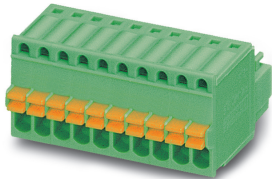


# Printed-circuit board connector - FK-MC 0,5/10-ST-2,5 BK - 1700841

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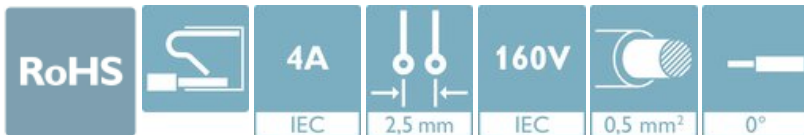


The figure shows a 10-position version of the product


PCB connector, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 4 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 10, Number of rows: 1, Number of positions per row: 10, number of connections: 10, product range: FK-MC 0,5/..-ST, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: MICRO COMBICON - FK-MC 0,5, Locking: without, mounting: 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



## Key Commercial Data

Packing unit	1 pc
Minimum order quantity	50 pc
GTIN	 4 046356 502221
GTIN	4046356502221
Weight per Piece (excluding packing)	6.300 g
Custom tariff number	85366990
Country of origin	Germany

## Technical data

### Item properties

Brief article description	PCB connector
Connector system	MICRO COMBICON - FK-MC 0,5

# Printed-circuit board connector - FK-MC 0,5/10-ST-2,5 BK - 1700841

## Technical data

### Item properties

Type of contact	Female connector
Range of articles	FK-MC 0,5/...-ST
Pitch	2.5 mm
Number of positions	10
Locking	without
Number of levels	1
Number of connections	10
Number of potentials	10

### Electrical parameters

Nominal current	4 A
Nom. voltage	160 V
Rated voltage (III/3)	100 V
Rated voltage (III/2)	160 V
Rated voltage (II/2)	320 V
Rated surge voltage (III/3)	1.5 kV
Rated surge voltage (III/2)	2.5 kV
Rated surge voltage (II/2)	2.5 kV

### Connection capacity

Connection method	Push-in spring connection
pluggable	Yes
Conductor cross section solid	0.14 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>
Conductor cross section AWG / kcmil	26 ... 20
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>
Cylindrical gauge a x b / diameter	- / 1.4 mm
Stripping length	8 mm

### Flange specifications

Type of locking	without
Mounting flange	without

### 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)

# Printed-circuit board connector - FK-MC 0,5/10-ST-2,5 BK - 1700841

## Technical data

### 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

### Material data – actuating element

Insulating material	POM
CTI according to IEC 60112	600
Flammability rating according to UL 94	HB

### Dimensions for the product

Caption	Schematische Abbildung - weitere Details siehe Produktfamilienzeichnung im Download Center
Length [ l ]	19.05 mm
Width [ w ]	25.6 mm
Height [ h ]	11.75 mm
Pitch	2.5 mm
Height (without solder pin)	11.75 mm

### Packaging information

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

### General product information

Type of note	Notes on operation
Note	In accordance with IEC 61984, COMBICON connectors have no switching power (COC). During designated use, they must not be plugged in or disconnected when carrying voltage or under load.

### 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

Conductor connection test	The stripped-off ends of the largest conductor can be completely inserted in the opening of the terminal point without using excessive force.
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# Printed-circuit board connector - FK-MC 0,5/10-ST-2,5 BK - 1700841

## Technical data

### Termination and connection method

Test result	Test passed
Test – repeated connection and release	IEC 60999-1:1999-11
	Test passed
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	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	0.5 mm <sup>2</sup> / solid / > 20 N
	0.5 mm <sup>2</sup> / flexible / > 20 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.	24 N

### Air clearances and creepage distances

Clearances and creepage distances	IEC 60664-1:1992-10 + A1:2000-02 + A2:2002-05
Specification	IEC 60664-1:1992-10 + A1:2000-02 + A2:2002-05
Minimum clearance - inhomogeneous field (III/3)	0.8 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)	1.8 mm
Minimum creepage distance value (III/2)	0.8 mm
Minimum creepage distance value (II/2)	1.6 mm

### Electrical tests - Function

Specification	IEC 60999-1:1999-11
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### Temperature cycles

# Printed-circuit board connector - FK-MC 0,5/10-ST-2,5 BK - 1700841

## Technical data

### Temperature cycles

Specification	IEC 60999-1:1999-11
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### Current carrying capacity / derating curves

Caption	Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5
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### 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 <sub>1</sub>	2 mΩ
Insertion/withdrawal cycles	25
Contact resistance R <sub>2</sub>	2.2 mΩ
Impulse withstand voltage at sea level	2.95 kV

### Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	12
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 <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /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

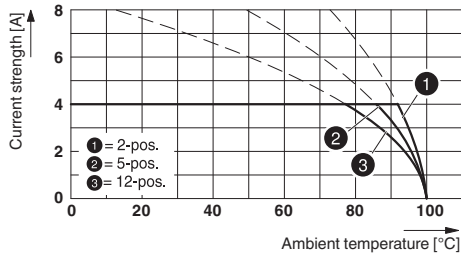
### Environmental Product Compliance

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

## Drawings

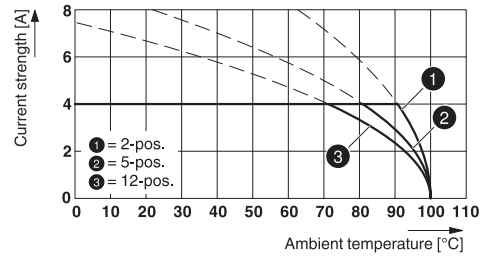
# Printed-circuit board connector - FK-MC 0,5/10-ST-2,5 BK - 1700841

Diagram



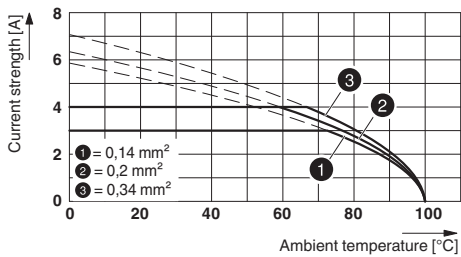
Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5

Diagram



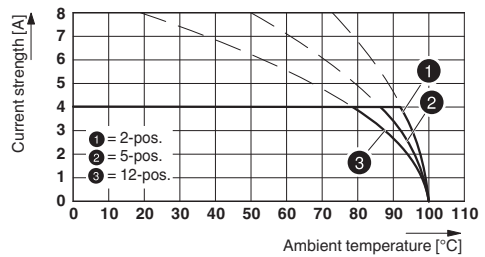
Type: FK-MC 0,5/...-ST-2,5 with MCD 0,5/...-G1-2,5 HT BK

Diagram



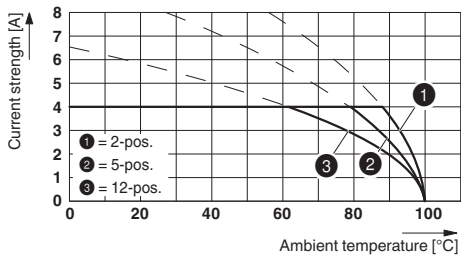
Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5

Diagram



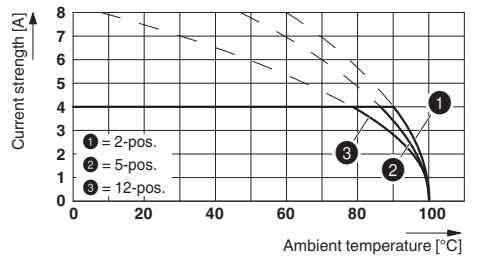
Type: FK-MC 0,5/...-ST-2,5 with MCV 0,5/...-G-2,5

Diagram



Type: FK-MC 0,5/...-ST-2,5 with MCD 0,5/...-G1-2,5

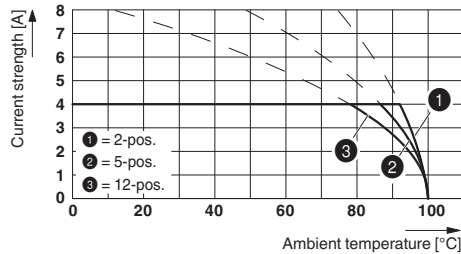
Diagram



Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5 THT

# Printed-circuit board connector - FK-MC 0,5/10-ST-2,5 BK - 1700841

Diagram



Type: FK-MC 0,5/...-ST-2,5 with MCV 0,5/...-G-2,5 THT

## 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 - FK-MC 0,5/10-ST-2,5 BK - 1700841

## Approvals


### Approvals

#### Approvals


VDE Gutachten mit Fertigungsüberwachung / CCA / IEC60335 CB Scheme / EAC / cULus Recognized


#### Ex Approvals

### Approval details

VDE Gutachten mit Fertigungsüberwachung		<a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a>	40013394
Nominal voltage UN	100 V		
Nominal current IN	4 A		
mm <sup>2</sup> /AWG/kcmil	0.2-5		


CCA	CCA/ DE1 34250		
Nominal voltage UN	100 V		
Nominal current IN	4 A		
mm <sup>2</sup> /AWG/kcmil	0.2-5		

IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	DE1-56068-B1B2
Nominal voltage UN	100 V		
Nominal current IN	4 A		
mm <sup>2</sup> /AWG/kcmil	0.2-5		

EAC		B.01687	
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## Printed-circuit board connector - FK-MC 0,5/10-ST-2,5 BK - 1700841

### Approvals

cULus Recognized		<a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a>	E60425-19930913
		B	
Nominal voltage UN		125 V	
Nominal current IN		4 A	
mm <sup>2</sup> /AWG/kcmil		28-20	