

# Printed-circuit board connector - FMC 0,5/12-ST-2,54 C1 - 1706250

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PCB connector, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm<sup>2</sup>, number of positions: 12, pitch: 2.54 mm, connection method: Push-in spring connection, color: black, contact surface: Gold, Fixed coding of the first position, can be combined with MC(V) 0,5/...-G-2,54...C1 headers



The figure shows a 10-position version of the product

## Your advantages

- ✓ Gold-plated contacts ensure transfer quality remains stable over the long term
- ✓ 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
- ✓ Optimized for tight installation situations: operation and conductor connection from one direction



## Key Commercial Data

Packing unit	100 pc
GTIN	
GTIN	4046356841207
Weight per Piece (excluding packing)	3.000 g
Custom tariff number	85366990
Country of origin	Poland
Note	Made to Order (non-returnable)

## Technical data

### Item properties

Brief article description	Printed-circuit board connector
Plug-in system	MICRO COMBICON - FMC 0,5
Type of contact	Female connector
Range of articles	FMC 0,5/...-ST
Pitch	2.54 mm
Number of positions	12

# Printed-circuit board connector - FMC 0,5/12-ST-2,54 C1 - 1706250

## Technical data

### Item properties

Connection method	Push-in spring connection
Locking	without
Number of levels	1
Number of connections	12
Number of potentials	12

### Electrical parameters

Nominal current	6 A
Nom. voltage	160 V
Rated voltage	32 V
Rated voltage (III/2)	160 V
Rated voltage (II/2)	160 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	Push-in spring connection
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> ... 0.34 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.14 mm <sup>2</sup> ... 0.25 mm <sup>2</sup>
Stripping length	7 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	partially gold-plated
Metal surface terminal point (top layer)	Tin (5 - 7 µm Sn)
Metal surface terminal point (middle layer)	Nickel (2 - 3 µm Ni)
Metal surface contact area (top layer)	Gold (0.25 Au)
Metal surface contact area (middle layer)	Nickel (2 - 3 µm Ni),

### Material data - housing

Housing color	black (9005)
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

### Material data – actuating element

Insulating material	LCP
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## Technical data

### Material data – actuating element

CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

### Dimensions for the product

Length [ l ]	14 mm
Width [ w ]	30.98 mm
Height [ h ]	5.35 mm
Pitch	2.54 mm

### Packaging information

Type of packaging	packed in cardboard
Pieces per package	100
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 – repeated connection and release	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	0.14 mm <sup>2</sup> / solid / > 10 N
	0.14 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	100
Insertion strength per pos. approx.	2 N
Withdraw strength per pos. approx.	2 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.	20 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)	0.8 mm
Minimum clearance - inhomogeneous field (III/2)	1.5 mm
Minimum clearance - inhomogeneous field (II/2)	0.5 mm
Minimum creepage distance value (III/3)	1.3 mm
Minimum creepage distance value (III/2)	1.6 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

Specification	IEC 60999-1:1999-11
Test current (minimum cross section)	3 A DC
Test current (maximum cross section)	6 A DC
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.	2 N
Withdraw strength per pos. approx.	2 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>	2.7 mΩ
Insertion/withdrawal cycles	100
Contact resistance R <sub>2</sub>	2.6 mΩ
Impulse withstand voltage at sea level	2.95 kV
Power-frequency withstand voltage	1.39 kV

### Climatic tests (D)

Specification	DIN 50018:2013-05
Cold stress	-40 °C/2 h
Thermal stress	100 °C/168 h

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## Technical data

### Climatic tests (D)

Corrosive stress	1.0 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/3 cycles
Impulse withstand voltage at sea level	2.95 kV
Power-frequency withstand voltage	1.39 kV

### Environmental and durability tests (E)

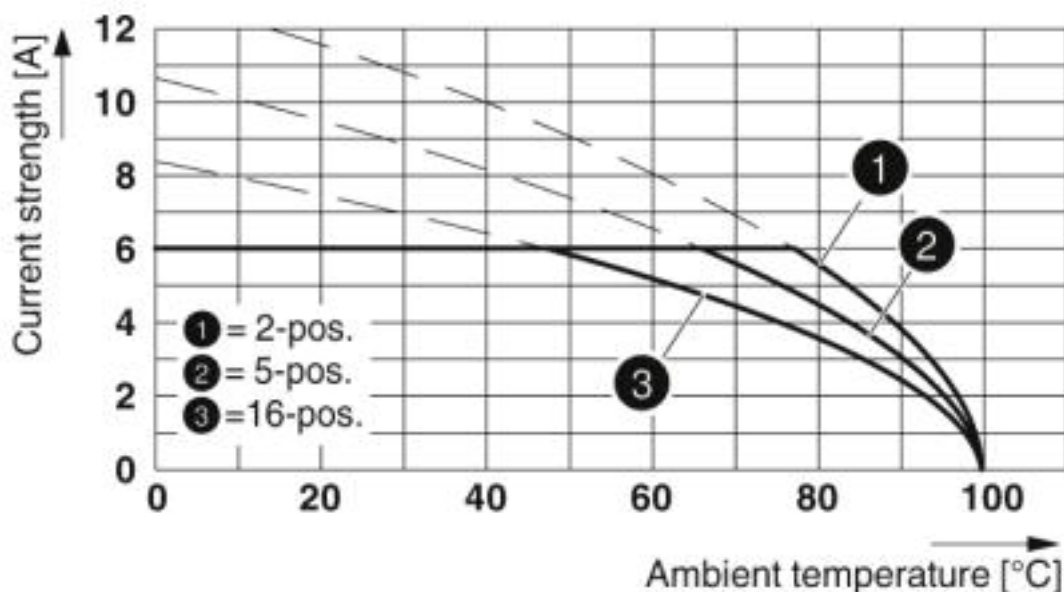
Specification	IEC 61984:2008-10
Result, degree of protection, IP code	Back of hand safety with IP10 access probe

### Environmental Product Compliance

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

## Drawings

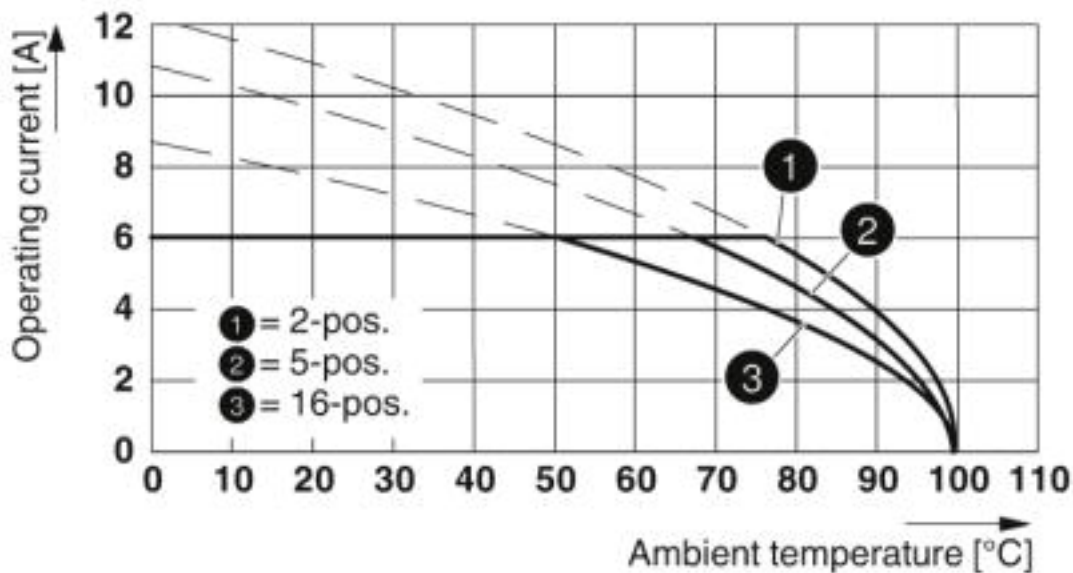
Diagram



Type: FMC 0,5/...-ST-2,54 with MC 0,5/...-G-2,54 P20 THR R..

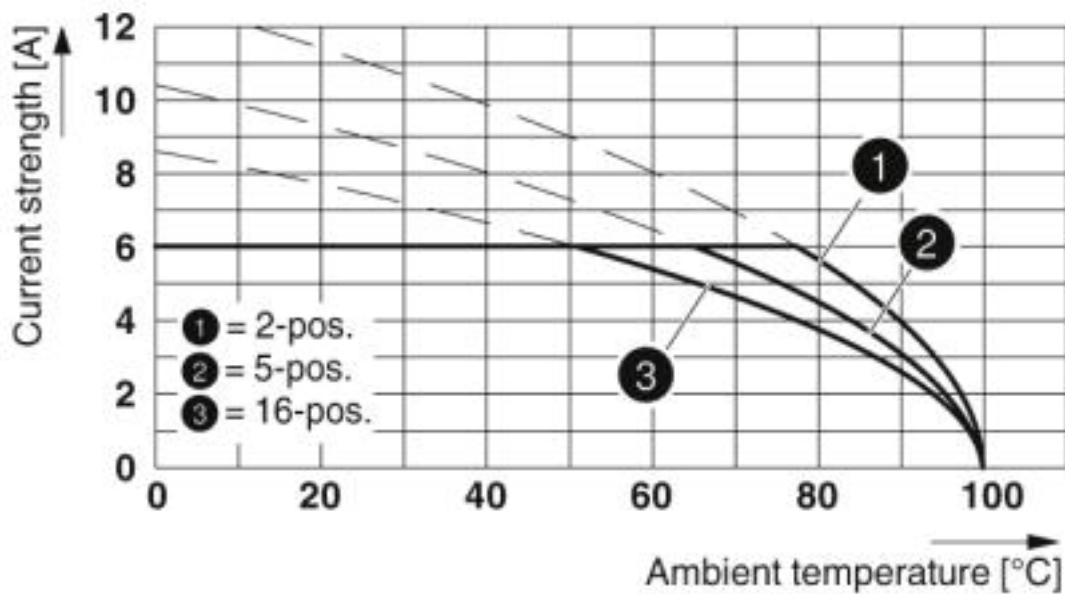
# Printed-circuit board connector - FMC 0,5/12-ST-2,54 C1 - 1706250

Diagram



Type: FMC 0,5/...-ST-2,54 with MC 0,5/...-G-2,54 SMD R..

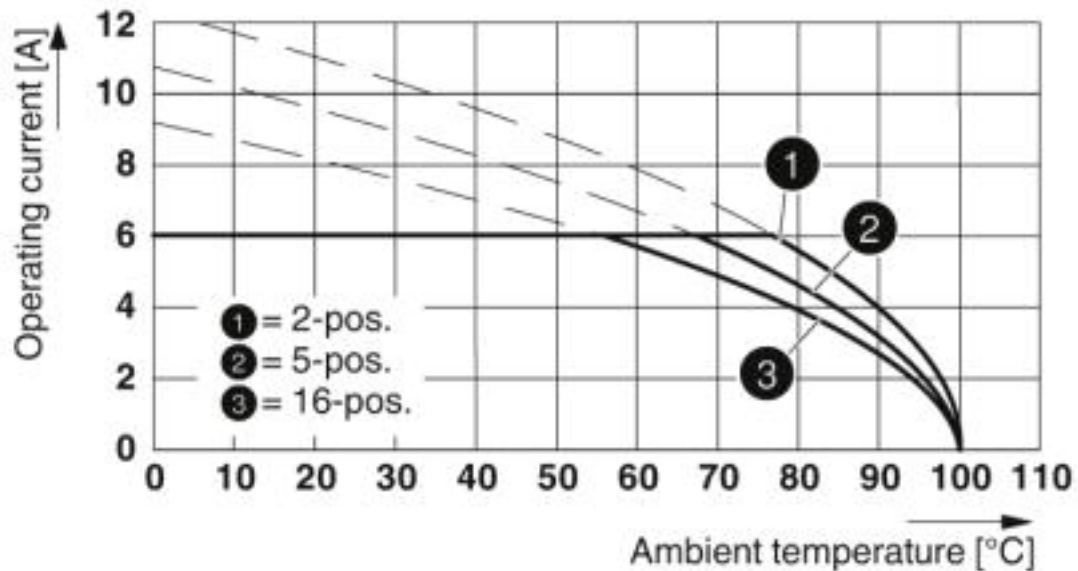
Diagram



Type: FMC 0,5/...-ST-2,54 with MCV 0,5/...-G-2,54 P20 THR R..

## Printed-circuit board connector - FMC 0,5/12-ST-2,54 C1 - 1706250

Diagram



Type FMC 0,5/...-ST-2,54 with MCV 0,5/...-G-2,54 SMD R..

### Classifications

eCl@ss

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 8.0	27440309
eCl@ss 9.0	27440309

ETIM

ETIM 3.0	EC001121
ETIM 4.0	EC002643
ETIM 5.0	EC002638
ETIM 6.0	EC002638
ETIM 7.0	EC002638

UNSPSC

UNSPSC 6.01	30211801
UNSPSC 7.0901	39121432
UNSPSC 11	39121432
UNSPSC 12.01	39121432
UNSPSC 13.2	39121409

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## Classifications

### UNSPSC

UNSPSC 18.0	39121409
UNSPSC 19.0	39121409
UNSPSC 20.0	39121409
UNSPSC 21.0	39121409

## Approvals

### Approvals

#### Approvals

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

#### Ex Approvals

### Approval details

IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	DE1-55663-B1
Nominal voltage UN	160 V		
Nominal current IN	6 A		
mm <sup>2</sup> /AWG/kcmil	0.14-.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>	40042258
Nominal voltage UN	160 V		
Nominal current IN	6 A		
mm <sup>2</sup> /AWG/kcmil	0.14-.5		

EAC		B.01687
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## Approvals

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>	E60425-19920306
	B	C	
Nominal voltage UN	150 V	50 V	
Nominal current IN	6 A	6 A	
mm <sup>2</sup> /AWG/kcmil	26-20	26-20	

## Accessories

### Accessories

#### Cable end sleeve

Ferrule - A 0,25- 7 - 3202478



Ferrule, length: 7 mm, color: silver

Ferrule - A 0,34- 7 - 3009202



Ferrule, length: 7 mm, color: silver

#### Crimping tool

Crimping pliers - CRIMPFOX 6 - 1212034



Crimping pliers, for ferrules without insulating collar according to DIN 46228 Part 1 and ferrules with insulating collar according to DIN 46228 Part 4, 0.25 mm<sup>2</sup> ... 6.0 mm<sup>2</sup>, lateral entry, trapezoidal crimp

#### Labeled terminal marker

## Printed-circuit board connector - FMC 0,5/12-ST-2,54 C1 - 1706250

### Accessories

Marker card - SK 2,54/2,8:FORTL.ZAHLEN - 0804853



Marker card, Card, white, labeled, Horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 2.54 mm, lettering field size: 2.54 x 2.8 mm

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### Screwdriver tools

Screwdriver - SZS 0,4X2,0 - 1205202



Micro screwdriver, bladed, size: 0.4 x 2.0 x 60 mm, 2-component grip, with non-slip grip and twist cap

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### Additional products

Printed-circuit board connector - MC 0,5/12-G-2,54 P20THRR56C1 - 1706212



PCB headers, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm<sup>2</sup>, number of positions: 12, pitch: 2.54 mm, color: black, contact surface: Gold, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, Fixed coding of the first position, can be combined with the FMC 0,5/...-ST-2,54 C1 connector

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Printed-circuit board connector - MC 0,5/12-G-2,54 SMDR56C1 - 1706137



PCB headers, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm<sup>2</sup>, number of positions: 12, pitch: 2.54 mm, color: black, contact surface: Gold, mounting: SMD soldering, pin layout: Linear pad geometry, Fixed coding of the first position, can be combined with the FMC 0,5/...-ST-2,54 C1 connector

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Printed-circuit board connector - MCV 0,5/12-G-2,54 SMDR56C1 - 1706100



PCB headers, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm<sup>2</sup>, number of positions: 12, pitch: 2.54 mm, color: black, contact surface: Gold, mounting: SMD soldering, pin layout: Linear pad geometry, solder pin [P]: 2 mm, Fixed coding of the first position, can be combined with the FMC 0,5/...-ST-2,54 C1 connector