MCDN 1,5/ 8-G1-3,81 P26THR - PCB header

1749586

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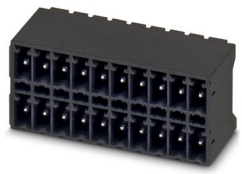


PCB headers, nominal cross section: 1.5 mm^2, color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Pin, number of potentials: 16, number of rows: 2, number of positions: 8, number of connections: 16, product range: MCDN 1,5/..-G1-THR, pitch: 3.81 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard, The pin length is 2.6 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
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Conductor connection on several levels enables higher contact density

Commercial Data

Item number	1749586
Packing unit	35 pc
Minimum order quantity	35 pc
Sales Key	AAB
Product Key	AABTHB
Catalog Page	Page 219 (C-1-2013)
GTIN	4046356314022
Weight per Piece (including packing)	7.623 g
Weight per Piece (excluding packing)	6.28 g
Customs tariff number	85366930
Country of origin	DE

Technical Data

Product properties

Type	Component suitable for through hole reflow
Product line	COMBICON Connectors S
Product type	PCB headers
Product family	MCDN 1,5/..-G1-THR
Number of positions	8
Pitch	3.81 mm
Number of connections	16
Number of rows	2
Mounting flange	without
Number of potentials	16
Pin layout	Linear pinning
Solder pins per potential	1

Electrical properties

Nominal current I_N	8 A
Nominal voltage U_N	160 V
Degree of pollution	3
Contact resistance	2 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
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	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)
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

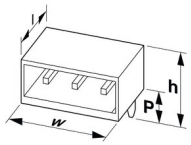
Material data – actuating element

Color ()	()

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	3.81 mm
Width [w]	31.57 mm
Height [h]	17.8 mm
Length [l]	13.3 mm
Installed height	15.2 mm
Solder pin length [P]	2.6 mm

PCB design

Pin spacing	3.50 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 mm² / solid / > 10 N
	0.14 mm² / flexible / > 10 N
	1.5 mm² / solid / > 40 N
	1.5 mm² / flexible / > 40 N

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

Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Contact holder in insert Requirements >20 N	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

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

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)
Sweep speed	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 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^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

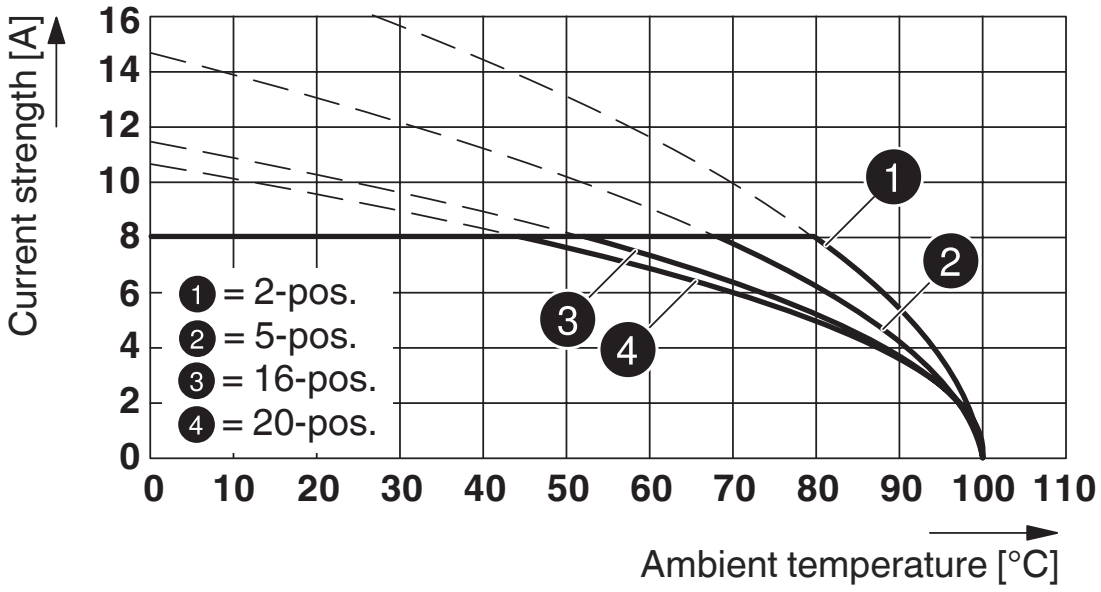
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Packaging specifications

Type of packaging	packed in cardboard

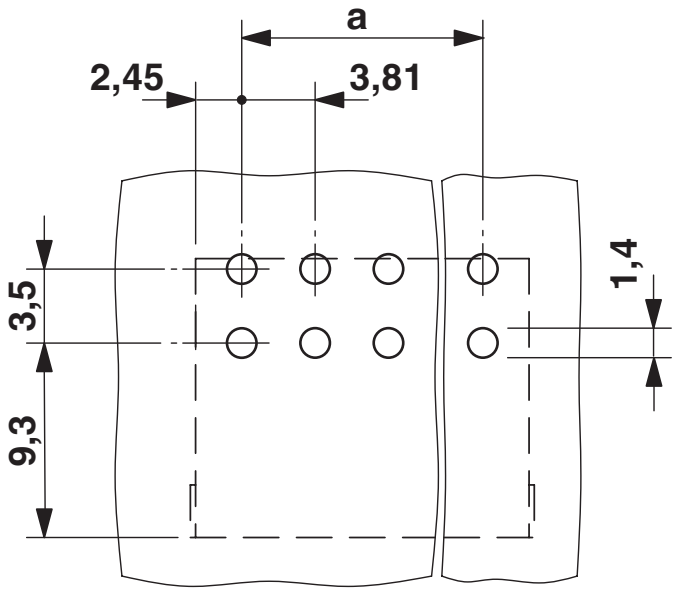
Drawings

Diagram



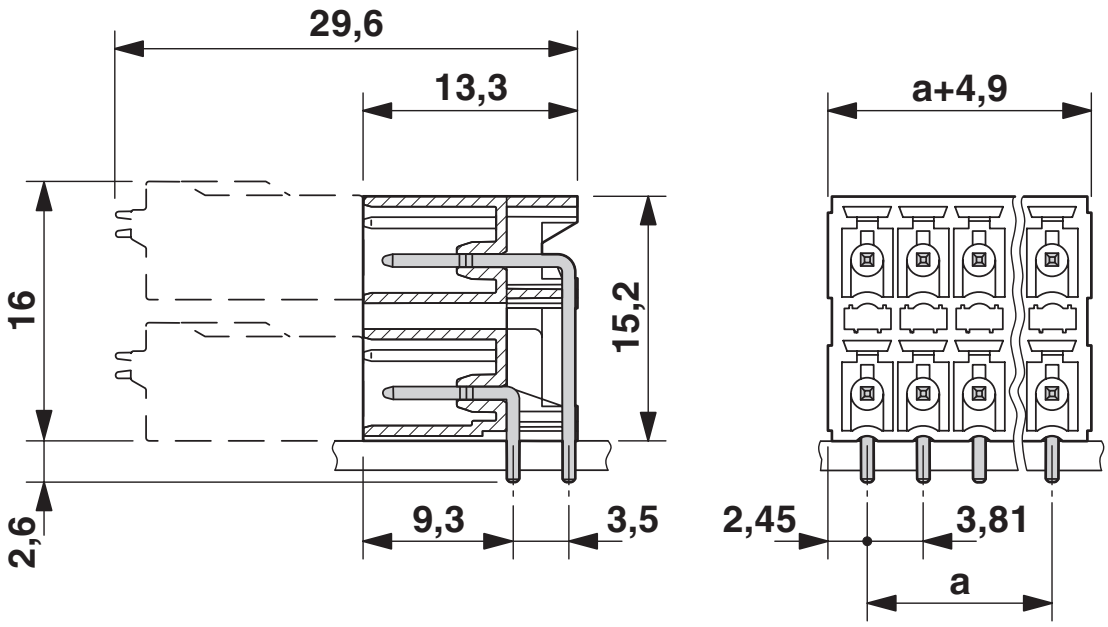
Type: FMC 1,5/...-ST-3,81 with MCDN 1,5/...-G1-3,81 P...THR

Drilling plan/solder pad geometry



*) ≤ 8-pos. = 1.3 / > 8-pos. = 1.4

Dimensional drawing



Approvals

IECEE CB Scheme
Approval ID: DE1-60987-B1B2

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	160 V	8 A	-	-

EAC
Approval ID: B.01687

cULus Recognized
Approval ID: E60425-20110128

	Nominal Voltage U_N	Nominal Current I_N	Cross Section AWG	Cross Section mm^2
	150 V	8 A	-	-
	150 V	8 A	-	-

VDE Zeichengenehmigung
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 8.0	EC002637

UNSPSC

UNSPSC 21.0	39121400

Environmental Product Compliance

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

Accessories

CP-MSTB - Coding profile

1734634

https://www.phoenixcontact.com/in/products/1734634

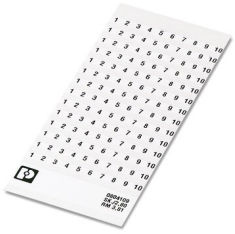
Coding profile, is inserted into the slot on the plug or inverted header, red insulating material

SK 3,81/2,8:FORTL.ZAHLEN - Marker card

0804109

https://www.phoenixcontact.com/in/products/0804109

Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 3.81 mm, lettering field size: 3.81 x 2.8 mm



MCDN 1,5/ 8-G1-3,81 P26THR - PCB header

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FMC 1,5/ 8-ST-3,81 - Printed-circuit board connector

1748037

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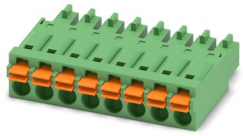

PCB connector, nominal cross section: 1.5 mm^2, color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Socket, number of potentials: 8, number of rows: 1, number of positions: 8, number of connections: 8, product range: FMC 1,5/..-ST, pitch: 3.81 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON MC 1,5, locking: without, mounting: without, type of packaging: packed in cardboard

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