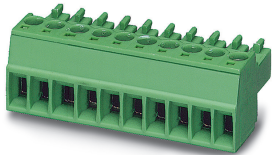


Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604

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's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



The figure shows a 10-position version of the product


PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 5, Number of rows: 1, Number of positions per row: 5, number of connections: 5, product range: MC 1,5/...-ST, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, plug-in system: MINI COMBICON, Locking: without, mounting: without, type of packaging: packed in cardboard

Your advantages

- ✓ Well-known connection principle allows worldwide use
- ✓ Low temperature rise, thanks to maximum contact force
- ✓ Allows connection of two conductors



Key Commercial Data

Packing unit	1 pc
GTIN	 4 017918 045913
GTIN	4017918045913
Weight per Piece (excluding packing)	3.950 g
Custom tariff number	85366990
Country of origin	Germany

Technical data

Item properties

Brief article description	PCB connector
Connector system	MINI COMBICON
Type of contact	Female connector
Range of articles	MC 1,5/...-ST
Pitch	3.81 mm

Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604

Technical data

Item properties

Number of positions	5
Drive form screw head	Slotted (L)
Screw thread	M2
Locking	without
Number of rows	1
Number of connections	5
Number of potentials	5
Side guide rails	yes

Electrical parameters

Nominal current	8 A
Nom. voltage	160 V
Rated voltage (III/3)	160 V
Rated voltage (III/2)	160 V
Rated voltage (II/2)	320 V
Rated surge voltage (III/3)	2.5 kV
Rated surge voltage (III/2)	2.5 kV
Rated surge voltage (II/2)	2.5 kV

Connection capacity

Connection method	Screw connection with tension sleeve
Conductor cross section solid	0.14 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.14 mm ² ... 1.5 mm ²
Conductor cross section AWG / kcmil	28 ... 16
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² ... 1.5 mm ²
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm ² ... 0.75 mm ²
2 conductors with same cross section, solid	0.08 mm ² ... 0.5 mm ²
2 conductors with same cross section, flexible	0.08 mm ² ... 0.75 mm ²
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm ² ... 0.34 mm ²
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm ² ... 0.5 mm ²
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / 1.6 mm
Stripping length	7 mm
Torque	0.22 Nm ... 0.25 Nm

Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/ JEDEC JESD 201
Contact material	Cu alloy

Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604

Technical data

Material data - contact

Surface characteristics	hot-dip tin-plated
Metal surface terminal point (top layer)	Tin (4 - 8 µm Sn)
Metal surface contact area (top layer)	Tin (4 - 8 µm Sn)

Material data - housing

Housing color	green (6021)
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 for the product

Caption	Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center
Length [l]	16.1 mm
Width [w]	19.84 mm
Height [h]	11.1 mm
Pitch	3.81 mm
Height (without solder pin)	11.1 mm

Packaging information

Type of packaging	packed in cardboard
Pieces per package	250
Denomination packing units	Pcs.

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)

Termination and connection method

Test for conductor damage and slackening	IEC 60999-1:1999-11
	Test passed

Pull-out test

Pull-out test	IEC 60999-1:1999-11
Conductor cross section / conductor type / tensile force	0.14 mm ² / solid / > 7 N

Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604

Technical data

Pull-out test

	0.14 mm ² / flexible / > 7 N
	1.5 mm ² / solid / > 40 N
	1.5 mm ² / flexible / > 40 N

Mechanical tests according to standard

Test specification	IEC 61984
Visual inspection	IEC 60512-1-1:2002-02
Dimension check	IEC 60512-1-2:2002-02
Resistance of inscriptions	IEC 60068-2-70:1995-12
Insertion and withdrawal force	IEC 60512-13-2:2006-02
No. of cycles	25
Insertion strength per pos. approx.	6 N
Withdraw strength per pos. approx.	4 N
Polarization and coding	IEC 60512-13-5:2006-02
Contact holder in insert	IEC 60512-15-1:2008-05
Test force per pos.	21 N

Air clearances and creepage distances

Clearances and creepage distances	IEC 60664-1:2007-04
Specification	IEC 60664-1:2007-04
Minimum clearance - inhomogeneous field (III/3)	1.5 mm
Minimum clearance - inhomogeneous field (III/2)	1.5 mm
Minimum clearance - inhomogeneous field (II/2)	1.5 mm
Minimum creepage distance value (III/3)	2 mm
Minimum creepage distance value (III/2)	1.5 mm
Minimum creepage distance value (II/2)	1.6 mm
Note on connection cross section	With connected conductor 1.5 mm ² (solid).

Current carrying capacity / derating curves

Caption	Type: MC 1,5/...-ST-3,81 with MC 1,5/...-G-3,81
---------	---

Mechanical tests (A)

Test specification	IEC 61984
Insertion strength per pos. approx.	6 N
Withdraw strength per pos. approx.	4 N
Polarization when inserted requirement >20 N	Test passed
Contact holder in insert requirements >20 N	Test passed

Durability tests (B)

Specification	IEC 60512-9-1:2010-03
---------------	-----------------------

Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604

Technical data

Durability tests (B)

Contact resistance R ₁	1.3 mΩ
Insertion/withdrawal cycles	25
Contact resistance R ₂	1.5 mΩ
Impulse withstand voltage at sea level	2.95 kV
Insulation resistance, neighboring positions	> 5 MΩ

Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	20
Upper limiting temperature requirements <100 °C	Test passed

Climatic tests (D)

Specification	ISO 6988:1985-02
Cold stress	-40 °C/2 h
Thermal stress	100 °C/168 h
Corrosive stress	0.2 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle
Impulse withstand voltage at sea level	2.95 kV
Power-frequency withstand voltage	1.39 kV

Environmental and durability tests (E)

Specification	IEC 61984:2008-10
Result, degree of protection, IP code	Finger safety with IP20 test finger

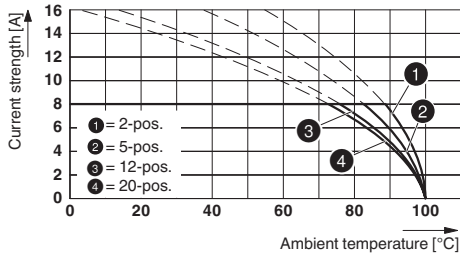
Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

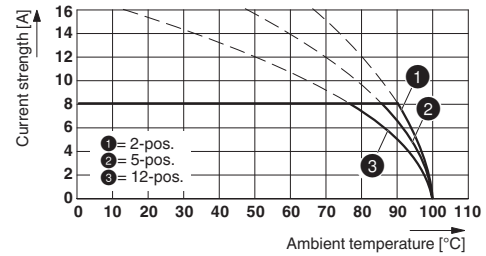
Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604

Diagram



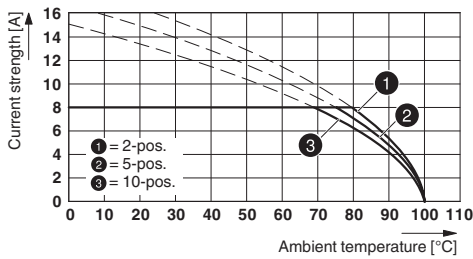
Type: MC 1,5/...-ST-3,81 with MCV 1,5/...-G-3,81

Diagram



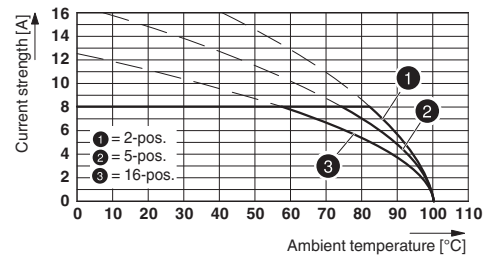
Type: MC 1,5/...-ST-3,81 with MCV 1,5/...-G-3,81 P26 THR

Diagram



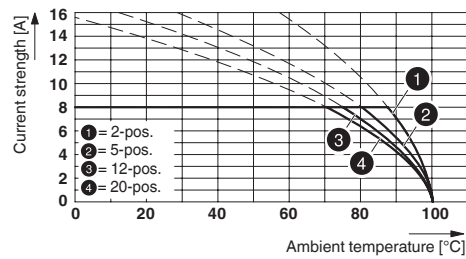
Type: MC 1,5/...-ST-3,81 with MCO 1,5/...-GR-3,81

Diagram



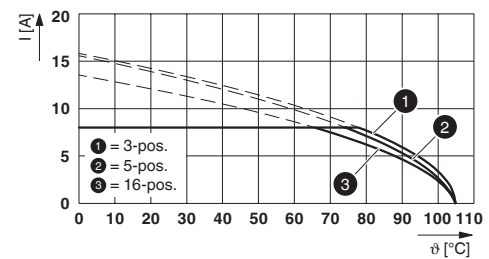
Type: MC 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81

Diagram



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

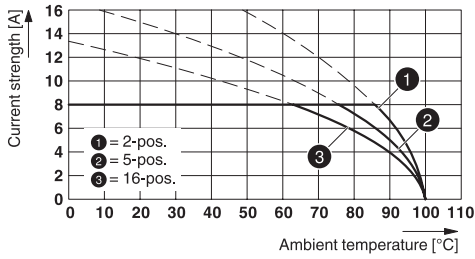
Diagram



Type: MC 1,5/...-ST-3,81 with MCVK 1,5/...-G-3,81

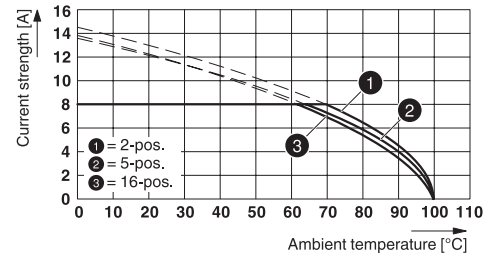
Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604

Diagram



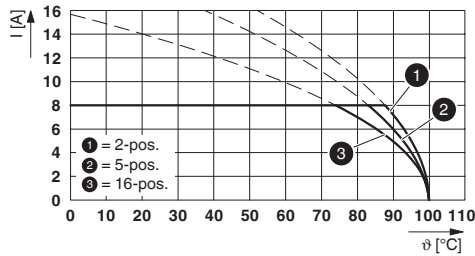
Type: MC 1,5/...-ST-3,81 with MCDV 1,5/...-G1-3,81

Diagram



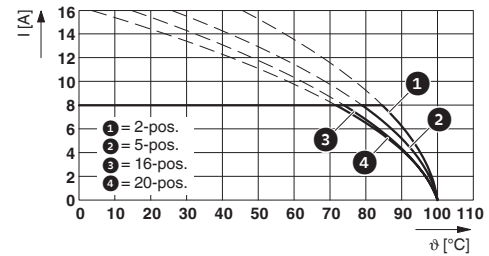
Type: MC 1,5/...-ST-3,81 with MCVU 1,5/...-GFD-3,81

Diagram



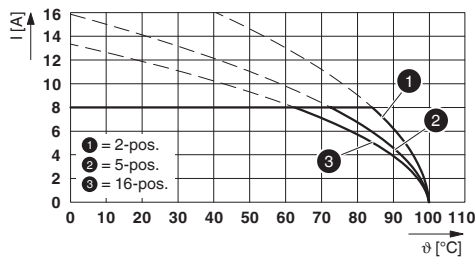
Type: MC 1,5/...-ST-3,81 with SMC 1,5/...-G-3,81

Diagram



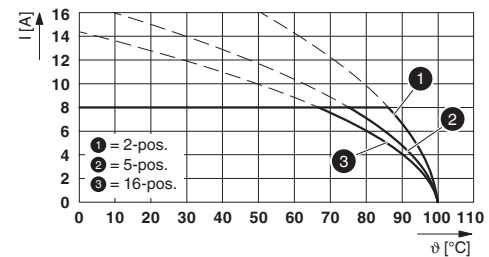
Type: MC 1,5/...-ST-3,81 with MC 1,5/...-G-3,81 P...THR

Diagram



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

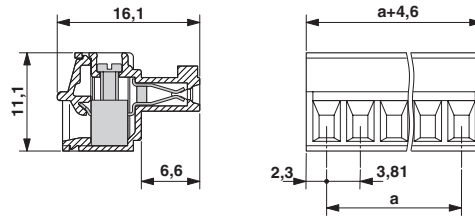
Diagram



Type: MC 1,5/...-ST-3,81 with MCDV 1,5/...-G-3,81

Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604

Dimensional drawing



Classifications

eCl@ss

eCl@ss 10.0.1	27440309
eCl@ss 11.0	27460202
eCl@ss 4.0	27260700
eCl@ss 4.1	27260700
eCl@ss 5.0	27260700
eCl@ss 5.1	27260700
eCl@ss 6.0	27260700
eCl@ss 7.0	27440309
eCl@ss 9.0	27440309

ETIM

ETIM 3.0	EC001121
ETIM 4.0	EC002638
ETIM 6.0	EC002638
ETIM 7.0	EC002638

UNSPSC

UNSPSC 6.01	30211810
UNSPSC 7.0901	39121409
UNSPSC 11	39121409
UNSPSC 12.01	39121409
UNSPSC 13.2	39121409
UNSPSC 18.0	39121409
UNSPSC 19.0	39121409
UNSPSC 20.0	39121409
UNSPSC 21.0	39121409

Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604

Approvals


Approvals


Approvals


VDE Gutachten mit Fertigungsüberwachung / CSA / IECEE CB Scheme / EAC / cULus Recognized


Ex Approvals

Approval details

VDE Gutachten mit Fertigungsüberwachung		http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx	40011723
Nominal voltage UN	160 V		
Nominal current IN	8 A		
mm ² /AWG/kcmil	0.2-1.5		

CSA		http://www.csagroup.org/services-industries/product-listing/	13631
	B	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	8 A	8 A	
mm ² /AWG/kcmil	28-16	28-16	

IECEE CB Scheme		http://www.iecee.org/	DE1-60987-B1B2
Nominal voltage UN	160 V		
Nominal current IN	8 A		
mm ² /AWG/kcmil	0.2-1.5		

EAC		B.01687
-----	---	---------

Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604

Approvals

cULus Recognized		http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm	E60425-20110128
	B	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	8 A	8 A	
mm ² /AWG/kcmil	30-14	30-14	

Accessories

Accessories

Bridge

Insertion bridge - EBPL 2-3,81 - 1733495



Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch

Insertion bridge - EBPL 3-3,81 - 1733505



Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch

Insertion bridge - EBPL 4-3,81 - 1733518



Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch

Cable housing

Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604

Accessories

Cable housing - KGG-MC 1,5/ 5 - 1834372



Cable housing, pitch: 3.81 mm, number of positions: 5, dimension a: 21.44 mm, color: green

Labeled terminal marker

Marker card - SK 3,81/2,8:FORTL.ZAHLEN - 0804109



Marker card, 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

Screwdriver tools

Screwdriver - SZS 0,4X2,5 VDE - 1205037



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

Additional products

PCB header - MCV 1,5/ 5-G-3,81 P14 THR - 1707036



PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 5, Number of rows: 1, Number of positions per row: 5, number of connections: 5, product range: MCV 1,5/...-G-THR, pitch: 3.81 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 1.4 mm, plug-in system: MINI COMBICON, Pin connector pattern alignment: Standard, Locking: without, mounting: without, type of packaging: packed in cardboard, User information and design recommendations for through hole reflow technology can be found under: Downloads

Printed-circuit board connector - MC 1,5/ 5-ST-3,81 - 1803604

Accessories

PCB header - MCV 1,5/ 5-G-3,81 P26 THR - 1707450



PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 5, Number of rows: 1, Number of positions per row: 5, number of connections: 5, product range: MCV 1,5/..-G-THR, pitch: 3.81 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm, plug-in system: MINI COMBICON, Pin connector pattern alignment: Standard, Locking: without, mounting: without, type of packaging: packed in cardboard, User information and design recommendations for through hole reflow technology can be found under: Downloads

PCB header - MCO 1,5/ 5-GL-3,81 - 1861756



PCB headers, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 5, Number of rows: 1, Number of positions per row: 5, number of connections: 5, product range: MCO 1,5/..-GL, pitch: 3.81 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3 mm, plug-in system: MINI COMBICON, Locking: without, mounting: without, type of packaging: packed in cardboard

Feed-through header - MC 1,5/ 5-G-3,81 THT - 1908790



PCB header, color: black, contact surface: Tin, Number of positions per row: 5, product range: MC 1,5/..-G-THT, pitch: 3.81 mm, pin layout: Linear pinning, solder pin [P]: 3.4 mm, type of packaging: packed in cardboard, User information and design recommendations for through hole reflow technology can be found under: Downloads

Feed-through header - MC 1,5/ 5-G-3,81 THT-R56 - 1943784



PCB header, color: black, contact surface: Tin, Number of positions per row: 5, product range: MC 1,5/..-G-THT, pitch: 3.81 mm, pin layout: Linear pinning, User information and design recommendations for through hole reflow technology can be found under: Downloads