

# MCV 0,5/ 4-G-2,54 P20 THR R24 - PCB header



1821410

<https://www.phoenixcontact.com/de/produkte/1821410>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, contact connection type: Pin, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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: 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

## Commercial data

Item number	1821410
Packing unit	315 pc
Minimum order quantity	315 pc
Sales key	E1 - Leiterplattenanschl.
Product key	AAATAB
Catalog page	Page 177 (C-1-2013)
GTIN	4046356789578
Weight per piece (including packing)	1,97 g
Weight per piece (excluding packing)	1,97 g
Customs tariff number	85366930
Country of origin	PL

## Technical data

### Product properties

Type	Component suitable for through hole reflow
Product line	COMBICON Connectors XS
Product type	PCB headers
Product family	MCV 0,5/...-G-THR
Number of positions	4
Pitch	2.54 mm
Number of connections	4
Number of rows	1
Mounting flange	without
Number of potentials	4
Pin layout	Linear pinning
Solder pins per potential	1

### Electrical properties

Nominal current $I_N$	6 A
Nominal voltage $U_N$	160 V
Degree of pollution	3
Contact resistance	2.5 mΩ
Rated voltage (III/3)	32 V
Rated surge voltage (III/3)	2.5 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)	2.5 kV

### Mounting

Mounting type	THR soldering
Pin layout	Linear pinning

### 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

# MCV 0,5/ 4-G-2,54 P20 THR R24 - PCB header



1821410

<https://www.phoenixcontact.com/de/produkte/1821410>

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

Color (Housing)	black (9005)
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

## Dimensions

Dimensional drawing	
Pitch	2.54 mm
Width [w]	14.74 mm
Height [h]	9.1 mm
Length [l]	4.85 mm
Installed height	7.1 mm
Solder pin length [P]	2 mm
Pin dimensions	0.64 x 0.64 mm

## 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

Specification	IEC 60512-15-1:2008-05
---------------	------------------------

# MCV 0,5/ 4-G-2,54 P20 THR R24 - PCB header



1821410

<https://www.phoenixcontact.com/de/produkte/1821410>

Contact holder in insert Requirements >20 N	Test passed
--	-------------

## 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

## Electrical tests

### 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

### Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	IIIa
Comparative tracking index (IEC 60112)	CTI 175
Rated insulation voltage (III/3)	32 V
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 Hz ... 60.1 Hz)
Sweep speed	5g (60.1 Hz ... 500 Hz)
Test duration per axis	2 h

### Durability test

# MCV 0,5/ 4-G-2,54 P20 THR R24 - PCB header



1821410

<https://www.phoenixcontact.com/de/produkte/1821410>

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

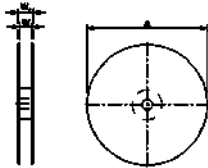
## Climatic test

Specification	DIN 50018:2013-05
Corrosive stress	1.0 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/3 cycles
Thermal stress	100 °C/168 h
Power-frequency withstand voltage	1.39 kV

## Ambient conditions

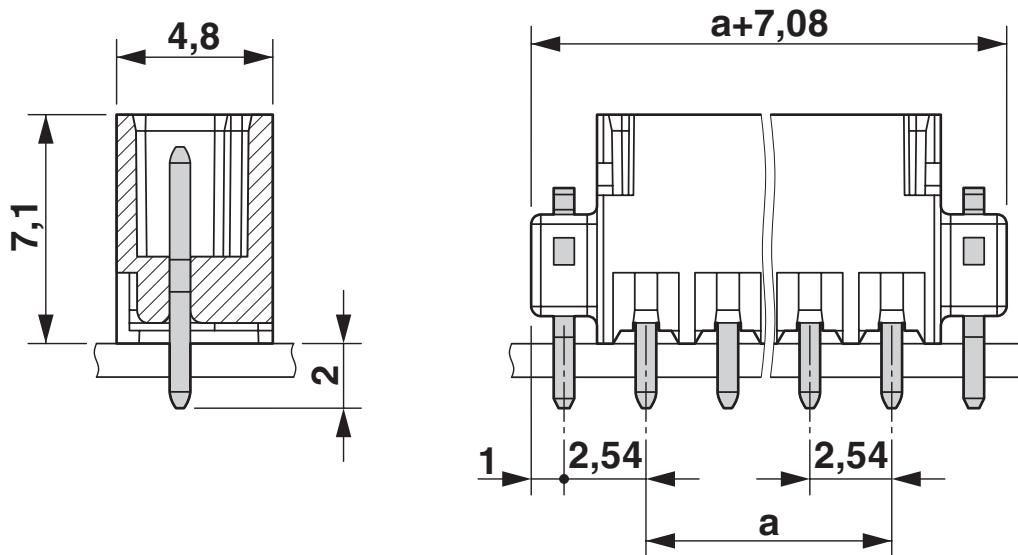
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

## Packaging specifications

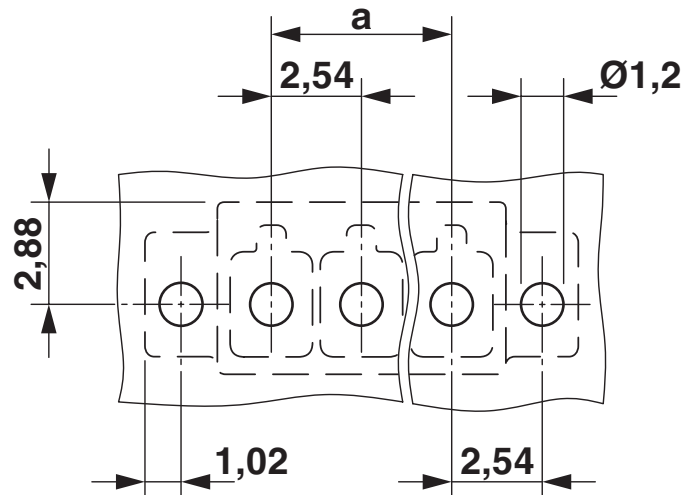
Dimensional drawing	
Type of packaging	24 mm wide tape
[W] tape width	24 mm
[W2] coil overall dimension	30.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07

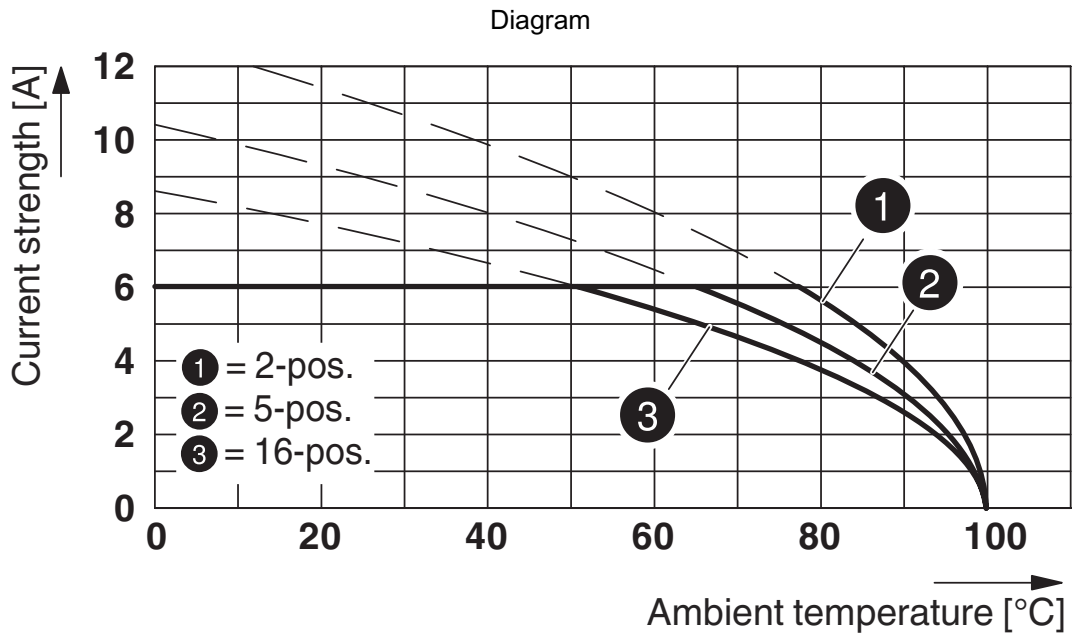
Drawings

Dimensional drawing



Drilling plan/solder pad geometry





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

# MCV 0,5/ 4-G-2,54 P20 THR R24 - PCB header





1821410

<https://www.phoenixcontact.com/de/produkte/1821410>


## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/de/produkte/1821410>

 **EAC**  
Approval ID: B.01687

 **cULus Recognized**  
Approval ID: E60425-19920306

	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
Use group B				
Field wiring	150 V	6 A	-	-
Use group C				
Factory wiring	50 V	6 A	-	-

 **VDE Gutachten mit Fertigungsüberwachung**  
Approval ID: 40042258

	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
	160 V	6 A	-	-

# MCV 0,5/ 4-G-2,54 P20 THR R24 - PCB header



1821410

<https://www.phoenixcontact.com/de/produkte/1821410>

## Classifications

### ECLASS

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

### ETIM

ETIM 8.0	EC002637
----------	----------

### UNSPSC

UNSPSC 21.0	39121400
-------------	----------

# MCV 0,5/ 4-G-2,54 P20 THR R24 - PCB header



1821410

<https://www.phoenixcontact.com/de/produkte/1821410>

## Environmental product compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

# MCV 0,5/ 4-G-2,54 P20 THR R24 - PCB header



1821410

<https://www.phoenixcontact.com/de/produkte/1821410>

## Accessories

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

0804853

<https://www.phoenixcontact.com/de/produkte/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

---

### SAMPLE MCV 0,5/ 4-G-2,54P20THR - PCB header

1706629

<https://www.phoenixcontact.com/de/produkte/1706629>



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, contact connection type: Pin, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, 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: COMBICON FMC 0,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard

# MCV 0,5/ 4-G-2,54 P20 THR R24 - PCB header

1821410

<https://www.phoenixcontact.com/de/produkte/1821410>



## FMC 0,5/ 4-ST-2,54 - Printed-circuit board connector

1821119

<https://www.phoenixcontact.com/de/produkte/1821119>



PCB connector, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Gold, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: FMC 0,5/..-ST, pitch: 2.54 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON FMC 0,5, locking: without, mounting: without, type of packaging: packed in cardboard

---

Phoenix Contact 2023 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT Deutschland GmbH

Flachsmarktstraße 8

D-32825 Blomberg

+49 52 35/3-1 20 00

[info@phoenixcontact.de](mailto:info@phoenixcontact.de)