

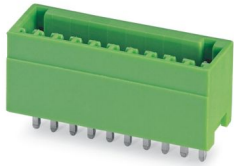
MCV 0,5/10-G-2,5 - PCB header



1881639

<https://www.phoenixcontact.com/us/products/1881639>

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PCB headers, nominal cross section: 0.5 mm², color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 10, number of rows: 1, number of positions: 10, number of connections: 10, product range: MCV 0,5/...-G, pitch: 2.5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 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

Your advantages

- Well-known mounting principle allows worldwide use
- Vertical connection enables multi-row arrangement on the PCB

Commercial data

Item number	1881639
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA01
Product key	AAASAB
Catalog page	Page 173 (C-1-2013)
GTIN	4017918156879
Weight per piece (including packing)	2.191 g
Weight per piece (excluding packing)	1.837 g
Customs tariff number	85366930
Country of origin	DE

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1881639

<https://www.phoenixcontact.com/us/products/1881639>

Technical data

Product properties

Product type	PCB headers
Product family	MCV 0,5/..-G
Product line	COMBICON Connectors XS
Type	Standard
Number of positions	10
Pitch	2.5 mm
Number of connections	10
Number of rows	1
Number of potentials	10
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)	80 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)	320 V
Rated surge voltage (II/2)	2.5 kV

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
Contact material	Cu alloy
Surface characteristics	Tin-plated
Metal surface contact area (top layer)	Tin (3 - 5 μm Sn)
Metal surface contact area (middle layer)	Nickel (1 - 3 μm Ni)
Metal surface soldering area (top layer)	Tin (3 - 5 μm Sn)
Metal surface soldering area (middle layer)	Nickel (1 - 3 μm Ni)

Material data - housing

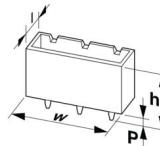
MCV 0,5/10-G-2,5 - PCB header

1881639

<https://www.phoenixcontact.com/us/products/1881639>

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

Dimensions

Dimensional drawing	
Pitch	2.5 mm
Width [w]	27.2 mm
Height [h]	13.6 mm
Length [l]	8.1 mm
Installed height	10.1 mm
Solder pin length [P]	3.5 mm
Pin dimensions	0.8 x 0.8 mm

PCB design

Hole diameter	1.2 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
Result	Test passed

Polarization and coding

Specification	IEC 60512-13-5:2006-02
Result	Test passed

Contact holder in insert

MCV 0,5/10-G-2,5 - PCB header



1881639

<https://www.phoenixcontact.com/us/products/1881639>

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.	7 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	> 5 MΩ

Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	80 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)	1.7 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
minimum creepage distance (II/2)	1.6 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
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Acceleration	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

MCV 0,5/10-G-2,5 - PCB header



1881639

<https://www.phoenixcontact.com/us/products/1881639>

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance R ₁	2 mΩ
Contact resistance R ₂	2.2 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ

Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm ³ SO ₂ on 300 dm ³ /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
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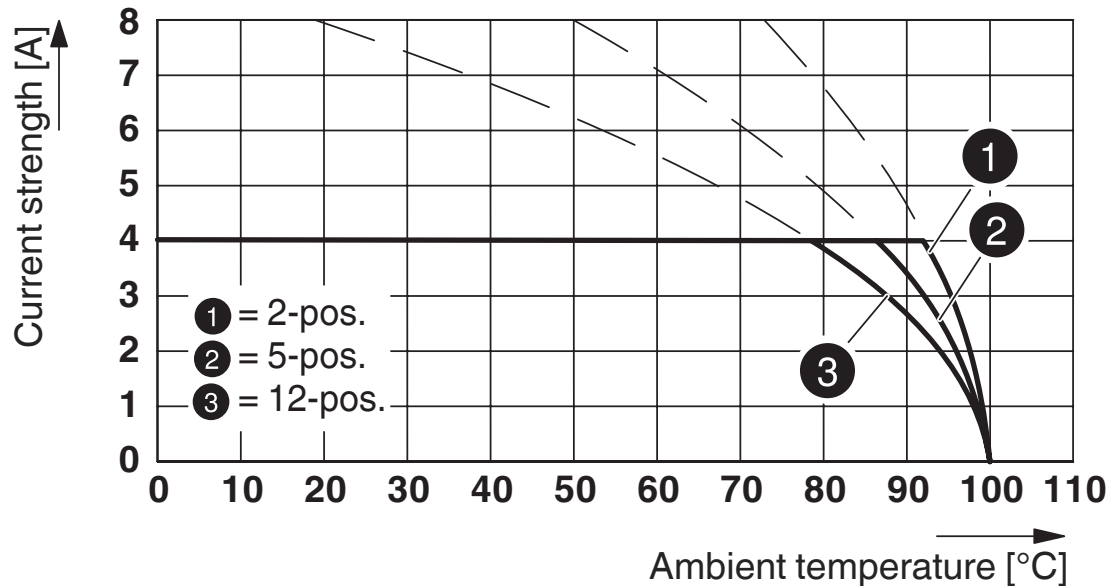
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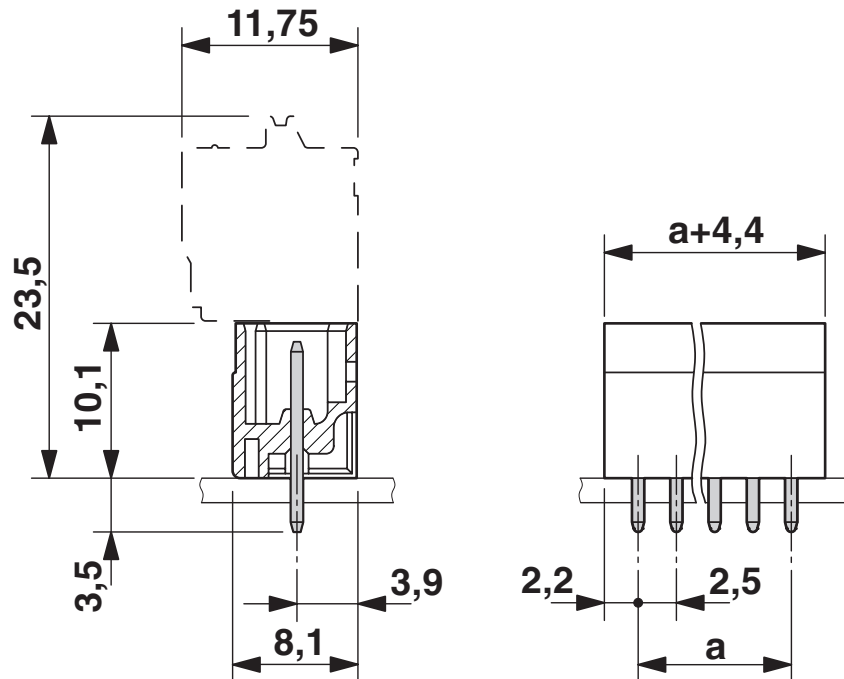
Drawings

Diagram



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

Dimensional drawing



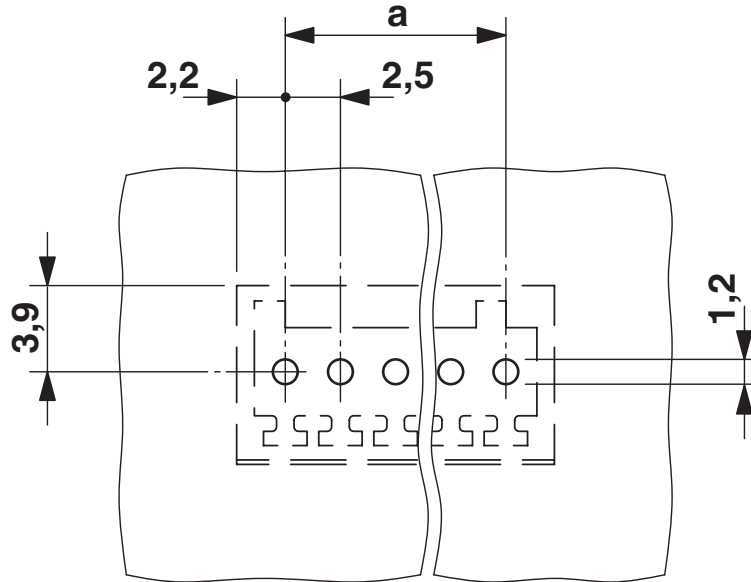
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1881639

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Drilling plan/solder pad geometry



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1881639

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1881639>

 cULus Recognized Approval ID: E60425-19990913				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
	125 V	4 A	-	-

 VDE Gutachten mit Fertigungsüberwachung Approval ID: 40013394				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	80 V	4 A	-	-

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1881639

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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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1881639

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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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1881639

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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

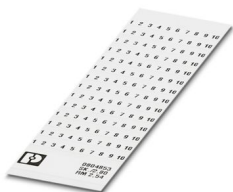


SK 2,54/2,8:FORTL.ZAHLEN - Marker card

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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1881639

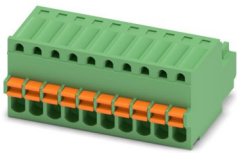
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FK-MC 0,5/10-ST-2,5 - PCB connector

1881406

<https://www.phoenixcontact.com/us/products/1881406>



PCB connector, nominal cross section: 0.5 mm², color: green, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 10, number of rows: 1, number of positions: 10, number of connections: 10, 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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