

# MC 0,5/ 8-G-2,5 THT - PCB header



1939303

<https://www.phoenixcontact.com/us/products/1939303>

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PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 8, number of rows: 1, number of positions: 8, number of connections: 8, product range: MC 0,5/..-G-THT, pitch: 2.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm, number of solder pins per potential: 1, plug-in system: COMBICON FK-MC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard, For user information and design recommendations for through-hole reflow technology, go to: Downloads

## Your advantages

- Designed for integration into the SMT soldering process

## Commercial data

Item number	1939303
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA01
Product key	AAATGA
Catalog page	Page 170 (C-1-2013)
GTIN	4017918852566
Weight per piece (including packing)	3.44 g
Weight per piece (excluding packing)	2.37 g
Customs tariff number	85366930
Country of origin	DE

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1939303

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## Technical data

### Product properties

Product type	PCB headers
Product family	MC 0,5/..-G-THT
Product line	COMBICON Connectors XS
Type	Component suitable for through hole reflow
Number of positions	8
Pitch	2.5 mm
Number of connections	8
Number of rows	1
Number of potentials	8
Mounting flange	without
Pin layout	Linear pinning
Solder pins per potential	1

### Electrical properties

Nominal current $I_N$	4 A
Nominal voltage $U_N$	160 V
Degree of pollution	3
Contact resistance	2 mΩ
Rated voltage (III/3)	32 V
Rated surge voltage (III/3)	1.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Rated voltage (II/2)	160 V
Rated surge voltage (II/2)	1.5 kV

### Mounting

Mounting type	THR soldering
Pin layout	Linear pinning

### Processing notes

Process	Reflow/wave soldering
Moisture Sensitive Level	MSL 3
Classification temperature $T_c$	245 °C
Solder cycles in the reflow	3

### 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

# MC 0,5/ 8-G-2,5 THT - PCB header

1939303

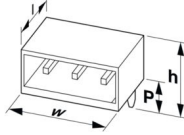
<https://www.phoenixcontact.com/us/products/1939303>

Metal surface contact area (top layer)	Tin (3 - 5 $\mu\text{m}$ Sn)
Metal surface contact area (middle layer)	Nickel (1 - 3 $\mu\text{m}$ Ni)
Metal surface soldering area (top layer)	Tin (3 - 5 $\mu\text{m}$ Sn)
Metal surface soldering area (middle layer)	Nickel (1 - 3 $\mu\text{m}$ Ni)

## Material data - housing

Color (Housing)	black (9005)
Insulating material	PA
Insulating material group	IIIa
CTI according to IEC 60112	250
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	2.5 mm
Width [w]	21.9 mm
Height [h]	11.9 mm
Length [l]	10.1 mm
Installed height	8.1 mm
Solder pin length [P]	3.8 mm
Pin dimensions	0.8 x 0.8 mm

## PCB design

Hole diameter	1.4 mm
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## Mechanical tests

### Visual inspection

Specification	IEC 60512-1-1:2002-02
Result	Test passed

### Dimension check

Specification	IEC 60512-1-2:2002-02
Result	Test passed

### Resistance of inscriptions

Specification	IEC 60068-2-70:1995-12
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# MC 0,5/ 8-G-2,5 THT - PCB header



1939303

<https://www.phoenixcontact.com/us/products/1939303>

Result	Test passed
Polarization and coding	
Specification	IEC 60512-13-5:2006-02
Result	Test passed
Contact holder in insert	
Specification	IEC 60512-15-1:2008-05
Contact holder in insert Requirements >20 N	Test passed
Insertion and withdrawal forces	
Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 N

## Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	12

### Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	$10^{12} \Omega$

### Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	IIIa
Comparative tracking index (IEC 60112)	CTI 250
Rated insulation voltage (III/3)	32 V
Rated surge voltage (III/3)	1.5 kV
minimum clearance value - non-homogenous field (III/3)	0.8 mm
minimum creepage distance (III/3)	1.3 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)	1.6 mm
Rated insulation voltage (II/2)	160 V
Rated surge voltage (II/2)	1.5 kV
minimum clearance value - non-homogenous field (II/2)	0.5 mm
minimum creepage distance (II/2)	1.6 mm

## Environmental and real-life conditions

### Vibration test

Specification	IEC 60068-2-6:2007-12
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# MC 0,5/ 8-G-2,5 THT - PCB header



1939303

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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

## Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance $R_1$	2 m $\Omega$
Contact resistance $R_2$	2.2 m $\Omega$
Insertion/withdrawal cycles	25

## Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Thermal stress	100 °C/168 h
Power-frequency withstand voltage	1.39 kV

## Ambient conditions

Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the 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

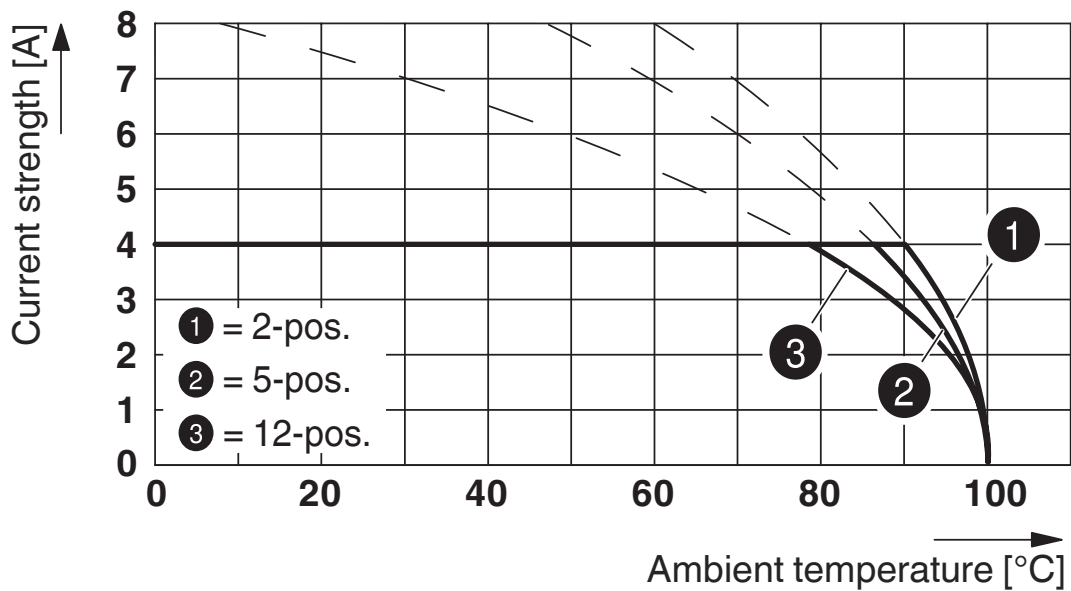
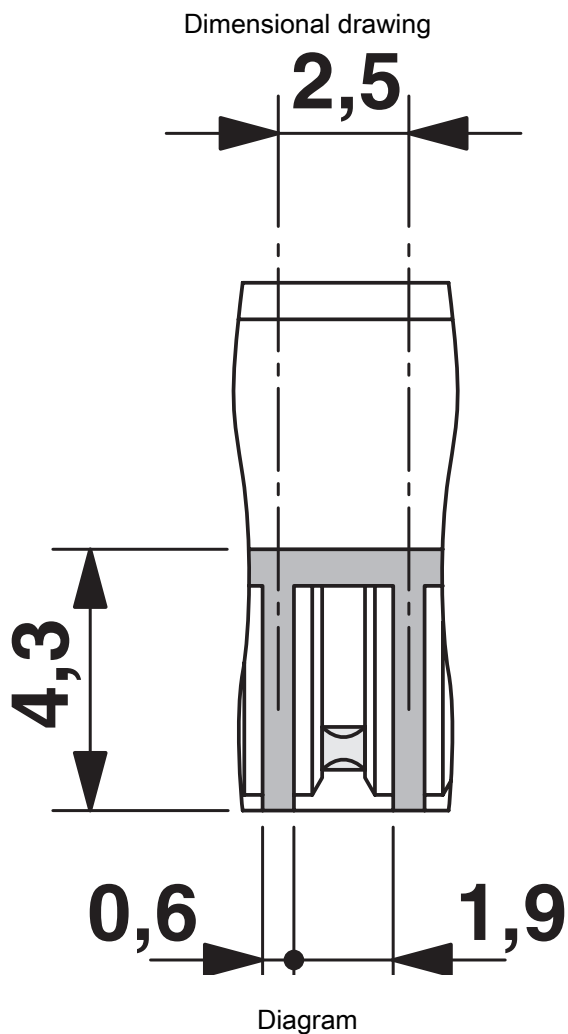
Type of packaging	packed in cardboard
Outer packaging type	Dry bag

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1939303

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## Drawings



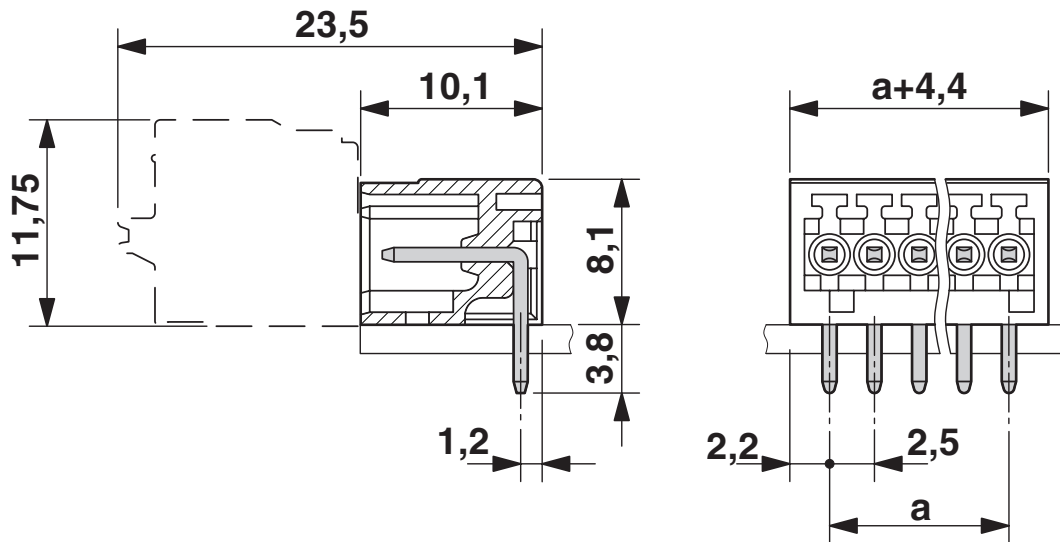
Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5 THT

# MC 0,5/ 8-G-2,5 THT - PCB header

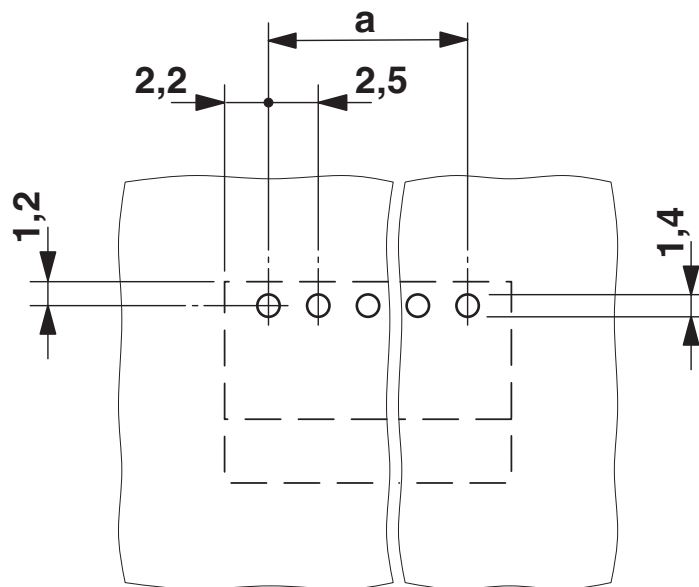
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Dimensional drawing



Drilling plan/solder pad geometry



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1939303>

 <b>cULus Recognized</b> Approval ID: E60425-19990913				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
Use group B				
	125 V	4 A	-	-

 <b>VDE Gutachten mit Fertigungsüberwachung</b> Approval ID: 40013394				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	32 V	4 A	-	-



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1939303

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## Classifications

### ECLASS

ECLASS-11.0	27460201
ECLASS-12.0	27460201
ECLASS-13.0	27460201

### ETIM

ETIM 9.0	EC002637
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### UNSPSC

UNSPSC 21.0	39121400
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1939303

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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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1939303

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## Accessories

### CP-MC 0,5 - Coding profile

1881435

<https://www.phoenixcontact.com/us/products/1881435>

Coding profile, is inserted into the groove in the header, red insulating material



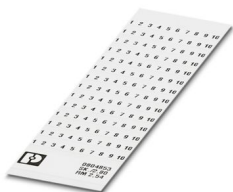
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### SK 2,54/2,8:FORTL.ZAHLEN - Marker card

0804853

<https://www.phoenixcontact.com/us/products/0804853>

Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 2.54 mm, lettering field size: 2.54 x 2.8 mm



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1939303

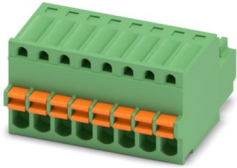
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## FK-MC 0,5/ 8-ST-2,5 - PCB connector

1881383

<https://www.phoenixcontact.com/us/products/1881383>



PCB connector, nominal cross section: 0.5 mm<sup>2</sup>, color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 8, number of rows: 1, number of positions: 8, number of connections: 8, product range: FK-MC 0,5/..-ST, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON FK-MC 0,5, locking: without, mounting: without, type of packaging: packed in cardboard

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Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)