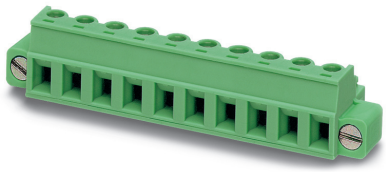
2021-04-12
Product version 02
Document revision 00

Data sheet

Order No.: 1900882

Type: MC 1,5/ 2-ST1F-5,08

PCB connector, Screw connection with tension sleeve



The figure shows a 10-position version of the product

1 Main features

- No. of pos. 2
- Conductor cross section 1.5 mm²
- Color green (6021)
- Pitch 5.08 mm
- Connection method Screw connection with tension sleeve
- Nominal current 8 A
- Nominal voltage 320 V
- Connection direction 0 °
- Type of packaging packed in cardboard

2 Your advantages

- Well-known connection principle allows worldwide use
- Low temperature rise, thanks to maximum contact force
- Allows connection of two conductors
- Screwable flange for superior mechanical stability

Make sure you always use the latest documentation.
It can be downloaded at: phoenixcontact.net/product/1900882

3 Table of contents

4 3D model in PDF can be activated (Acrobat Reader only)

5 General Technical Data

5.1 item properties

Order No.	1900882
Type	MC 1,5/ 2-ST1F-5,08
Connector system	MINI COMBICON
Product type	PCB connector
Type of contact	Female connector
Range of articles	MC 1,5/..-ST1F
Pitch	5.08 mm
Number of positions	2
Number of levels	1
Number of connections	2
Number of potentials	2
Connection method	Screw connection with tension sleeve
Screw thread	M2
Drive form screw head	Slotted (L)
Connection direction of the conductor to plug-in direction	0 °
Solder pins per potential	1
Type	Standard

6 Mounting

6.1 Flange mounting

Type of locking	Screw locking
Mounting flange	Screw flange
Torque	0.3 Nm

7 Conductor connection

7.1 Connection capacity

Nominal cross section	1.5 mm²
Conductor cross section, rigid	0.14 mm² ... 1.5 mm²
Conductor cross section, flexible	0.14 mm² ... 1.5 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm² ... 1.5 mm²
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm² ... 0.5 mm²
2 conductors with same cross section, solid	0.08 mm² ... 0.5 mm²
2 conductors with same cross section, stranded	0.08 mm² ... 0.75 mm²
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	0.25 mm² ... 0.34 mm²
2 conductors with the same cross section flexible with TWIN ferrule and plastic sleeve	0.5 mm² ... 0.5 mm²
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / 1.6 mm
Stripping length	7 mm
Tightening torque	0.22 Nm ... 0.25 Nm

7.2 Connection capacity AWG

Conductor cross section AWG	28 ... 16

8 Material properties

8.1 Material of metal parts

Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201
Contact material	Cu alloy
Terminal point surface	Tin (4 - 8 µm Sn)
Surface contact area	Tin (4 - 8 µm Sn)
Surface characteristics	hot-dip tin-plated

8.2 Material of plastic parts

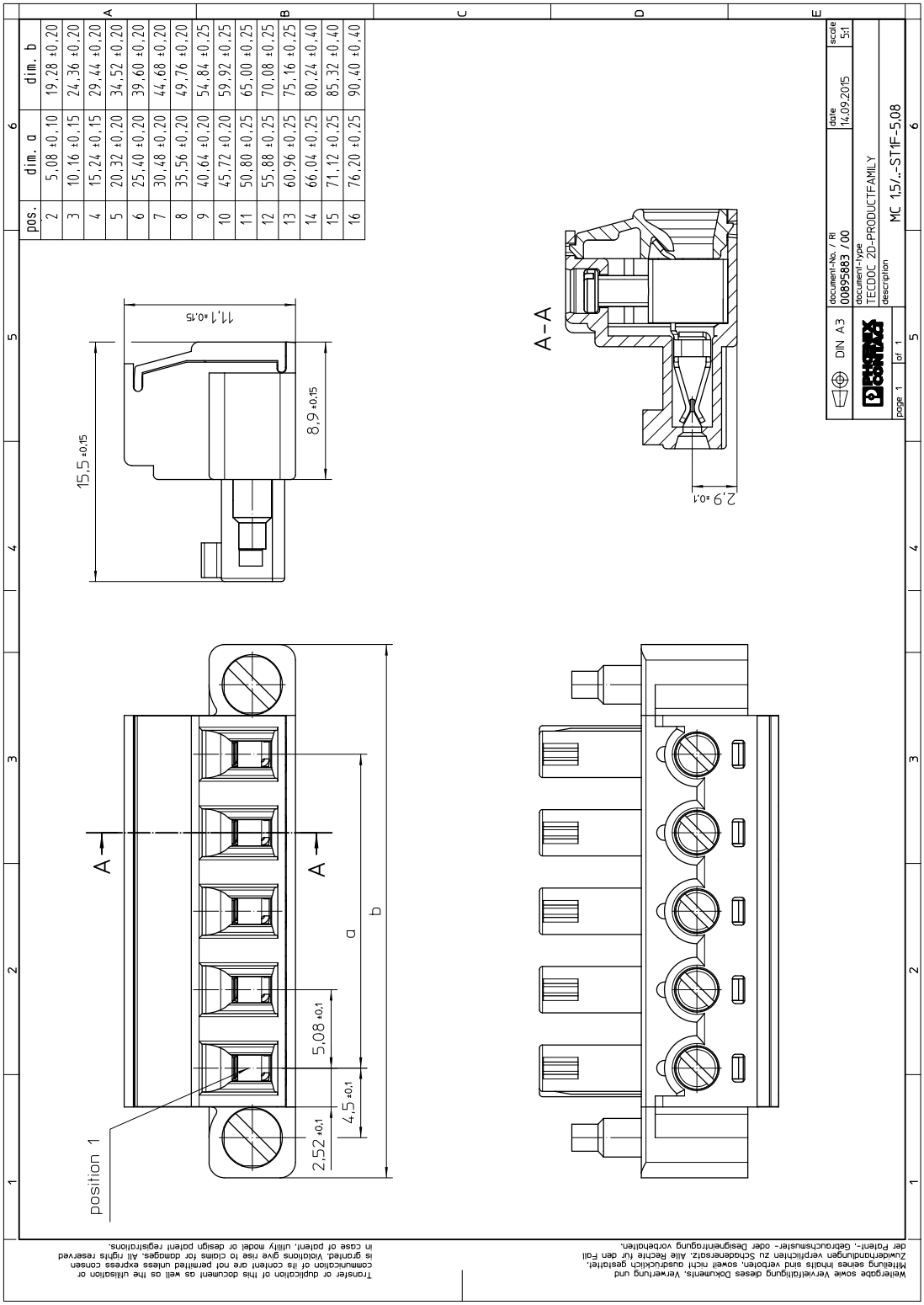
	Housing
Color	green (6021)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0
Glow wire flammability index GWFI according to EN 60695-2-12	850
Glow wire ignition temperature GWIT according to EN 60695-2-13	775
Temperature for the ball pressure test according to EN 60695-10-2	125 °C

9 Dimensions

9.1 Dimensions for the product

Length	15.5 mm
Width	19.28 mm
Installed height	11.1 mm
Total height	11.1 mm

10 Series drawing



11 Product notes

11.1 General information

Notes on operation	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.

12 Packaging information

Type of packaging	packed in cardboard
Pieces per package	50

13 Application

13.1 Temperature limit values

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)

14 General tests

14.1 Specification

Specification	IEC 61984
Specification	IEC 60999-1
Brief description	Printed-circuit board connector

15 Mechanical tests

15.1 Check for damage to conductor or loosening

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

15.2 Pull-out test

Specification	IEC 60999-1:1999-11
Result	Test passed
Conductor cross section/conductor type/tractive force actual value	0.14 mm^2 / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.14 mm^2 / flexible / > 10 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm^2 / solid / > 40 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm^2 / flexible / > 40 N

15.3 Torque test

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

15.4 Visual examination

Specification	IEC 61984:2008-10
Visual examination	Test passed
Specification	IEC 60512-1-1:2002-02

15.5 Dimensional test

Dimensional test	Test passed
Specification	IEC 60512-1-2:2002-02

15.6 Resistance of marking

Resistance of marking	Test passed
Specification	IEC 60068-2-70:1995-12

15.7 Polarization and coding

1900882 MC 1,5/ 2-ST1F-5,08

Polarization when inserted Requirement >20 N	Test passed
Specification	IEC 60512-13-5:2006-02

16 Insertion and withdrawal forces

Insertion and withdrawal force	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.	5 N

17 Electrical tests

Rated current / conductor cross section	8 A / 1.5 mm²
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
Contact resistance	1.2 mΩ
Degree of pollution	2

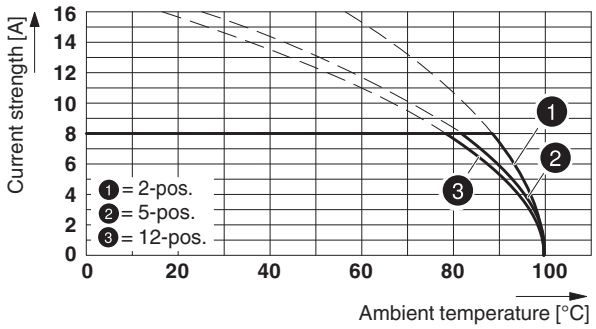
17.1 Air and creepage distances

Component	PCB connector		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	250 V	320 V	630 V
Rated surge voltage	4 kV	4 kV	4 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	3 mm	3 mm	3 mm
Minimum value of the creepage path requirement in acc. with table	3.2 mm	3 mm	3.2 mm

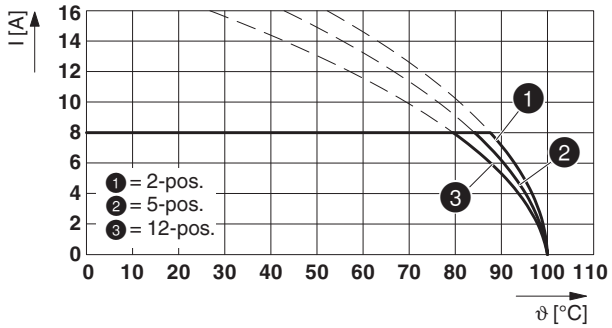
18 Current carrying capacity/derating curves

Specification	IEC 61984:2008-10
Note	Representation based on IEC 60512-5-2:2002-02
Note	For number of positions, see diagram
Reduction factor	0.8
Conductor cross section	1.5 mm²

Type: MC 1,5/...-ST1F-5,08 with MC 1,5/...-GF-5,08



Type: MC 1,5/...-ST1F-5,08 with MCV 1,5/...-GF-5,08



19 Environmental and durability tests

19.1 Vibration test

Specification	IEC 60068-2-6:2007-12
Result	Test passed
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Acceleration	5 g (60.1 - 150 Hz)
Test duration per axis	2.5 h
Test directions	X-, Y- and Z-axis
Note	The connected conductor loops were guided to the test sample at a distance of approx. 10 cm.

19.2 Insulation resistance

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

20 Type approval and special tests

20.1 Shock test

Specification	IEC 60068-2-27:2008-02
Result	Test passed
Pulse shape	Half-sine
Peak acceleration	30g
Shock duration	18 ms
Number of shocks per direction	3
Test directions	X-, Y- and Z-axis (pos. and neg.)

21 Classification for connectors

Specification	IEC 61984:2008-10
Main features	Connectors without switching capacity (COC)
Construction form	Fixed connectors
Strain relief elements	without strain relief
Connection method	Can be reconnected
Protection against electric shock	Not encapsulated - touch-proof when inserted
Protective conductor	without PE
Lock	no
Connection method	Screw terminal points

22 Approvals / Certificates

IECEE CB Scheme	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm²]
	250 V	8 A	-	0.2 - 1.5

EAC

VDE Gutachten mit Fertigungsüberwachung	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm²]
	250 V	8 A	-	0.2 - 1.5

cULus Recognized	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm²]
Usegroup B				
	300 V	8 A	30 - 14	-
Usegroup D				
	300 V	8 A	30 - 14	-

VDE Gutachten mit Fertigungsüberwachung	Voltage [V]	Current [A]	Cross section [AWG]	Cross section [mm²]
	250 V	8 A	-	0.2 - 1.5

23 Commercial Data

Order No.	1900882
Type	MC 1,5/ 2-ST1F-5,08
Pieces per package	50
Net weight	2.393 g
GTIN	4017918429287
	Information that applies locally, see link on page 1
	Information that applies locally, see link on page 1

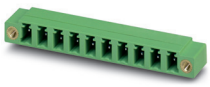
24 corresponding headers

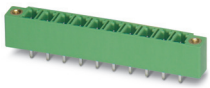
Order No.	Type
1847466	MC 1,5/ 2-GF-5,08
1847615	MCV 1,5/ 2-GF-5,08

25 Accessories

Description	Order No.	Type
Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip	1205037	SZS 0,4X2,5 VDE
	0804280	SK 5,08/2,8:FORTL.ZAHLEN

26 Combination tests





	MC 1,5/..-ST1F	**MC 1,5/..-GF**	**MCV 1,5/..-GF**		
	IEC 61984	IEC 61984	IEC 61984		
Mechanical tests (A)					
Insertion/withdrawal force per position		approx. 8 N / 5 N	approx. 7 N / 4 N		
Polarization when inserted Requirement >20 N		Test passed	Test passed		
Contact holder in insert Requirements >20 N		Test passed	Test passed		
Durability tests (B)					
Contact resistance R_1 1st level		1.2 mΩ	1.2 mΩ		
Contact resistance R_1 2nd level					
Insertion/withdrawal cycles		25	25		
Contact resistance R_2		1.4 mΩ	1.3 mΩ		
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 µs)		4.8 kV	4.8 kV		
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)		2.21 kV	2.21 kV		
Thermal tests (C)					
Tested number of positions		12	12		
Tested conductor cross section		1.5 mm^2	1.5 mm^2		
Test current		8 A	8 A		
Upper limiting temperature Requirements < 100°C		Test passed	Test passed		
Climatic tests (D)					
Test sequence 1: low temperature storage		-40 °C/2 h	-40 °C/2 h		
Test sequence 2: heat storage		100 °C/168 h	100 °C/168 h		
Test sequence 3: noxious gas storage (ISO 6988)		0.2 dm^3 SO_2 on 300 dm^3/ 40 °C/1 cycle	0.2 dm^3 SO_2 on 300 dm^3/ 40 °C/1 cycle		
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 µs)		4.8 kV	4.8 kV		
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)		2.21 kV	2.21 kV		
Environmental and endurance tests (E)					
Specification		IEC 61984:2008-10	IEC 61984:2008-10		
Degree of protection		Finger safety with IP20 test finger	Finger safety with IP20 test finger		