

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: 1.5 mm<sup>2</sup>, color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Pin, number of potentials: 22, number of rows: 2, number of positions: 11, number of connections: 22, product range: MCDNV 1,5/..-G1-RN-THR, pitch: 3.5 mm, mounting: THR soldering / wave soldering, pin layout: Linear pinning, solder pin [P]: 1.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON FMC 1,5 - MCDN 1,5, Pin connector pattern alignment: Standard, locking: Snap-in locking, mounting method: Engagement nose, type of packaging: packed in cardboard, Article with engagement nose. The pin length is 14 mm. User information and design recommendations on Through Hole Reflow Technology can be found at: "Downloads"

## Your advantages

- Designed for integration into the SMT soldering process
- Intuitive locking mechanism prevents accidental disconnection
- Vertical connection enables multi-row arrangement on the PCB

## Commercial data

Item number	1952597
Packing unit	50 pc
Minimum order quantity	50 pc
Note	Made to order (non-returnable)
Sales key	AA02
Product key	AABTGC
Catalog page	Page 221 (C-1-2013)
GTIN	4017918919702
Weight per piece (including packing)	7.28 g
Weight per piece (excluding packing)	6.614 g
Customs tariff number	85366930
Country of origin	DE

## Technical data

### Product properties

Product type	PCB headers
Product family	MCDNV 1,5/..-G1-RN-THR
Product line	COMBICON Connectors S
Type	Component suitable for through hole reflow
Number of positions	11
Pitch	3.5 mm
Number of connections	22
Number of rows	2
Number of potentials	22
Mounting flange	Engagement nose
Pin layout	Linear pinning
Solder pins per potential	1

### Electrical properties

Nominal current $I_N$	8 A
Nominal voltage $U_N$	160 V
Contact resistance	1.8 mΩ
Rated voltage (III/3)	160 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)	250 V
Rated surge voltage (II/2)	2.5 kV

### Mounting

Mounting type	THR soldering / 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 - 3 µm Ni)
Metal surface soldering area (top layer)	Tin (3 - 5 µm Sn)
Metal surface soldering area (middle layer)	Nickel (1.3 - 3 µm Ni)

Material data - housing	
Color (Housing)	black (9005)

1952597

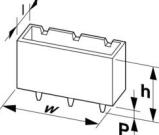
<https://www.phoenixcontact.com/us/products/1952597>

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

## Notes

Details for soldering processes	Processing using reflow processes in compliance with IEC 60068-2-58 or DIN EN 61760-1 (latest version) Moisture Sensitive Level (MSL) = 1 according to IPC/JEDEC J-STD-020-C
---------------------------------	---

## Dimensions

Dimensional drawing	
Pitch	3.5 mm
Width [w]	42.2 mm
Height [h]	14.7 mm
Length [l]	15.2 mm
Installed height	13.3 mm
Solder pin length [P]	1.4 mm
Pin dimensions	0.8 x 0.8 mm

## PCB design

Pin spacing	8.30 mm
Hole diameter	1.4 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

1952597

<https://www.phoenixcontact.com/us/products/1952597>

## 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	20

## 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)	160 V
Rated surge voltage (III/3)	2.5 kV
minimum clearance value - non-homogenous field (III/3)	1.5 mm
minimum creepage distance (III/3)	2.5 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)	250 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)	2.5 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)

# MCDNV 1,5/11-G1-3,5 RNP14THR - PCB header

1952597

<https://www.phoenixcontact.com/us/products/1952597>



Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis

## Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance $R_1$	1.8 mΩ
Contact resistance $R_2$	2 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ

## Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm <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

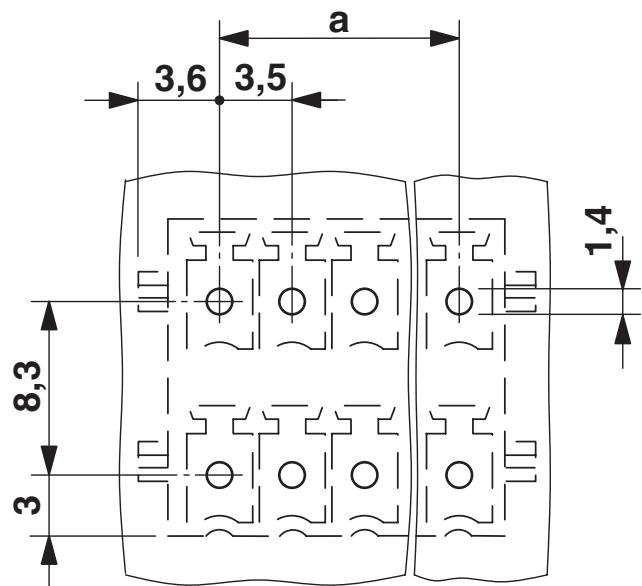
Type of packaging	packed in cardboard
-------------------	---------------------

1952597

<https://www.phoenixcontact.com/us/products/1952597>

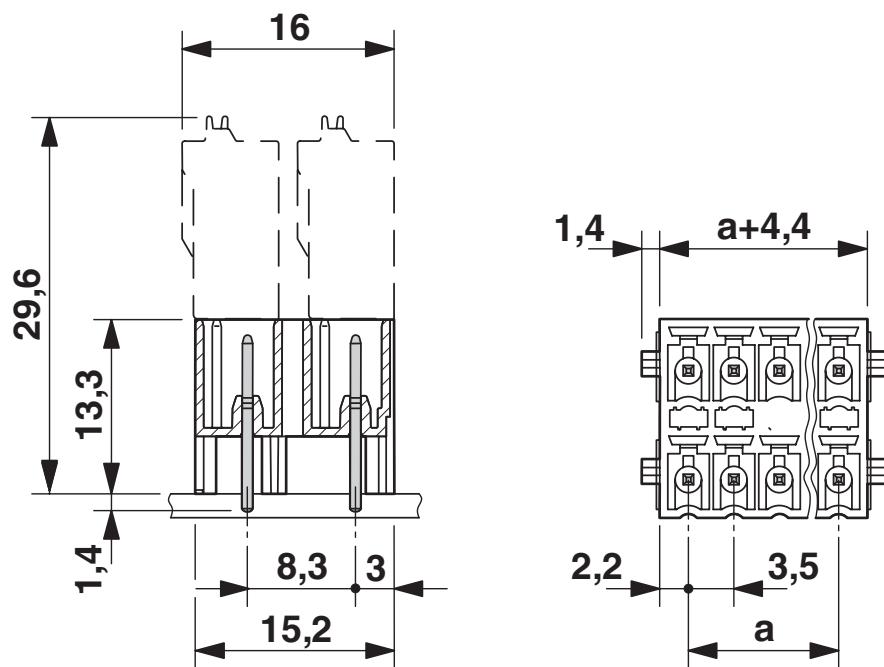
## Drawings

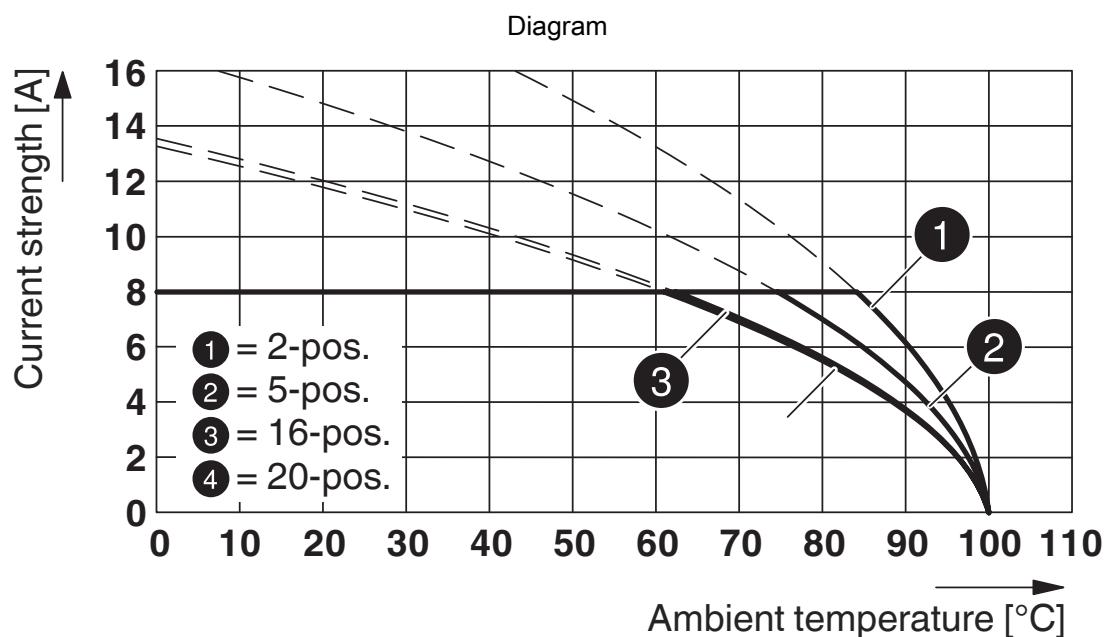
Drilling plan/solder pad geometry



\*)  $\leq$  8-pos. = 1.3 /  $>$  8-pos. = 1.4

Dimensional drawing





Type: FMC 1,5/...-ST-3,5-RF with MCDNV 1,5/...-G1-3,5 RNP...THR

1952597

<https://www.phoenixcontact.com/us/products/1952597>

## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1952597>

 <b>cULus Recognized</b> Approval ID: E60425-20110128				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
Use group B	150 V	8 A	-	-
Use group D	150 V	8 A	-	-

 <b>VDE approval of drawings</b> Approval ID: 40011723				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
	160 V	8 A	-	-

## Classifications

### ECLASS

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

### ETIM

ETIM 9.0	EC002637
----------	----------

### UNSPSC

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

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
---	--------------------

### 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%
-------------------------------------	----------------------------

Phoenix Contact 2025 © - all rights reserved

<https://www.phoenixcontact.com>

### Phoenix Contact USA

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