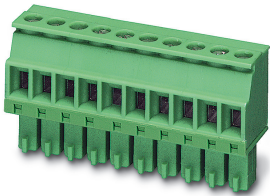


Printed-circuit board connector - MCVR 1,5/12-ST-3,81 BK - 1859713

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>)



PCB connector, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 12, Number of rows: 1, Number of positions per row: 12, number of connections: 12, product range: MCVR 1,5/..-ST, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 90 °, plug-in system: MINI COMBICON, Locking: without, mounting: without, type of packaging: packed in cardboard


The figure shows a 10-position version of the product

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
Minimum order quantity	50 pc
GTIN	 4 017918 226404
GTIN	4017918226404
Weight per Piece (excluding packing)	10.020 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	MCVR 1,5/..-ST

Printed-circuit board connector - MCVR 1,5/12-ST-3,81 BK - 1859713

Technical data

Item properties

Pitch	3.81 mm
Number of positions	12
Drive form screw head	Slotted (L)
Locking	without
Number of levels	1
Number of connections	12
Number of potentials	12

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
pluggable	Yes
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 ... 0.5 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 - MCVR 1,5/12-ST-3,81 BK - 1859713

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	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 for the product

Caption	Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center
Length [l]	10.4 mm
Width [w]	46.51 mm
Height [h]	19.1 mm
Pitch	3.81 mm
Height (without solder pin)	19.1 mm

Packaging information

Type of packaging	packed in cardboard
Pieces per package	50
Denomination packing units	Pcs.

Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 70 °C
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 / > 10 N
	0.14 mm ² / flexible / > 10 N

Printed-circuit board connector - MCVR 1,5/12-ST-3,81 BK - 1859713

Technical data

Pull-out test

	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.	8 N
Withdraw strength per pos. approx.	6 N
Polarization and coding	IEC 60512-13-5:2006-02
Contact holder in insert	IEC 60512-15-1:2008-05
Test force per pos.	28 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: MCV(W/R) 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81
---------	---

Mechanical tests (A)

Test specification	IEC 61984
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	6 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
Contact resistance R ₁	3.4 mΩ

Printed-circuit board connector - MCVR 1,5/12-ST-3,81 BK - 1859713

Technical data

Durability tests (B)

Insertion/withdrawal cycles	25
Contact resistance R_2	3.5 m Ω
Contact resistance R_2 2nd level	4.4 m Ω
Impulse withstand voltage at sea level	2.95 kV

Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	16
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

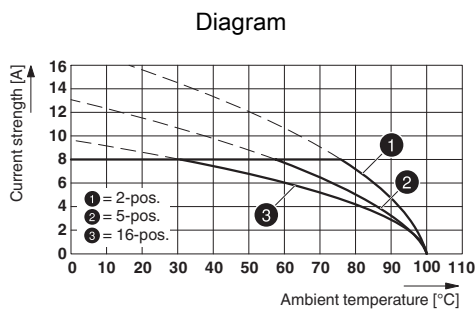
Environmental and durability tests (E)

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

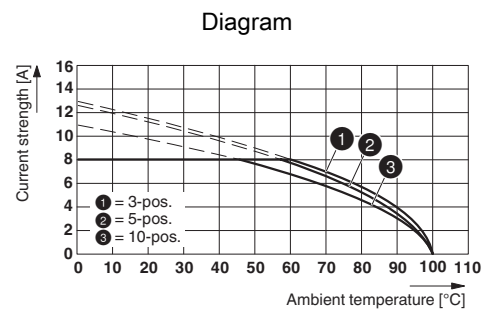
Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings



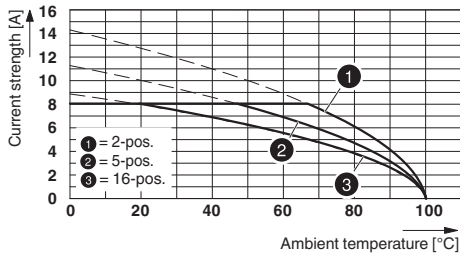
Type: MCV(W/R) 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81



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

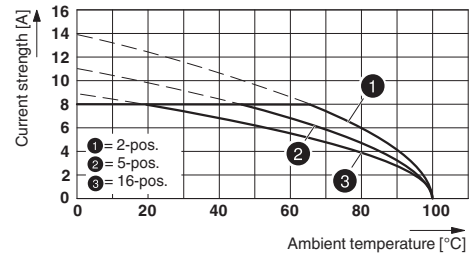
Printed-circuit board connector - MCVR 1,5/12-ST-3,81 BK - 1859713

Diagram



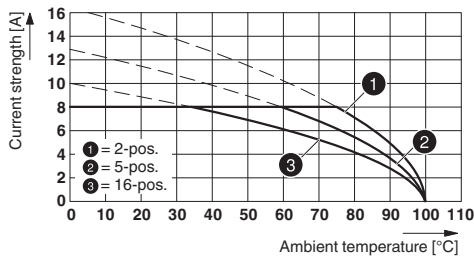
Type: MCVR 1,5/...-ST-3,81 with MCD 1,5/...-G-3,81

Diagram



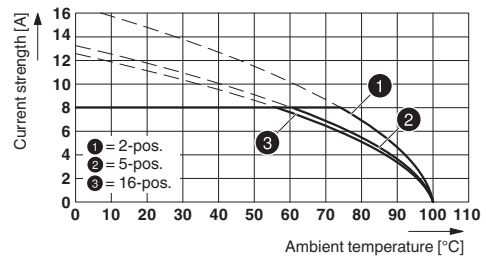
Type: MCVR 1,5/...-ST-3,81 with MCDV 1,5/...-G-3,81

Diagram



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

Diagram



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

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

Printed-circuit board connector - MCVR 1,5/12-ST-3,81 BK - 1859713

Classifications

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

Approvals


Approvals


Approvals

VDE Gutachten mit Fertigungsüberwachung / CSA / IECCEB 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	

Printed-circuit board connector - MCVR 1,5/12-ST-3,81 BK - 1859713

Approvals

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
-----	---	---------

cULus Recognized		http://database.ul.com/cgi-bin/XYV/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	