

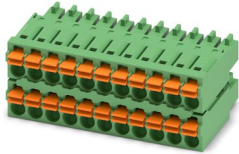
FMCD 1,5/11-ST-3,5 - Printed-circuit board connector



1738898

<https://www.phoenixcontact.com/in/products/1738898>

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, type of contact: Female connector, number of potentials: 22, number of rows: 2, number of positions: 11, number of connections: 22, product range: FMCD 1,5/..-ST, pitch: 3.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON MC 1,5, 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

Commercial Data

Item number	1738898
Packing unit	50 pc
Minimum order quantity	50 pc
Sales Key	AAB
Product Key	AABFCA
Catalog Page	Page 201 (C-1-2013)
GTIN	4046356295192
Weight per Piece (including packing)	12.586 g
Weight per Piece (excluding packing)	12.1 g
Customs tariff number	85366990
Country of origin	DE

1738898

<https://www.phoenixcontact.com/in/products/1738898>

Technical Data

Product properties

Type	Standard
Product line	COMBICON Connectors S
Product type	PCB plug
Product family	FMCD 1,5/..-ST
Number of positions	11
Pitch	3.5 mm
Number of connections	22
Number of rows	2
Mounting flange	without
Number of potentials	22

Electrical properties

Nominal current I_N	8 A
Nominal voltage U_N	160 V
Degree of pollution	3
Contact resistance	2 mΩ
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
Type of contact	Female connector

Interlock

Locking type	without
Mounting flange	without

Conductor connection

Connection method	Push-in spring connection
Conductor/PCB connection direction	0 °
Conductor cross section solid	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
Conductor cross section flexible, with ferrule without plastic	0.25 mm ² ... 1.5 mm ²

FMCD 1,5/11-ST-3,5 - Printed-circuit board connector



1738898

<https://www.phoenixcontact.com/in/products/1738898>

sleeve	
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	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 ()	()
Insulating material	PBT

1738898

<https://www.phoenixcontact.com/in/products/1738898>

Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0

Mechanical tests

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.	6 N
Withdraw strength per pos. approx.	4 N

Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Contact holder in insert Requirements >20 N	Test passed

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

1738898

<https://www.phoenixcontact.com/in/products/1738898>

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	2 mΩ
Contact resistance R ₂	2.5 mΩ
Insertion/withdrawal cycles	25

Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	KFW 0.2 S/1 cycle
Thermal stress	100 °C/168 h
Power-frequency withstand voltage	1.39 kV

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	16

Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 108 Ω

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

FMCD 1,5/11-ST-3,5 - Printed-circuit board connector



1738898

<https://www.phoenixcontact.com/in/products/1738898>

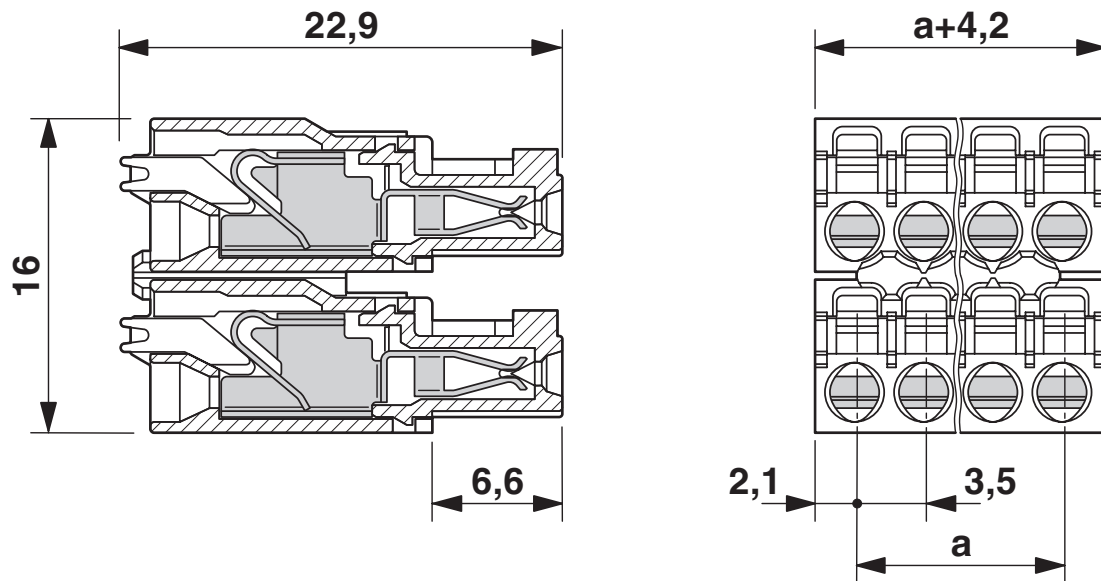
minimum clearance value - non-homogenous field (III/3)	1.5 mm
minimum creepage distance (III/3)	2 mm
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
minimum clearance value - non-homogenous field (III/2)	1.5 mm
minimum creepage distance (III/2)	1.5 mm
Rated insulation voltage (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

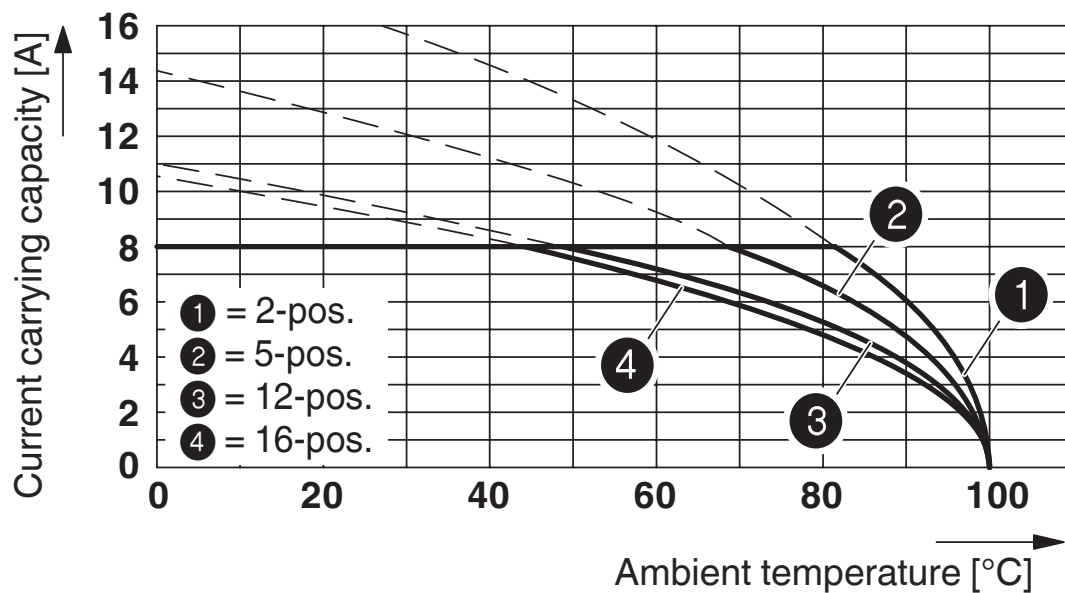
Type of packaging	packed in cardboard
-------------------	---------------------

Drawings

Dimensional drawing



Diagram



Type: FMCD 1,5/...-ST-3,5 with MCDNV 1,5/...-G1-3,5 P...THR

FMCD 1,5/11-ST-3,5 - Printed-circuit board connector



1738898

<https://www.phoenixcontact.com/in/products/1738898>

Approvals



IECEE CB Scheme

Approval ID: DE1-60987-B1B2



EAC

Approval ID: B.01687



cULus Recognized

Approval ID: E60425-19920306



VDE Zeichengenehmigung

Approval ID: 40011723

FMCD 1,5/11-ST-3,5 - Printed-circuit board connector



1738898

<https://www.phoenixcontact.com/in/products/1738898>

Classifications

ECLASS

ECLASS-10.0.1	27440309
ECLASS-11.0	27460202

ETIM

ETIM 8.0	EC002638
----------	----------

UNSPSC

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

FMCD 1,5/11-ST-3,5 - Printed-circuit board connector



1738898

<https://www.phoenixcontact.com/in/products/1738898>

Environmental Product Compliance

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

1738898

<https://www.phoenixcontact.com/in/products/1738898>

Accessories

SZS 0,4X2,5 VDE - Screwdriver

1205037

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



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

CRIMPFOX 6 - Crimping pliers

1212034

<https://www.phoenixcontact.com/in/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

FMCD 1,5/11-ST-3,5 - Printed-circuit board connector



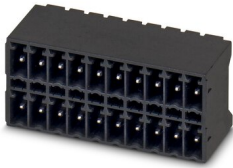
1738898

<https://www.phoenixcontact.com/in/products/1738898>

MCDN 1,5/11-G1-3,5 P14THR - PCB header

1954003

<https://www.phoenixcontact.com/in/products/1954003>

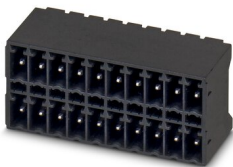


PCB headers, nominal cross section: 1.5 mm^2 , color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 22, number of rows: 2, number of positions: 11, number of connections: 22, product range: MCDN 1,5/...-G1-THR, pitch: 3.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 1.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard, The pin length is 1.4 mm. User information and design recommendations on Through Hole Reflow Technology can be found at: "Downloads".

MCDN 1,5/11-G1-3,5 P26THR - PCB header

1953800

<https://www.phoenixcontact.com/in/products/1953800>



PCB headers, nominal cross section: 1.5 mm^2 , color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 22, number of rows: 2, number of positions: 11, number of connections: 22, product range: MCDN 1,5/...-G1-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: without, mounting: without, type of packaging: packed in cardboard, The pin length is 2.6 mm. User information and design recommendations on Through Hole Reflow Technology can be found at: "Downloads"

FMCD 1,5/11-ST-3,5 - Printed-circuit board connector



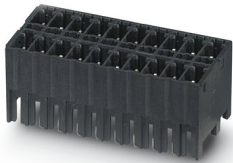
1738898

<https://www.phoenixcontact.com/in/products/1738898>

MCDNV 1,5/11-G1-3,5 P14THR - PCB header

1953101

<https://www.phoenixcontact.com/in/products/1953101>

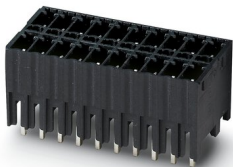


PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 22, number of rows: 2, number of positions: 11, number of connections: 22, product range: MCDNV 1,5/...-G1-THR, pitch: 3.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 1.4 mm, number of solder pins per potential: 1, plug-in system: COMBICON MC 1,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: packed in cardboard, The pin length is 1.4 mm. User information and design recommendations on Through Hole Reflow Technology can be found at: Downloads".

MCDNV 1,5/11-G1-3,5 P26THR - PCB header

1952872

<https://www.phoenixcontact.com/in/products/1952872>



PCB headers, nominal cross section: 1.5 mm², color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 22, number of rows: 2, number of positions: 11, number of connections: 22, product range: MCDNV 1,5/...-G1-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: without, mounting: without, type of packaging: packed in cardboard, The pin length is 26 mm. User information and design recommendations on Through Hole Reflow Technology can be found at: [http: "Downloads"](http://www.phoenixcontact.com/Downloads).

Phoenix Contact 2023 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT (I) Pvt. Ltd.

A-58/2, Okhla Industrial Area, Phase - II, New Delhi-110 020

+91.1275.71420

info@phoenixcontact.co.in