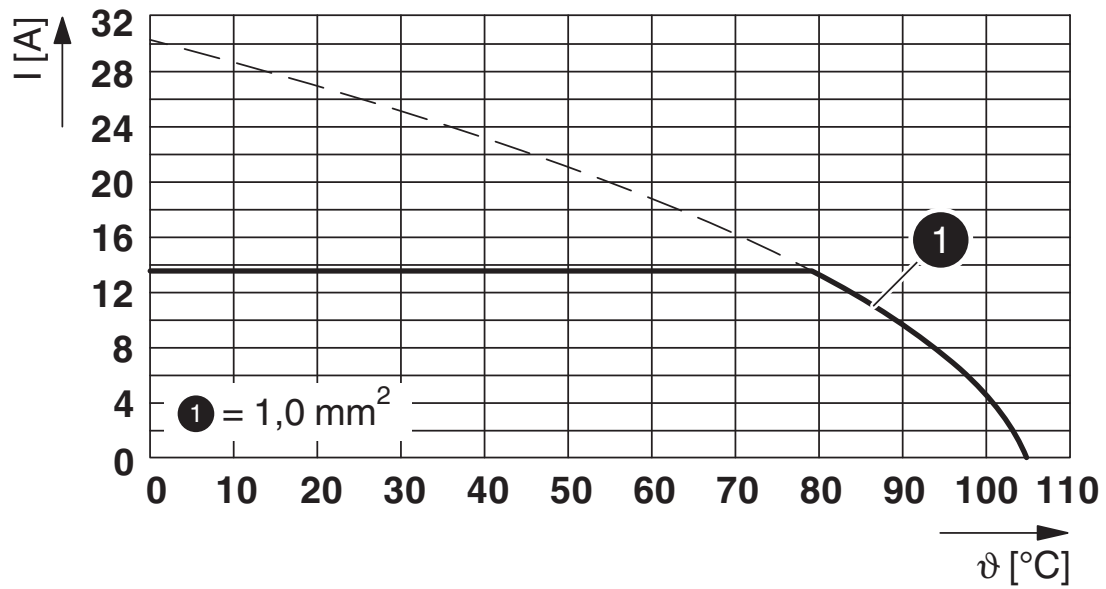
Type of packaging	packed in cardboard
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Drawings

Diagram



Type: FFKDS/H-3,81


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1888221


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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				
Only rigid conductors	150 V	10 A	26 - 18	-

 IECEE CB Scheme Approval ID: NL-25836				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	130 V		-	- 1

 EAC Approval ID: B.01687				
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 cULus Recognized Approval ID: E60425-19870330				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B				
	300 V	6 A	26 - 16	-
Use group D				
	300 V	6 A	26 - 16	-

CCA Approval ID: NTR NL-7074				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	130 V		-	- 1

 KEMA-KEUR Approval ID: 2160724.01				
	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	130 V		-	- 1

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1888221

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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: unlimited = EFUP-e
	No hazardous substances above threshold values

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PHOENIX CONTACT GmbH & Co. KG
Flachmarktstraße 8
D-32825 Blomberg
+49 (0) 5235-3 00
info@phoenixcontact.com