MCD 1,5/ 6-G1-3,81 BK - PCB header

1800357

https://www.phoenixcontact.com/us/products/1800357

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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: Sn, contact connection type: Pin, number of potentials: 12, number of rows: 2, number of positions: 6, number of connections: 12, product range: MCD 1,5/..-G1, pitch: 3.81 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 MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting method: without, type of packaging: packed in cardboard

Your advantages

- Well-known mounting principle allows worldwide use
- Conductor connection on several levels enables higher contact density
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies

Commercial data

Item number	1800357
Packing unit	60 pc
Minimum order quantity	50 pc
Note	Made to order (non-returnable)
Sales key	AA02
Product key	AABSHB
GTIN	4017918955533
Weight per piece (including packing)	7.632 g
Weight per piece (excluding packing)	6.742 g
Customs tariff number	85366930
Country of origin	DE

Technical data

Product properties

Product type	PCB headers
Product family	MCD 1,5/..-G1
Product line	COMBICON Connectors S
Number of positions	6
Pitch	3.81 mm
Number of connections	12
Number of rows	2
Number of potentials	12
Mounting type	without
Pin layout	Linear pinning
Solder pins per potential	1

Fitting of components

Partial assembly	No

Electrical properties

Properties

Nominal current I_N	8 A
Nominal voltage U_N	160 V
Contact resistance	1.2 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)	320 V
Rated surge voltage (II/2)	2.5 kV

Mounting

Mounting type	Wave soldering
Pin layout	Linear pinning

Material specifications

Material data - contact

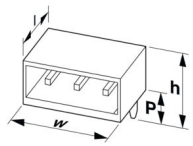
Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	Tin-plated
Metal surface contact area (top layer)	Tin (3 µm - 5 µm Sn)
Metal surface contact area (middle layer)	Nickel (1 µm - 3 µm Ni)
Metal surface soldering area (top layer)	Tin (3 µm - 5 µm Sn)

Metal surface soldering area (middle layer)	Nickel (1 µm - 3 µm Ni)

Material data - housing

Color (Housing)	black (9005)
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	3.81 mm
Width [w]	24.25 mm
Height [h]	26.5 mm
Length [l]	21.9 mm
Installed height	23 mm
Solder pin length [P]	3.5 mm
Pin dimensions	0.8 x 0.8 mm

PCB design

Hole diameter	1.2 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
Contact holder in insert Requirements >20 N	Test passed

Insertion and withdrawal forces

Specification	IEC 60512-13-2:2006-02
Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	5 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	I
Comparative tracking index (IEC 60112)	CTI 600
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 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

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance R_1	1.2 mΩ

Contact resistance R_2	1.3 mΩ
Contact resistance R_2 2nd level	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

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
Test directions	X-, Y- and Z-axis

Ambient conditions

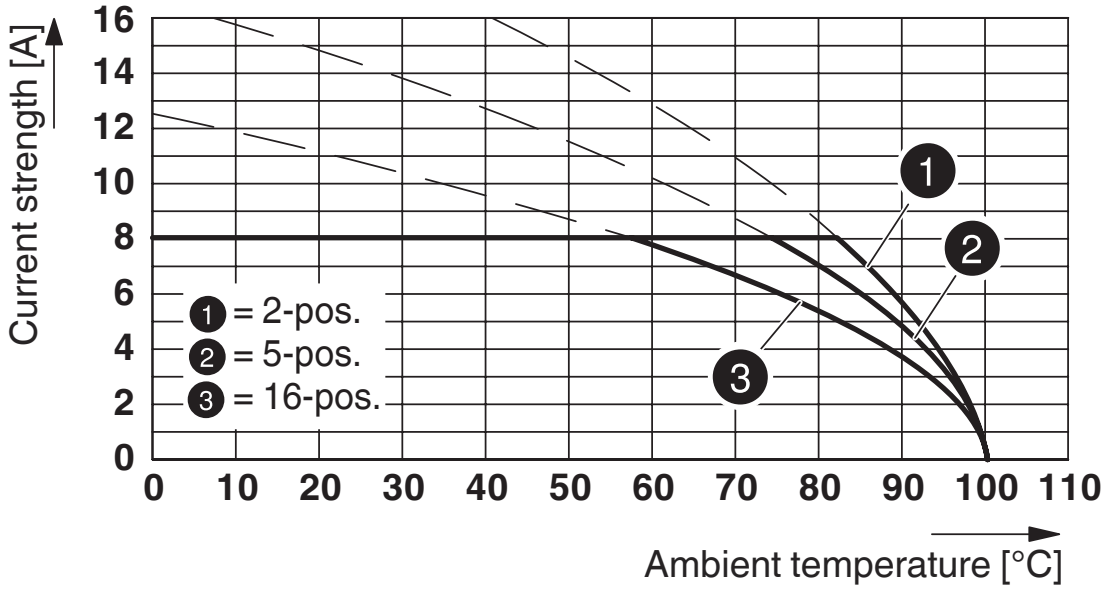
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)

Packaging specifications

Type of packaging	packed in cardboard

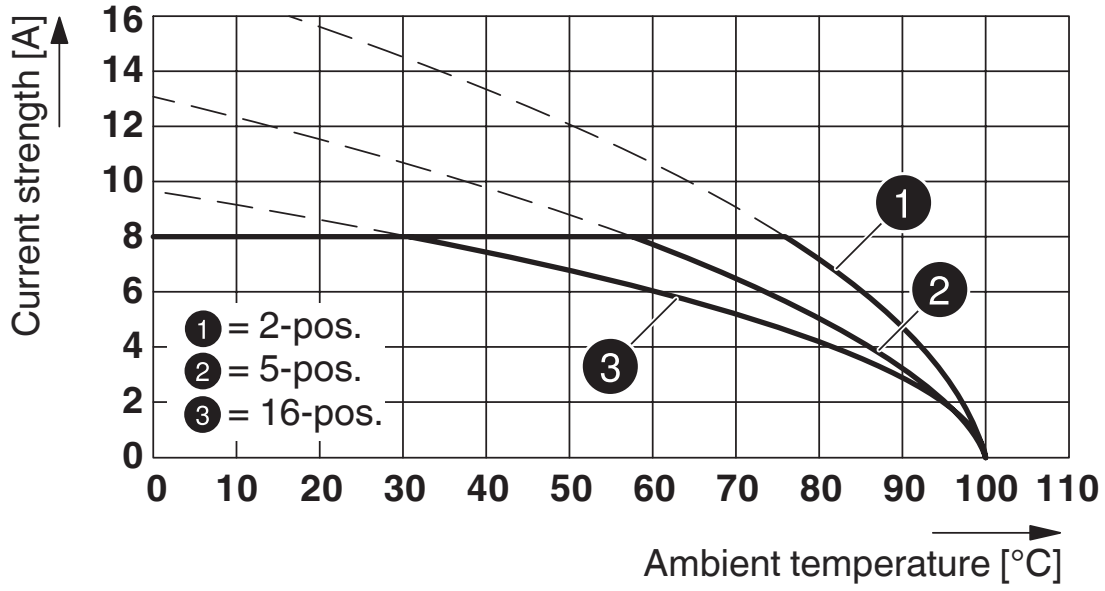
Drawings

Diagram



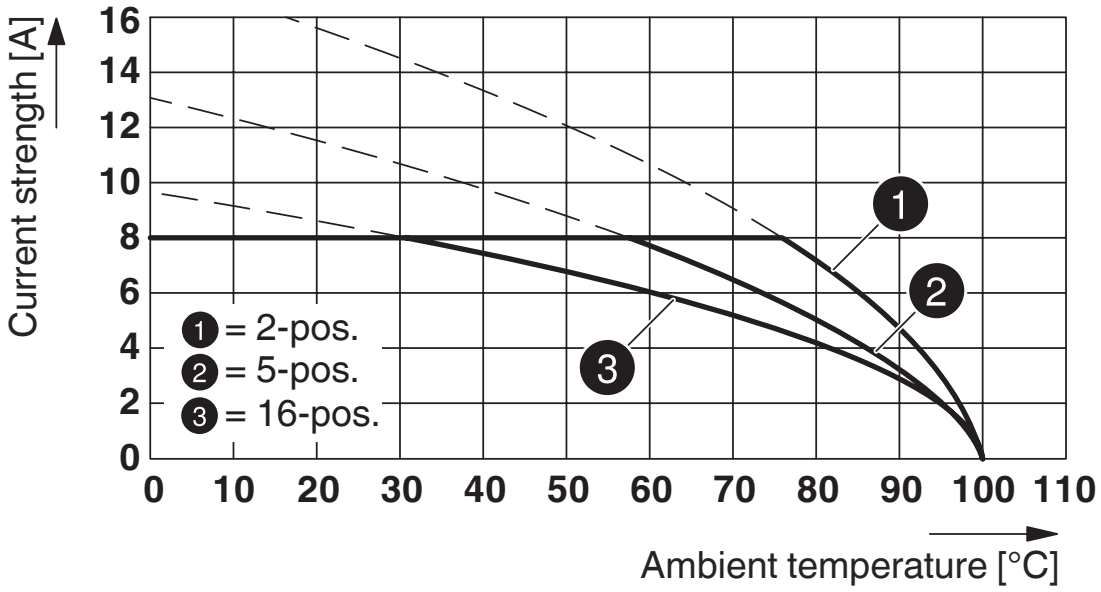
Type: MC 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81

Diagram



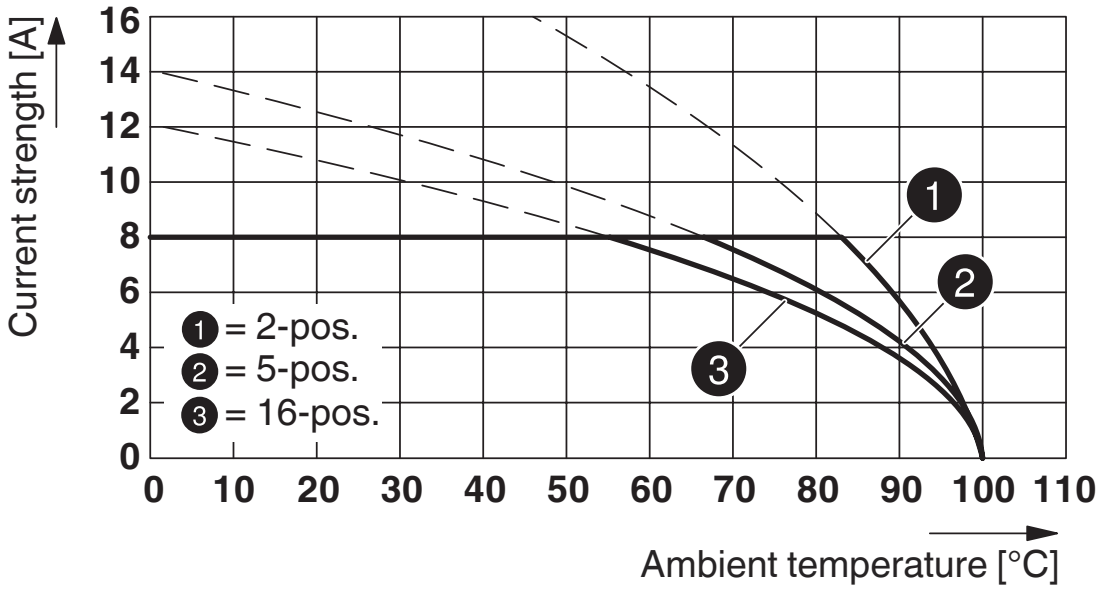
Type: MCV(W/R) 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81

Diagram



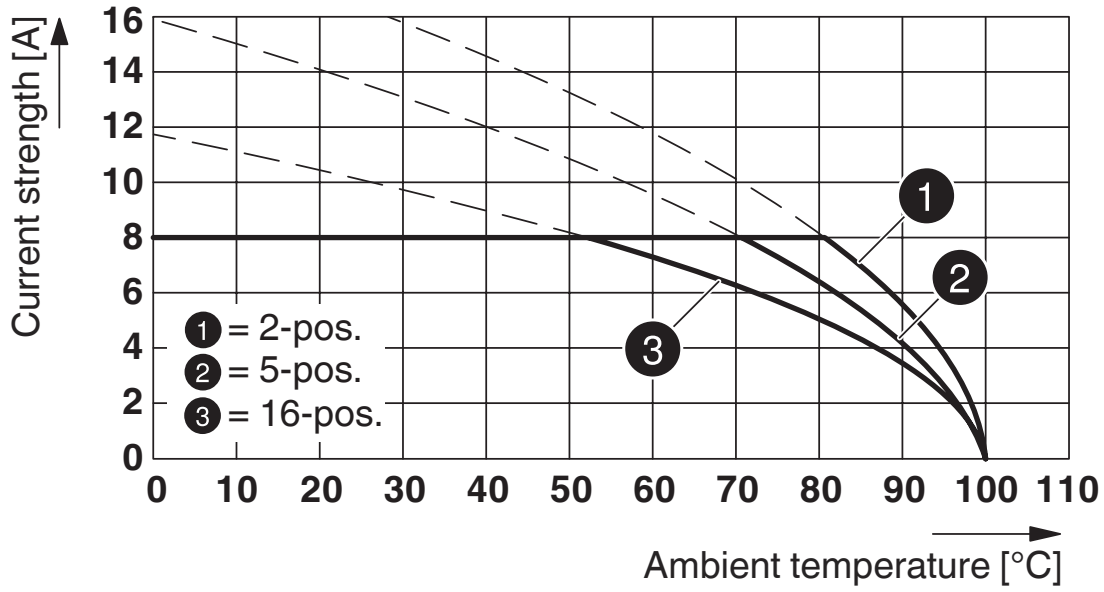
Type: MCV(W/R) 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81

Diagram



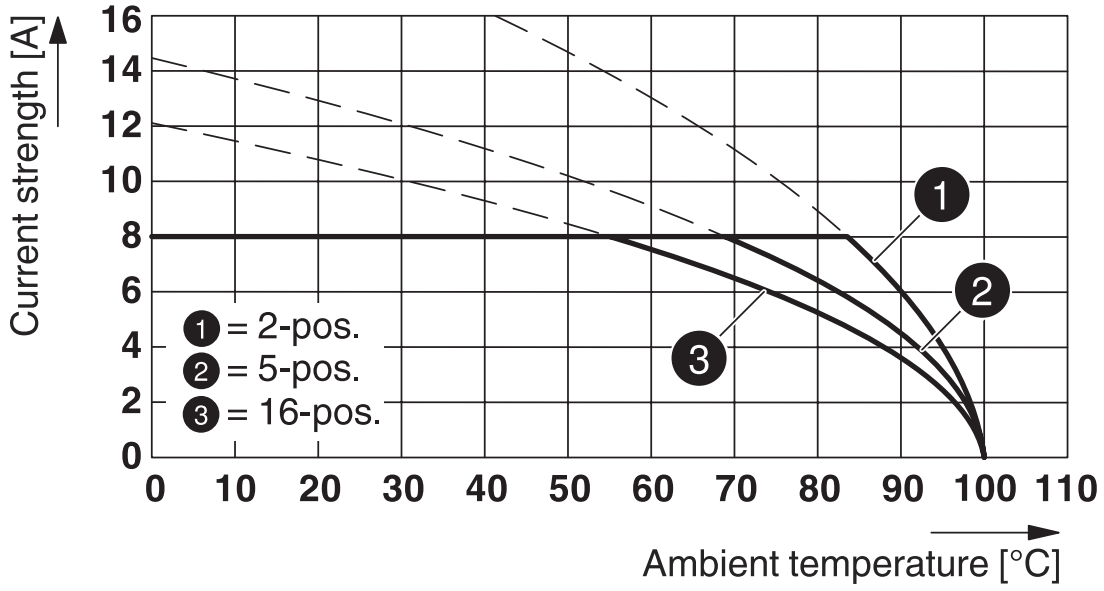
Type: FRONT-MC 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81

Diagram



Type: FK-MCP 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81

Diagram



Type: FMC 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1800357

CSA
Approval ID: 13631

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B				
	300 V	8 A	-	-
D				
	300 V	8 A	-	-

cULus Recognized
Approval ID: E60425-20110128

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
B				
	300 V	8 A	-	-
D				
	300 V	8 A	-	-

VDE Zeichengenehmigung
Approval ID: 40011723

	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
keine				
	160 V	8 A	-	-

Classifications

ECLASS

ECLASS-13.0	27460201
ECLASS-15.0	27460201

ETIM

ETIM 10.0	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%

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