

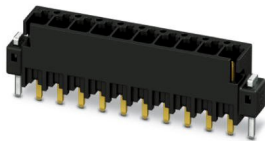
Printed-circuit board connector - MCV 0,5/ 2-G-2,54 P20 THR R24



1821397

<https://www.phoenixcontact.com/za/products/1821397>

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PCB headers, nominal cross section: 0.5 mm², color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, type of contact: Male connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: MCV 0,5/-G-THR, pitch: 2.54 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: MICRO COMBICON - FMC 0,5, Pin connector pattern alignment: Standard, Locking: without, mounting: without, type of packaging: 24 mm wide tape, Sample values available under SAMPLE MC...

Your advantages

- Designed for integration into the SMT soldering process
- Additional solder anchors reduce the mechanical strain on the soldering spots
- Gold-plated contacts ensure transfer quality remains stable over the long term
- Vertical connection enables multi-row arrangement on the PCB
- Supplied in tape-on-reel packing according to IEC 60286-3 for automated mounting

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Commercial Data

Order Key	1821397
Packing unit	315 pc
Minimum order quantity	1 pc
Sales Key	AAA
Product Key	AAATAB
Catalog Page	Page 177 (C-1-2013)
GTIN	4046356789554
Weight per Piece (including packing)	1,741 g
Weight per Piece (excluding packing)	1,741 g
Customs tariff number	85366930
Country of origin	PL

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Technical Data

Product properties

Type	Component suitable for through hole reflow
Number of positions	2
Number of connections	2
Number of rows	1
Connector system	MICRO COMBICON - FMC 0,5
Mounting flange	without
Number of potentials	2
Pin layout	Linear pinning

Electrical properties

Rated voltage (II/2)	160 V
Rated voltage (III/2)	160 V
Rated surge voltage (II/2)	2.5 kV
Rated surge voltage (III/2)	2.5 kV
Rated surge voltage (III/3)	2.5 kV
Nominal voltage U_N	32 V
Nominal current I_N	6 A
Nominal current I_N	6 A

Mounting

Processing notes

Process	Reflow/wave soldering
Moisture Sensitive Level	MSL 1
Classification temperature T_c	260 °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	Completely gold-plated
Metal surface contact area (top layer)	Gold (0.25 Au)
Metal surface contact area (middle layer)	Nickel (2 - 4 μm Ni)
Metal surface soldering area (top layer)	Gold (0.25 Au)
Metal surface soldering area (middle layer)	Nickel (2 - 4 μm Ni)

Material data - housing

Housing color	black (9005)
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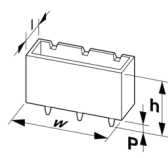


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Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

Dimensions

Dimensional drawing	
Width	9.66 mm
Height	9.1 mm
Installed height	7.1 mm
Length of the solder pin	2 mm
Length	4.85 mm
Length of the solder pin	2 mm
Pin dimensions	0.64 x 0.64 mm
Hole diameter	1.2 mm
Pitch	2.54 mm

Mechanical tests

Test for conductor damage and slackening

Specification	IEC 60999-1:1999-11
Result	Test passed

Repeated connection and disconnection

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
	0.5 mm ² / solid / > 20 N
	0.5 mm ² / flexible / > 20 N

Insertion and withdrawal forces

Result	Test passed
No. of cycles	100
Insertion strength per pos. approx.	2 N
Withdraw strength per pos. approx.	2 N

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Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Result	Test passed
Test force per pos.	20 N

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

Visual inspection

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

Dimension check

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

Electrical tests

Electrical properties

Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	2.5 mΩ
Pollution degree	2

Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	16

Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

Temperature cycles

Specification	IEC 60999-1:1999-11
Result	Test passed

Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	IIIa
Comparative tracking index (IEC 60112:2003-01)	CTI 175
Rated insulation voltage (III/3)	32 V

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Rated surge voltage (III/3)	2.5 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)	2.5 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
Frequency	10 - 500 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Sweep speed	5g (60,1 - 500 Hz)
Test duration per axis	2 h

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance R ₁	2.5 mΩ
Contact resistance R ₂	2.4 mΩ
Insertion/withdrawal cycles	100
Insulation resistance, neighboring positions	> 5 MΩ

Climatic test

Specification	DIN 50018:2013-05
Corrosive stress	1.0 dm ³ SO ₂ on 300 dm ³ /40 °C/3 cycles
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	24 mm wide tape
[W] tape width	24 mm

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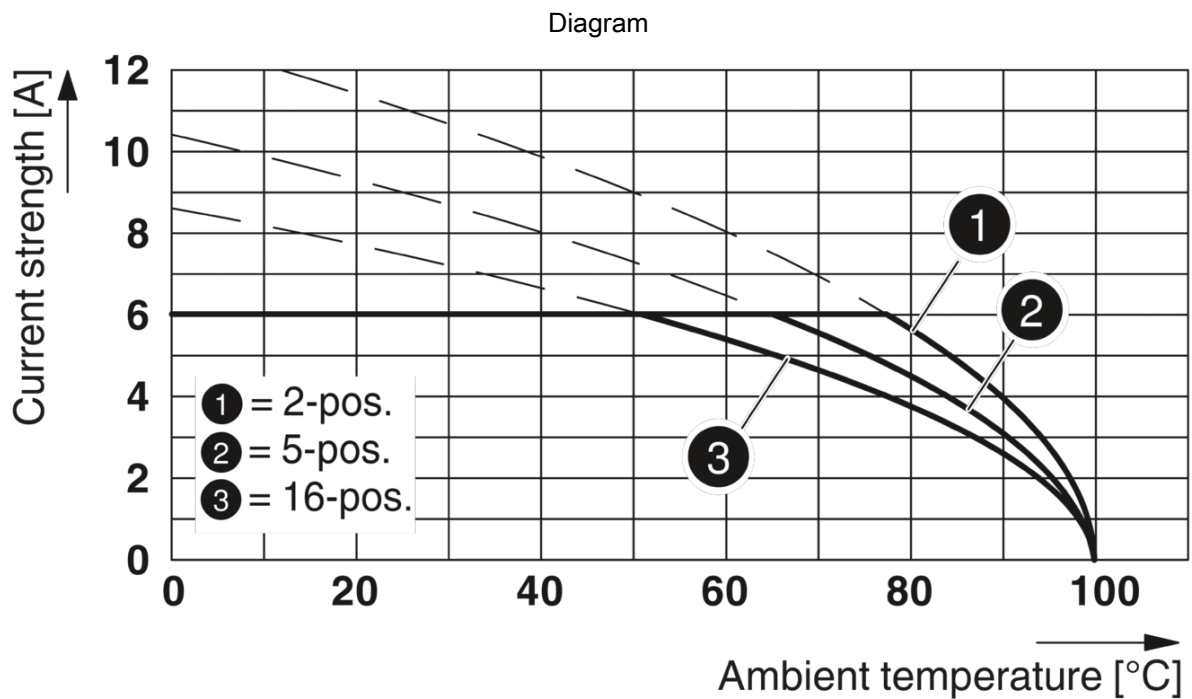
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[W2] coil overall dimension	30.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07

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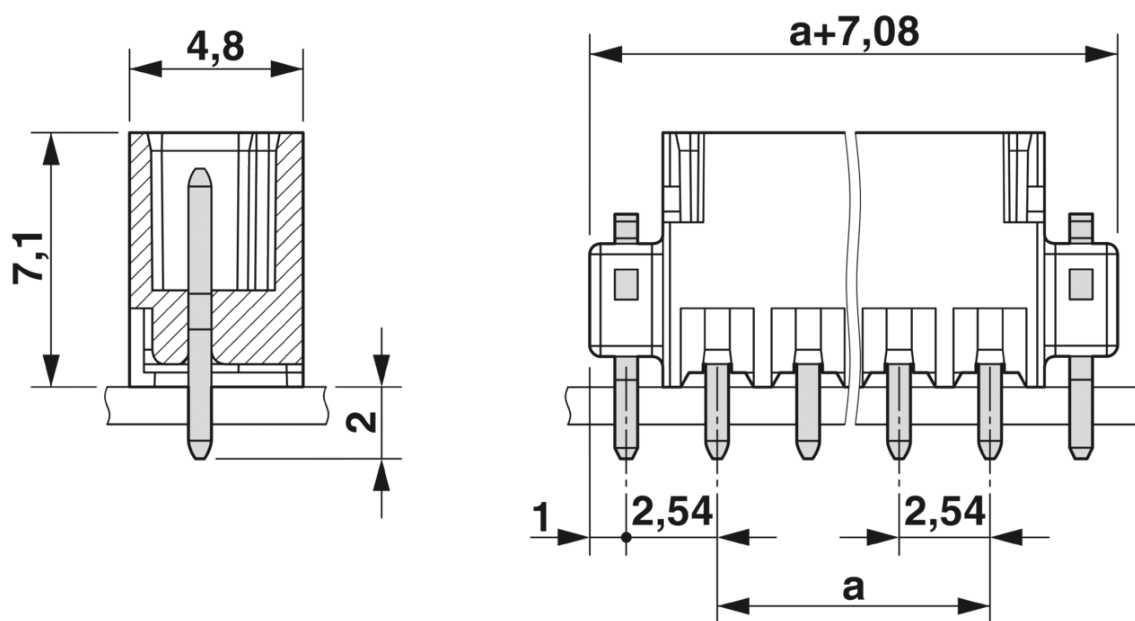
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Drawings



Type: FMC 0,5/...-ST-2,54 with MCV 0,5/...-G-2,54 P20 THR R..

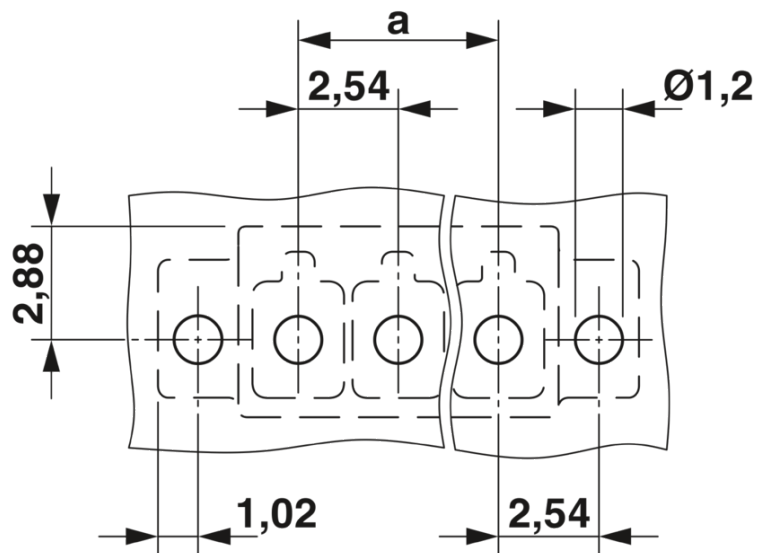
Dimensional drawing



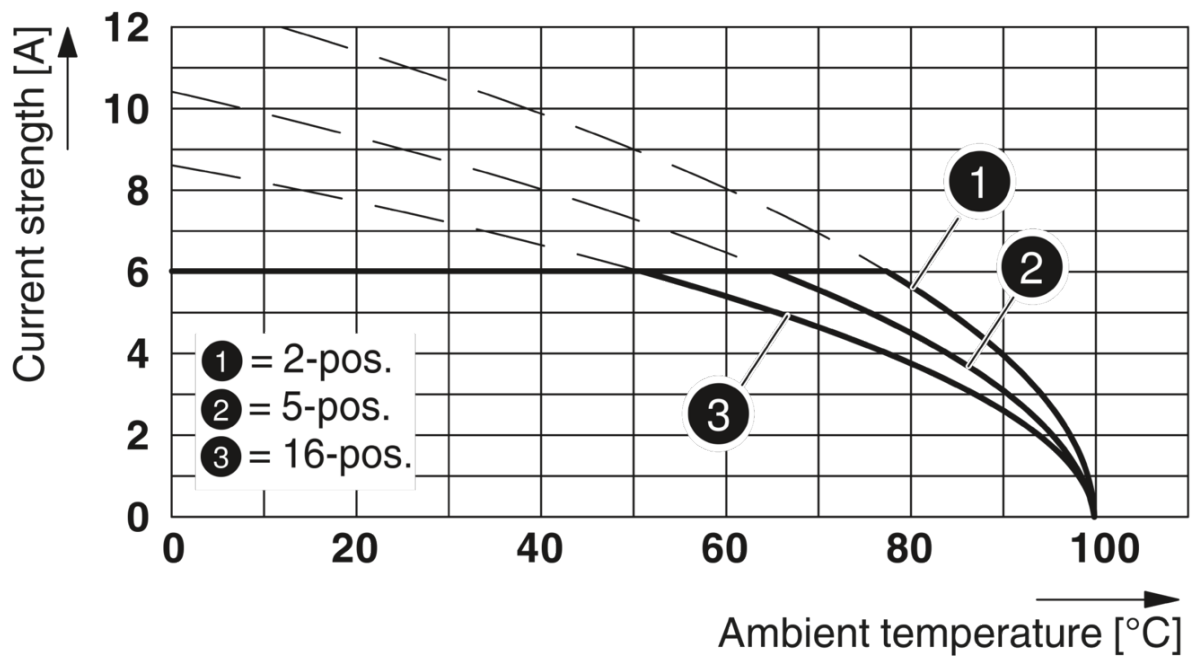
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Drilling plan/solder pad geometry



Diagram




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Approvals

IECEE CB Scheme 	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	160 V	6 A	-	-

EAC 

cULus Recognized 	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
Use group B	150 V	6 A	-	-
Use group C	50 V	6 A	-	-

VDE Gutachten mit Fertigungsüberwachung 	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	160 V	6 A	-	-

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Classifications

ECLASS

ECLASS-9.0	27440402
ECLASS-10.0.1	27440402
ECLASS-11.0	27460201

ETIM

ETIM 6.0	EC002637
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UNSPSC

UNSPSC 19.0	39121409
UNSPSC 20.0	39121409
UNSPSC 21.0	39121409

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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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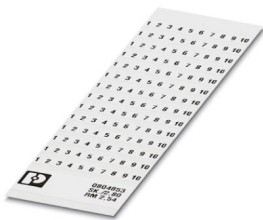
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Accessories

Marker card

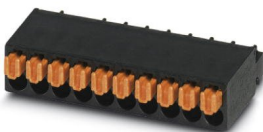
Marker card - SK 2,54/2,8:FORTL.ZAHLEN - 0804853



Marker card, 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

Printed-circuit board connector

Printed-circuit board connector - FMC 0,5/ 2-ST-2,54 - 1821096



PCB connector, nominal cross section: 0.5 mm², color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, type of contact: Female connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: FMC 0,5/..-ST, pitch: 2.54 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, number of solder pins per potential: 1, plug-in system: MICRO COMBICON - FMC 0,5, Locking: without, mounting: without, type of packaging: packed in cardboard

Printed-circuit board connector - MCV 0,5/ 2-G-2,54 P20 THR R24

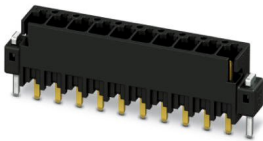


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Sample set

Sample set - SAMPLE MCV 0,5/ 2-G-2,54P20THR - 1856016



PCB headers, nominal cross section: 0.5 mm², color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, type of contact: Male connector, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: MCV 0,5/..-G-THR, pitch: 2.54 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: MICRO COMBICON - FMC 0,5, Pin connector pattern alignment: Standard, Locking: without, mounting: without, type of packaging: packed in cardboard

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