

FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector



1966101

<https://www.phoenixcontact.com/us/products/1966101>

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 documentation. Our general terms of use for downloads are valid.



PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FMC 1,5/..-STF, pitch: 3.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON MC 1,5, locking: Screw locking mechanism, mounting: Screw flange, 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 operation due to color-coded actuating push button
- Operation and conductor connection from one direction enable integration into front of device
- Screwable flange for superior mechanical stability

Commercial data

Item number	1966101
Packing unit	50 pc
Minimum order quantity	50 pc
Sales key	AA02
Product key	AABFAB
Catalog page	Page 201 (C-1-2013)
GTIN	4017918943295
Weight per piece (including packing)	2.774 g
Weight per piece (excluding packing)	2.42 g
Customs tariff number	85366990
Country of origin	DE

FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector

1966101

<https://www.phoenixcontact.com/us/products/1966101>



Technical data

Product properties

Type	Standard
Product line	COMBICON Connectors S
Product type	PCB connector
Product family	FMC 1,5/..-STF
Number of positions	3
Pitch	3.5 mm
Number of connections	3
Number of rows	1
Mounting flange	Screw flange
Number of potentials	3

Electrical properties

Nominal current I_N	8 A
Nominal voltage U_N	160 V
Degree of pollution	3
Contact resistance	1.6 m Ω
Rated voltage (III/3)	160 V
Rated surge voltage (III/3)	2.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Rated voltage (II/2)	320 V
Rated surge voltage (II/2)	2.5 kV

Connection data

Connection technology

Type	Standard
Connector system	COMBICON MC 1,5
Nominal cross section	1.5 mm ²
Contact connection type	Socket

Interlock

Locking type	Screw locking mechanism
Mounting flange	Screw flange
Tightening torque	0.3 Nm

Conductor connection

Connection method	Push-in spring connection
Conductor/PCB connection direction	0 °
Conductor cross section rigid	0.2 mm ² ... 1.5 mm ²
Conductor cross section flexible	0.2 mm ² ... 1.5 mm ²
Conductor cross section AWG	24 ... 16

FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector

1966101

<https://www.phoenixcontact.com/us/products/1966101>



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	0.14 mm ² ... 0.75 mm ²
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / 1.6 mm
Stripping length	10 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
	Cross section: 0.34 mm ² ; Length: 7 mm
	Cross section: 0.5 mm ² ; Length: 8 mm ... 10 mm
	Cross section: 0.75 mm ² ; Length: 8 mm ... 10 mm
	Cross section: 1 mm ² ; Length: 8 mm ... 10 mm
	Cross section: 1.5 mm ² ; Length: 10 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
	Cross section: 0.25 mm ² ; Length: 8 mm ... 10 mm
	Cross section: 0.34 mm ² ; Length: 8 mm ... 10 mm
	Cross section: 0.5 mm ² ; Length: 8 mm ... 10 mm
	Cross section: 0.75 mm ² ; Length: 10 mm

Material specifications

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

Color (Housing)	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 – actuating element

Color (Actuating element)	orange (2003)
---------------------------	---------------

FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector

1966101

<https://www.phoenixcontact.com/us/products/1966101>



Insulating material	PBT
Insulating material group	IIIa
CTI according to IEC 60112	275
Flammability rating according to UL 94	V0

Dimensions

Dimensional drawing	
Pitch	3.5 mm
Width [w]	20.8 mm
Height [h]	7.8 mm
Length [l]	22.9 mm

Mounting

Flange	
Tightening torque	0.3 Nm

Mechanical tests

Conductor connection	
Specification	IEC 60999-1:1999-11
Result	Test passed
Test for conductor damage and slackening	
Specification	IEC 60999-1:1999-11
Result	Test passed
Repeated connection and disconnection	
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	0.2 mm ² / solid / > 10 N
	0.2 mm ² / flexible / > 10 N
	1.5 mm ² / solid / > 40 N
	1.5 mm ² / flexible / > 40 N

Insertion and withdrawal forces

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

FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector

1966101

<https://www.phoenixcontact.com/us/products/1966101>



Withdraw strength per pos. approx.

7 N

Resistance of inscriptions

Specification	IEC 60068-2-70:1995-12
Result	Test passed

Polarization and coding

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

Visual inspection

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

Dimension check

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

Environmental and real-life conditions

Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 Hz ... 60.1 Hz)
Sweep speed	5g (60.1 Hz ... 150 Hz)
Test duration per axis	2.5 h

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	1.7 mΩ
Insertion/withdrawal cycles	25

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

Shocks

Specification	IEC 60068-2-27:2008-02
Pulse shape	Semi-sinusoidal
Acceleration	30g
Shock duration	18 ms
Test directions	X-, Y- and Z-axis (pos. and neg.)

FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector

1966101

<https://www.phoenixcontact.com/us/products/1966101>



Ambient conditions

Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

Electrical tests

Thermal test | Test group C

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

Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

Temperature cycles

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

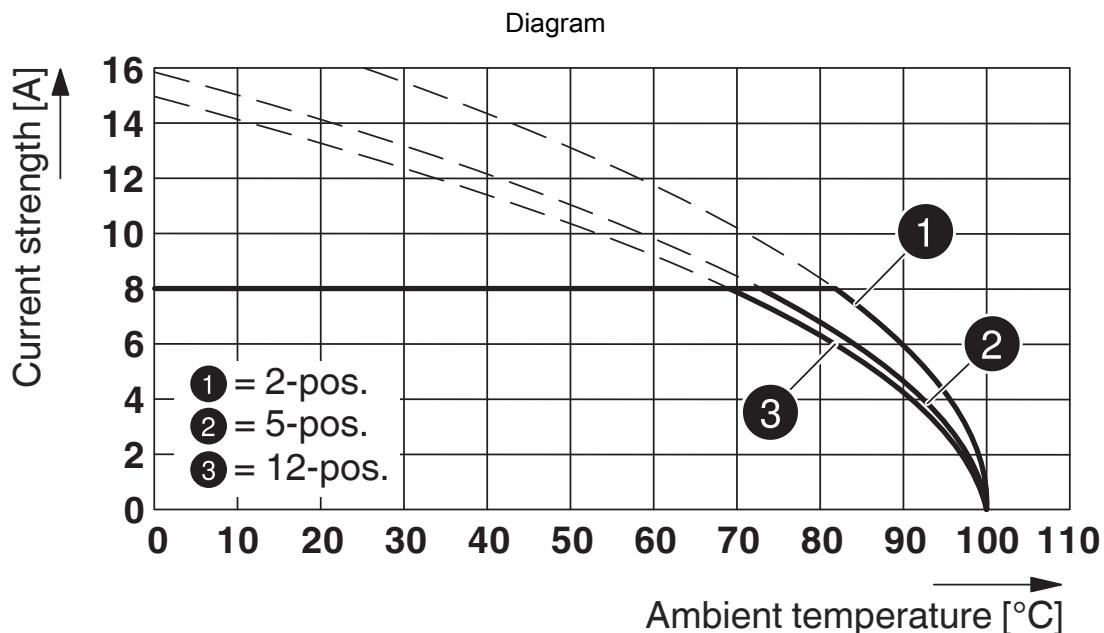
Air clearances and creepage distances |

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

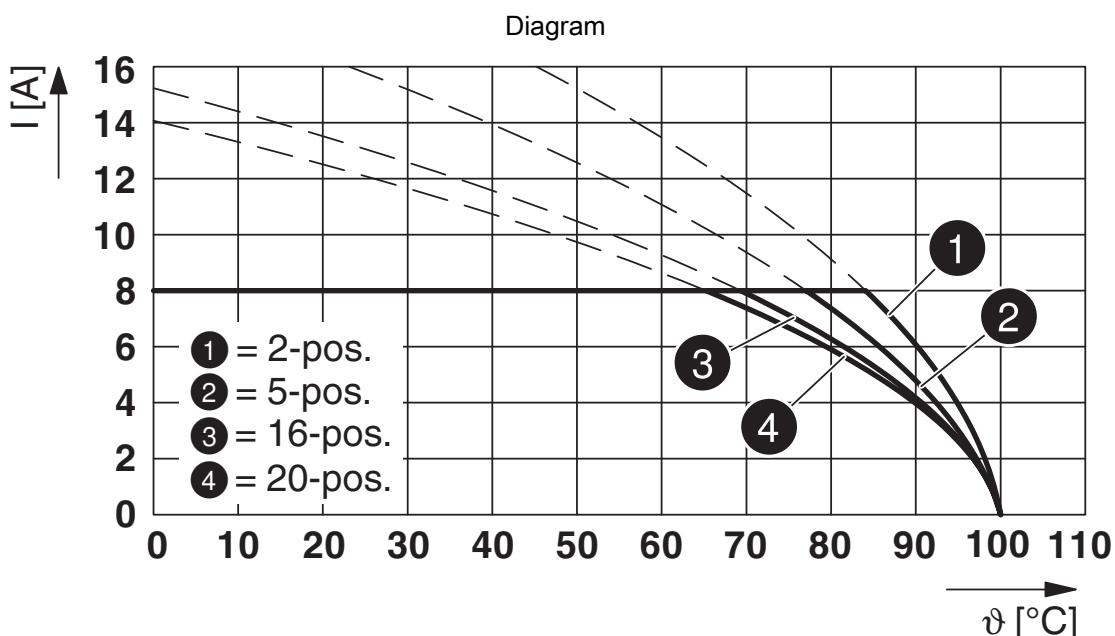
Packaging specifications

Type of packaging	packed in cardboard
-------------------	---------------------

Drawings



Type: FMC 1,5/...-STF-3,5 with MC 1,5/...-GF-3,5 P.. THR



Type: FMC 1,5/...-STF-3,5 with MCV 1,5/...-GF-3,5

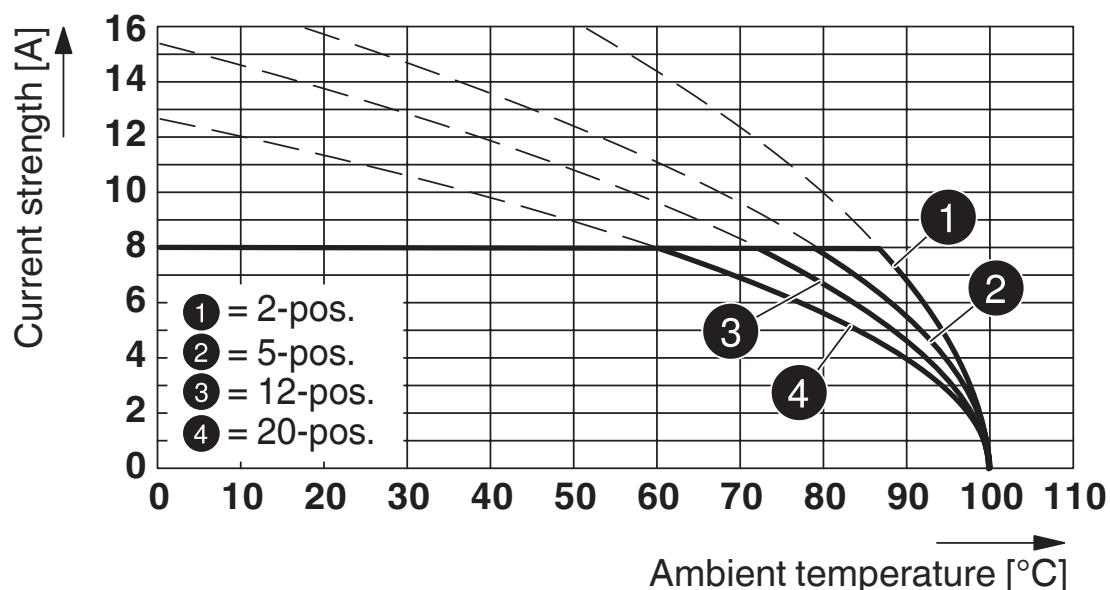
FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector



1966101

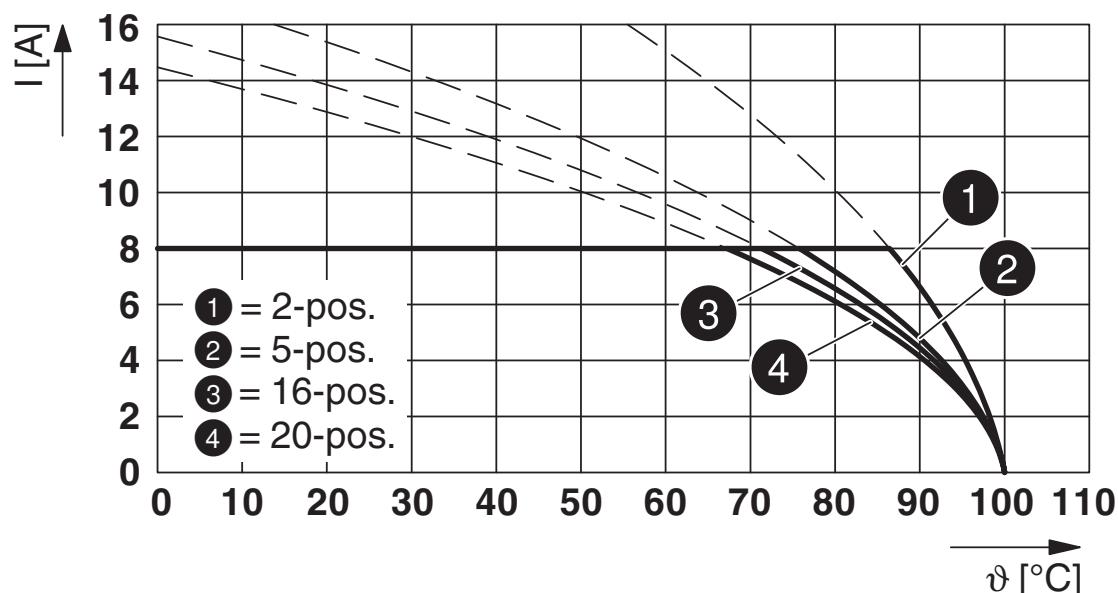
<https://www.phoenixcontact.com/us/products/1966101>

Diagram



Type: FMC 1,5/...-STF-3,5 with MCV 1,5/...-GF-3,5 P... THR

Diagram



Type: FMC 1,5/...-STF-3,5 with MC 1,5/...-GF-3,5

FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector

1966101

<https://www.phoenixcontact.com/us/products/1966101>



Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1966101>

cULus Recognized				
Approval ID: E60425-19920306				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
Use group B				
Field wiring	150 V	8 A	24 - 16	-
Use group C				
Factory wiring	50 V	8 A	24 - 16	-

VDE Zeichengenehmigung				
Approval ID: 40011723				
	Nominal voltage U_N	Nominal current I_N	Cross section AWG	Cross section mm^2
	160 V	8 A	-	0.2 - 1.5

FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector

1966101

<https://www.phoenixcontact.com/us/products/1966101>



Classifications

ECLASS

ECLASS-11.0	27460202
ECLASS-12.0	27460202
ECLASS-13.0	27460202

ETIM

ETIM 9.0	EC002638
----------	----------

UNSPSC

UNSPSC 21.0	39121400
-------------	----------

FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector

1966101

<https://www.phoenixcontact.com/us/products/1966101>



Environmental product compliance

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

FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector

1966101

<https://www.phoenixcontact.com/us/products/1966101>



Accessories

SK 3,5/2,8:FORTL.ZAHLEN - Marker card

0804073

<https://www.phoenixcontact.com/us/products/0804073>

Marker card, Sheet, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 99, mounting type: adhesive, for terminal block width: 3.5 mm, lettering field size: 3.5 x 2.8 mm, Number of individual labels: 14



B-STIFT - Marker pen

1051993

<https://www.phoenixcontact.com/us/products/1051993>

Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm



FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector

1966101

<https://www.phoenixcontact.com/us/products/1966101>



CRIMPFOX 6 - Crimping pliers

1212034

<https://www.phoenixcontact.com/us/products/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 mm² ... 6.0 mm², lateral entry, trapezoidal crimp



SZS 0,4X2,5 VDE - Screwdriver

1205037

<https://www.phoenixcontact.com/us/products/1205037>

Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip



FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector



1966101

<https://www.phoenixcontact.com/us/products/1966101>

MCV 1,5/ 3-GF-3,5 P20 THRR56 - PCB header

1780684

<https://www.phoenixcontact.com/us/products/1780684>



PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MCV 1,5/..-GF-THR, pitch: 3.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting: Threaded flange, type of packaging: 56 mm wide tape, For user information and design recommendations for through-hole reflow technology, go to: Downloads

MC 1,5/ 3-GF-3,5 P26 THR - PCB header

1789180

<https://www.phoenixcontact.com/us/products/1789180>



PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MC 1,5/..-GF-THR, pitch: 3.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting: Threaded flange, type of packaging: packed in cardboard

FMC 1,5/ 3-STF-3,5 - Printed-circuit board connector



1966101

<https://www.phoenixcontact.com/us/products/1966101>

MCV 1,5/ 3-GF-3,5 - PCB header

1843237

<https://www.phoenixcontact.com/us/products/1843237>



PCB headers, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MCV 1,5/..-GF, pitch: 3.5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting: Threaded flange, type of packaging: packed in cardboard

MC 1,5/ 3-GF-3,5 - PCB header

1843800

<https://www.phoenixcontact.com/us/products/1843800>



PCB headers, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MC 1,5/..-GF, pitch: 3.5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting: Threaded flange, type of packaging: packed in cardboard

Phoenix Contact 2024 © - all rights reserved
<https://www.phoenixcontact.com>

Phoenix Contact USA
586 Fulling Mill Road
Middletown, PA 17057, United States
(+717) 944-1300
info@phoenixcon.com