

FK-MPT 0,5/12-3,5 - PCB terminal block



1891166

<https://www.phoenixcontact.com/us/products/1891166>

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The figure shows a 10-position version of the product

Printed circuit board terminal, nominal current: 4 A, rated voltage (III/2): 250 V, nominal cross section: 0.5 mm², number of potentials: 12, number of rows: 1, number of positions per row: 12, product range: FK-MPT 0,5/..-V, pitch: 3.5 mm, connection method: Push-in spring connection, mounting: Wave soldering, conductor/PCB connection direction: 90 °, 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

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Intuitive operation due to color-coded actuating push button
- Potentials can be easily looped through – ideal for BUS applications
- Small component size for applications where space is at a premium
- Vertical connection enables multi-row arrangement on the PCB

Commercial data

Item number	1891166
Packing unit	50 pc
Minimum order quantity	50 pc
Note	Made to order (non-returnable)
Sales key	AA11
Product key	AAKBCB
GTIN	4017918169688
Weight per piece (including packing)	4.531 g
Weight per piece (excluding packing)	3.88 g
Customs tariff number	85369010
Country of origin	IN

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Technical data

Product properties

Product type	Printed circuit board terminal
Product family	FK-MPT 0,5/..-V
Product line	COMBICON Terminals XS
Type	PC termination block
Number of positions	12
Pitch	3.5 mm
Number of connections	24
Number of rows	1
Number of potentials	12
Mounting type	without
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Properties

Nominal current I_N	4 A
Nominal voltage U_N	250 V
Rated voltage (III/3)	160 V
Rated surge voltage (III/3)	2.5 kV
Rated voltage (III/2)	250 V
Rated surge voltage (III/2)	2.5 kV
Rated voltage (II/2)	250 V
Rated surge voltage (II/2)	2.5 kV

Connection data

Conductor connection

Connection method	Push-in spring connection
Conductor cross-section rigid	0.12 mm ² ... 0.5 mm ²
Conductor cross-section AWG	26 ... 20
Stripping length	6.5 mm

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
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Contact material	Steel/copper
Surface characteristics	Tin-plated
Metal surface terminal point (top layer)	Tin (5 µm - 7 µm Sn)
Metal surface terminal point (middle layer)	Copper (2 µm - 3 µm Cu)
Metal surface soldering area (top layer)	Tin (5 µm - 7 µm Sn)
Metal surface soldering area (middle layer)	Copper (2 µm - 3 µm Cu)

Material data - housing

Color (Housing)	green (6021)
Insulating material	PBT
Insulating material group	IIIa
CTI according to IEC 60112	225
Flammability rating according to UL 94	V0

Material data – actuating element

Color (Actuating element)	orange (2003)
Insulating material	POM
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	HB

Dimensions

Dimensional drawing	
Pitch	3.5 mm
Width [w]	42.5 mm
Height [h]	13 mm
Length [l]	7 mm
Installed height	9.5 mm
Solder pin length [P]	3.5 mm
Pin dimensions	0.35 x 0.9 mm

PCB design

Hole diameter	1 mm
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Mechanical tests

Test for conductor damage and slackening

Specification	IEC 60999-1:1990-05
Result	Test passed

Pull-out test

Specification	IEC 60999-1:1990-05
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Conductor cross-section/conductor type/tractive force setpoint/actual value	0.14 mm ² / solid / > 10 N
	0.5 mm ² / solid / > 30 N

Electrical tests

Temperature-rise test

Specification	IEC 60998-1:1990-04
Requirement temperature-rise test	Increase in temperature ≤ 45 K

Insulation resistance

Specification	IEC 60512-2:1985-00
Insulation resistance, neighboring positions	10 ¹² Ω

Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	IIIa
Comparative tracking index (IEC 60112)	CTI 225
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)	2.5 mm
Rated insulation voltage (III/2)	250 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)	2.5 mm
Rated insulation voltage (II/2)	250 V
Rated surge voltage (II/2)	2.5 kV
minimum clearance value - non-homogenous field (II/2)	1.5 mm
minimum creepage distance (II/2)	2.5 mm

Environmental and real-life conditions

Vibration test

Specification	IEC 60068-2-6:1995-03
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
Test directions	X-, Y- and Z-axis

Ambient conditions

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

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Packaging specifications

Type of packaging
packed in cardboard

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Drawings

Dimensional drawing



Drilling plan/solder pad geometry



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Approvals

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 cULus Recognized Approval ID: E60425-19991118				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B	300 V	4 A	28 - 20	-
D	300 V	4 A	28 - 20	-

 VDE approval of drawings Approval ID: 40055523				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine	250 V	4 A	-	0.2 - 0.5

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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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