

# Printed-circuit board connector - FK-MC 0,5/ 7-ST-2,5 BK - 1908114

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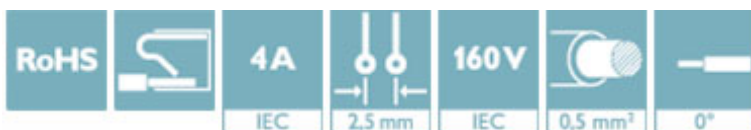
PCB connector, nominal current: 4 A, rated voltage (III/2): 160 V, number of positions: 7, pitch: 2.5 mm, connection method: Push-in spring connection, color: black, contact surface: Tin



The figure shows a 10-position version of the product

## 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	50 pc
GTIN	
GTIN	4017918446062

## Technical data

### Item properties

Brief article description	Printed-circuit board connector
Plug-in system	MICRO COMBICON - FK-MC 0,5
Type of contact	Female connector
Range of articles	FK-MC 0,5/...-ST
Pitch	2.5 mm
Number of positions	7
Connection method	Push-in spring connection
Locking	no
Number of levels	1

### Electrical parameters

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### Electrical parameters

Rated current	4 A
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV

### Connection capacity

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

### 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)

### Material data - housing

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	Schematic representation – for additional information, see product range drawing in the Download Center
Length [ l ]	19.5 mm
Width [ w ]	18.1 mm
Height [ h ]	11.75 mm
Pitch	2.5 mm
Height (without solder pin)	11.75 mm
Dimension a	15 mm

### Packaging information

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## Technical data

### 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

### 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.
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
	Test passed
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 examination	Test passed IEC 60512-1-1:2002-02
Dimensional test	Test passed IEC 60512-1-2:2002-02
Resistance of marking	Test passed IEC 60068-2-70:1995-12
Result	Test passed
Specification	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	Test passed IEC 60512-13-5:2006-02
Result	Test passed

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## Technical data

### Mechanical tests according to standard

Specification	IEC 60512-15-1:2008-05
Test force per pos.	24 N

### Air clearances and creepage distances

Specification	IEC 60664-1:1992-10 + A1:2000-02 + A2:2002-05
Insulating material group	I
Voltage	80 V
Rated insulation voltage (III/3)	100 V
Rated insulation voltage (III/2)	160 V
Rated insulation 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

### Electrical tests - Function

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

Specification	IEC 60999-1:1999-11
Test current (minimum cross section)	4 A
Test current (maximum cross section)	6 A
Temperature cycles	192

### Current carrying capacity / derating curves

Specification	IEC 61984
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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
Power-frequency withstand voltage	1.39 kV
Insulation resistance, neighboring positions	80 GΩ

### Climatic tests (D)

Specification	ISO 6988:1985-02
Cold stress	-40 °C/2 h

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## Technical data

### Climatic tests (D)

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

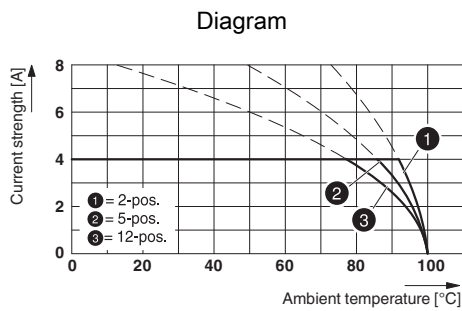
### Environmental and durability tests (E)

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

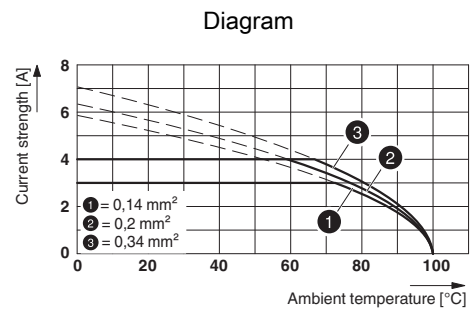
### Environmental Product Compliance

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

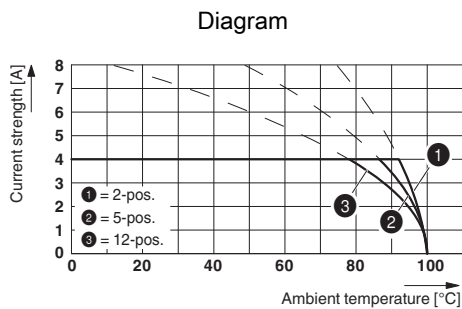
## Drawings



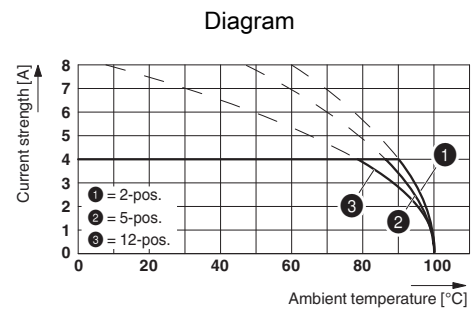
Type: FK-MC 0,5/...-ST-2,5 with MC 0,5/...-G-2,5



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

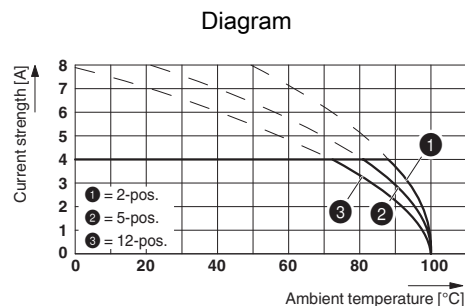
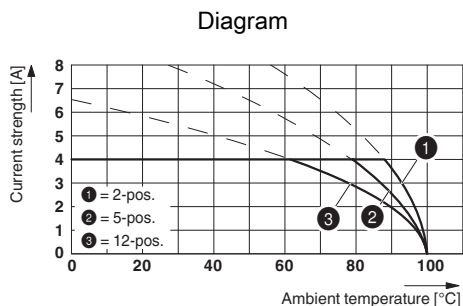


Type: FK-MC 0,5/...-ST-2,5 with MCV 0,5/...-G-2,5 THT



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

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

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

## Approvals

### Approvals

#### Approvals

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

#### Ex Approvals

### Approval details


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


IECCEB 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		

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		

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## Approvals

EAC		B.01742
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cULus Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/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	

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