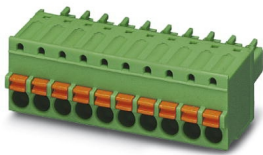


PCB plug - FK-MCP 1,5/20-ST-3,81

BD:1-20 - 1715164

<https://www.phoenixcontact.com/in/products/1715164>

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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: 20, Number of rows: 1, Number of positions per row: 20, number of connections: 20, product range: FK-MCP 1,5/..-ST, pitch: 3.81 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, Stecksystem: MINI COMBICON, Locking: without, type of packaging: packed in cardboard

Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Intuitive use through colour coded actuation lever
- Operation and conductor connection from one direction enable integration into front of device
- Quick and convenient testing using integrated test option

PCB plug - FK-MCP 1,5/20-ST-3,81

BD:1-20 - 1715164



<https://www.phoenixcontact.com/in/products/1715164>

Commercial Data

Order Key	1715164
Packing unit	50 pc
Minimum order quantity	500 pc
Note	Made to Order (non-returnable)
GTIN	4055626395685
Weight per Piece (including packing)	18.5 GRM
Weight per Piece (excluding packing)	17.9 GRM
Customs tariff number	85366990

PCB plug - FK-MCP 1,5/20-ST-3,81

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Technical Data

Electrical tests

Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	20

Electrical properties

Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	1.6 mΩ
Pollution degree	2

Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	I
Comparative tracking index (IEC 60112:2003-01)	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

Electrical properties

Contact resistance	1.6 mΩ
Insulation resistance	> 53 GΩ, (IEC 60512-3-1:2002-02)
Contact resistance	1.8 mΩ
Insulation resistance	> 0.2 TΩ, (IEC 60512-3-1:2002-02)
Contact resistance	2.9 mΩ
Insulation resistance	> 0.3 TΩ, (IEC 60512-3-1:2002-02)
Contact resistance	1.9 mΩ
Insulation resistance	> 100 GΩ, (IEC 60512-3-1:2002-02)
Insulation resistance	> 0,4 TΩ, (DIN EN 60512-3-1:2003-01)
Contact resistance	2.2 mΩ
Insulation resistance	> 0.1 TΩ, (IEC 60512-3-1:2002-02)
Contact resistance	1.9 mΩ

PCB plug - FK-MCP 1,5/20-ST-3,81

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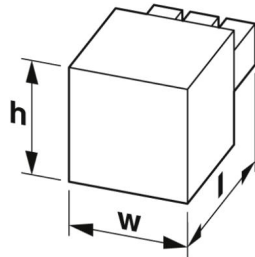
<https://www.phoenixcontact.com/in/products/1715164>

Contact resistance	3.7 mΩ
Insulation resistance	> 20 GΩ, (IEC 60512-3-1:2002-02)
Contact resistance	1.5 mΩ
Insulation resistance	> 5 TΩ, (IEC 60512-3-1:2002-02)
Contact resistance	2.2 mΩ
Insulation resistance	> 0.2 TΩ, (IEC 60512-3-1:2002-02)
Nominal current I _N	8 A

Packaging specifications

Type of packaging	packed in cardboard
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Dimensions

Dimensional drawing	
Pitch	3.81 mm

Environmental and durability tests

Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	2.95 kV
Contact resistance R ₁	1.6 mΩ
Contact resistance R ₂	1.6 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 74 GΩ

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 - 60.1 Hz)
Sweep speed	5 g (60.1 - 150 Hz)
Test duration per axis	2.5 h

PCB plug - FK-MCP 1,5/20-ST-3,81

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Ambient conditions

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

Mechanical tests

Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Result	Test passed
Test force per pos.	31 N

Repeated connection and disconnection

Specification	IEC 60999-1:1999-11
Result	Test passed

Polarization and coding

Specification	IEC 60512-13-5:2006-02
Result	Test passed

Insertion and withdrawal forces

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	9 N
Withdraw strength per pos. approx.	7 N

Test for conductor damage and slackening

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 mm ² / solid / > 10 N
Conductor cross section/conductor type/tractive force setpoint/actual value	0.14 mm ² / flexible / > 10 N
Conductor cross section/conductor type/tractive force setpoint/actual value	1.5 mm ² / solid / > 40 N
Conductor cross section/conductor type/tractive force setpoint/actual value	1.5 mm ² / flexible / > 40 N

Visual inspection

Specification	IEC 60512-1-1:2002-02
Result	Test passed

Resistance of inscriptions

Specification	IEC 60068-2-70:1995-12
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PCB plug - FK-MCP 1,5/20-ST-3,81

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Result	Test passed
Dimension check	
Specification	IEC 60512-1-2:2002-02
Result	Test passed

Notes

Environmental Product Compliance

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

Connection data

Connection technology

Type	Standard
Plug-in system	MINI COMBICON
Nominal cross section	1.5 mm ²
Type of contact	Female connector

Conductor connection

Connection method	Push-in spring connection
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	26 ... 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
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / -
Stripping length	9 mm

Specifications for ferrules with insulating collar

recommended crimping tool	1212034 CRIMPFOX 6
ferrules with insulating collar, according to DIN 46228-4	Cross section: 0.14 mm ² ; Length: 8 mm

Specifications for ferrules without insulating collar

recommended crimping tool	1212034 CRIMPFOX 6
ferrules without insulating collar, according to DIN 46228-1	Cross section: 0.25 mm ² ; Length: 7 mm

Interlock

Locking type	without
Mounting flange	without

Material specifications

Material data – actuating element

Insulating material	POM
Insulating material group	I

PCB plug - FK-MCP 1,5/20-ST-3,81

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CTI according to IEC 60112	600
Flammability rating according to UL 94	HB

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

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	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)

Product properties

Number of positions	20
Number of connections	20
Number of levels	1
Plug-in system	MINI COMBICON
Number of potentials	20


PCB plug - FK-MCP 1,5/20-ST-3,81

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Approvals


IECEE CB Scheme 

Nominal voltage U_N	160 V
Nominal current I_N	8 A
AWG/kcmil	0.2-1.5
Min. cross section	0.2 mm ²
Max. cross section	1.5 mm ²

VDE Gutachten mit Fertigungsüberwachung 

Nominal voltage U_N	160 V
Nominal current I_N	8 A
AWG/kcmil	0.2-1.5
Min. cross section	0.2 mm ²
Max. cross section	1.5 mm ²

EAC 

cULus Recognized 

Usegroup	B
Nominal voltage U_N	300 V
Nominal current I_N	8 A
AWG/kcmil	0.2-1.5
Min. cross section	28 mm ²
Max. cross section	16 mm ²

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