

# PCB terminal block - MKDS 3/ 9-5,08



1707331

<https://www.phoenixcontact.com/pc/products/1707331>

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PCB terminal block, nominal current: 24 A, rated voltage (III/2): 400 V, nominal cross section: 2.5 mm<sup>2</sup>, number of potentials: 9, number of rows: 1, number of positions per row: 9, product range: MKDS 3, pitch: 5.08 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]: 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
- Integrated protective guide prevents incorrect insertion of the conductor underneath the tension sleeve
- The latching on the side enables various numbers of positions to be combined

## Commercial Data

Item number	1707331
Packing unit	50 pc
Minimum order quantity	1 pc
Product Key	AAMFIB
GTIN	4017918229122
Weight per Piece (including packing)	18.1 g
Weight per Piece (excluding packing)	17.4 g
Customs tariff number	85369010
Country of origin	DE

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## Technical Data

### Product properties

Type	PC terminal block can be aligned
Product line	COMBICON Terminals M
Product type	Printed circuit board terminal
Number of positions	9
Pitch	5.08 mm
Number of connections	9
Number of rows	1
Number of potentials	9
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

Type	PC terminal block can be aligned
Nominal cross section	2.5 mm <sup>2</sup>

#### Conductor connection

Connection method	Screw connection with tension sleeve
Conductor cross section solid	0.2 mm <sup>2</sup> ... 4 mm <sup>2</sup>
Conductor cross section flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section AWG	24 ... 12
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
2 conductors with same cross section, solid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
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
Drive form screw head	Slotted (L)
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)

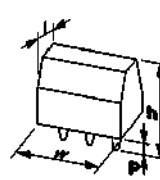
### Material data - housing

Housing color	green (RAL 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).
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## Dimensions

Dimensional drawing	
Pitch	5.08 mm
Width [w]	45.72 mm
Height [h]	23 mm
Length [l]	11.2 mm

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Installed height	18 mm
Solder pin length [P]	5 mm

## PCB design

Pin spacing	15.24 mm
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## Electrical tests

### 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 4 mm <sup>2</sup> (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

### 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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## Approvals

 <b>CSA</b> 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	-

 <b>EAC</b> Approval ID: B.01687				
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 <b>cULus Recognized</b> Approval ID: E60425-19770427				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $mm^2$
Use group B				
Multi-conductor connection	300 V	15 A	30 - 18	-
Screw connection	300 V	15 A	30 - 12	-
Use group D				
Multi-conductor connection	300 V	10 A	30 - 18	-
Screw connection	300 V	10 A	30 - 12	-

 <b>DNV GL</b> Approval ID: TAE00001EV				
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 <b>IECEE CB Scheme</b> Approval ID: DE1-66542				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $mm^2$
	400 V	28 A	-	0.2 - 4

 <b>VDE Zeichengenehmigung</b> Approval ID: 40055394				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $mm^2$
	400 V	28 A	-	0.2 - 4

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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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## Accessories

 Note: Applying some accessories below might limit this product.


### Insertion bridge

Insertion bridge - EBP 2- 5 - 1733169

<https://www.phoenixcontact.com/pc/products/1733169>

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch



 Max. current carrying capacity: 12 A

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### Insertion bridge

Insertion bridge - EBP 3- 5 - 1733172

<https://www.phoenixcontact.com/pc/products/1733172>

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch



 Max. current carrying capacity: 12 A

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## Insertion bridge

Insertion bridge - EBP 4- 5 - 1733185

<https://www.phoenixcontact.com/pc/products/1733185>



Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

 Max. current carrying capacity: 12 A

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## Insertion bridge

Insertion bridge - EBP 5- 5 - 1733198

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Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch

 Max. current carrying capacity: 12 A

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## Insertion bridge

Insertion bridge - EBP 6- 5 - 1733208

<https://www.phoenixcontact.com/pc/products/1733208>

Insertion bridge for connectors with 5.0 mm or 5.08 mm pitch



 Max. current carrying capacity: 12 A

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## Screwdriver

Screwdriver - SZS 0,6X3,5 - 1205053

<https://www.phoenixcontact.com/pc/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

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## Pitch spacer

Pitch spacer - RZ 1,25-MKDS 3 - 1703047

<https://www.phoenixcontact.com/pc/products/1703047>



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

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## Marker card

Marker card - SK 5,08/3,8:UNBEDRUCKT - 0805412

<https://www.phoenixcontact.com/pc/products/0805412>



Marker card, white, unlabeled, can be labeled with: Marker pen, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: 5.08 x 3.8 mm

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## Marker card

Marker card - SK 5,08/3,8:FORTL.ZAHLEN - 0804293

<https://www.phoenixcontact.com/pc/products/0804293>



Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 5.08 mm, lettering field size: 5.08 x 3.8 mm

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## Marker pen

Marker pen - B-STIFT - 1051993

<https://www.phoenixcontact.com/pc/products/1051993>



Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm

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