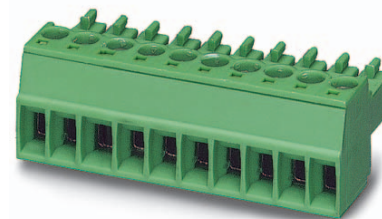


Order No.: 1840489

Type: MC 1,5/14-ST-3,5

Plug component, Screw connection with tension sleeve



The figure shows a 10-position version of the product

## 1 Main features



- |                           |                                      |                        |                     |
|---------------------------|--------------------------------------|------------------------|---------------------|
| • No. of pos.             | 14                                   | • Nominal current      | 8 A                 |
| • Conductor cross section | 1.5 mm <sup>2</sup>                  | • Nominal voltage      | 160 V               |
| • Color                   | green                                | • Connection direction | 0 °                 |
| • Pitch                   | 3.5 mm                               | • Type of packaging    | packed in cardboard |
| • Connection method       | Screw connection with tension sleeve |                        |                     |

## 2 Your advantages

- ✓ Well-known connection principle allows worldwide use
- ✓ Low temperature rise, thanks to maximum contact force
- ✓ Allows connection of two conductors



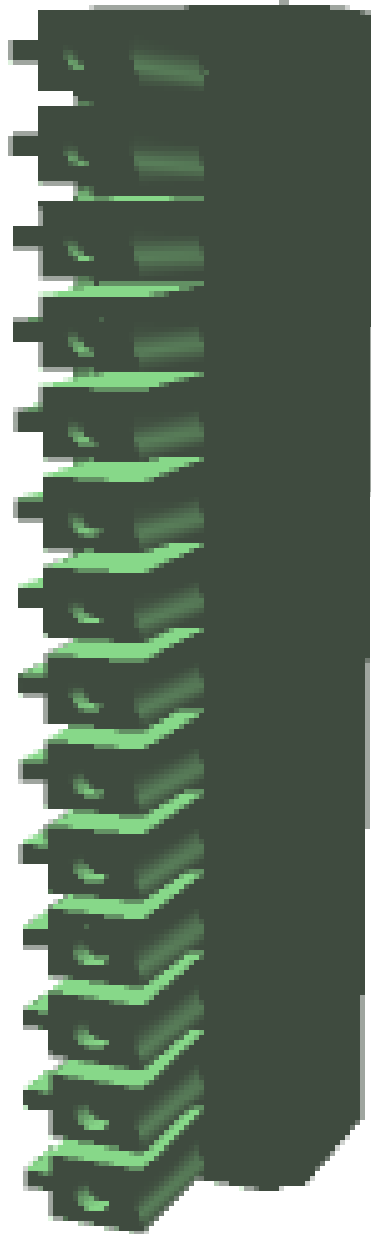
Make sure you always use the latest documentation.  
It can be downloaded at: [phoenixcontact.net/product/1840489](https://phoenixcontact.net/product/1840489)

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1840489 MC 1,5/14-ST-3,5

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



**1840489 MC 1,5/14-ST-3,5****5 item properties**

Order No.	1840489
Type	MC 1,5/14-ST-3,5
Type of contact	Female connector
Range of articles	MC 1,5/..-ST
Pitch	3.5 mm
Number of positions	14
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted (L)
Screw thread	M2
Tightening torque	0.22 Nm ... 0.25 Nm
Locking	without

**5.1 Connection capacity**

Conductor cross section, solid	0.14 mm <sup>2</sup> to 1.5 mm <sup>2</sup>
Conductor cross section, flexible	0.14 mm <sup>2</sup> to 1.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil	28 to 16
2 conductors with same cross section, solid	0.08 mm <sup>2</sup> to 0.5 mm <sup>2</sup>
2 conductors with same cross section, stranded	0.08 mm <sup>2</sup> to 0.75 mm <sup>2</sup>
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> to 1.5 mm <sup>2</sup>
Conductor cross section flexible, with ferrule with plastic sleeve	0.25 mm <sup>2</sup> to 0.5 mm <sup>2</sup>
2 conductors with same cross section, stranded, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> to 0.34 mm <sup>2</sup>
2 conductors with same cross section, stranded, with TWIN ferrules with plastic sleeve	0.5 mm <sup>2</sup> to 0.5 mm <sup>2</sup>
Cylindrical gauge a x b / diameter	2.4 mm x 1.5 mm / 1.6 mm
Stripping length	7 mm

**5.2 Material data**

<b>Material of metal parts</b>		
Note	WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201	
Contact material	Cu alloy	
Terminal point surface	Sn 4 µm ... 8 µm	
Surface contact area	Sn 4 µm ... 8 µm	
Surface characteristics	hot-dip tin-plated	
<b>Insulating material data</b>		
Insulating material	Housing	Housing
CTI according to IEC 60112	PA	
Flammability rating according to UL 94	600	
Flammability rating according to UL 94	V0	
Color	green (6021)	
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	

**6 Dimensions**

**1840489 MC 1,5/14-ST-3,5**

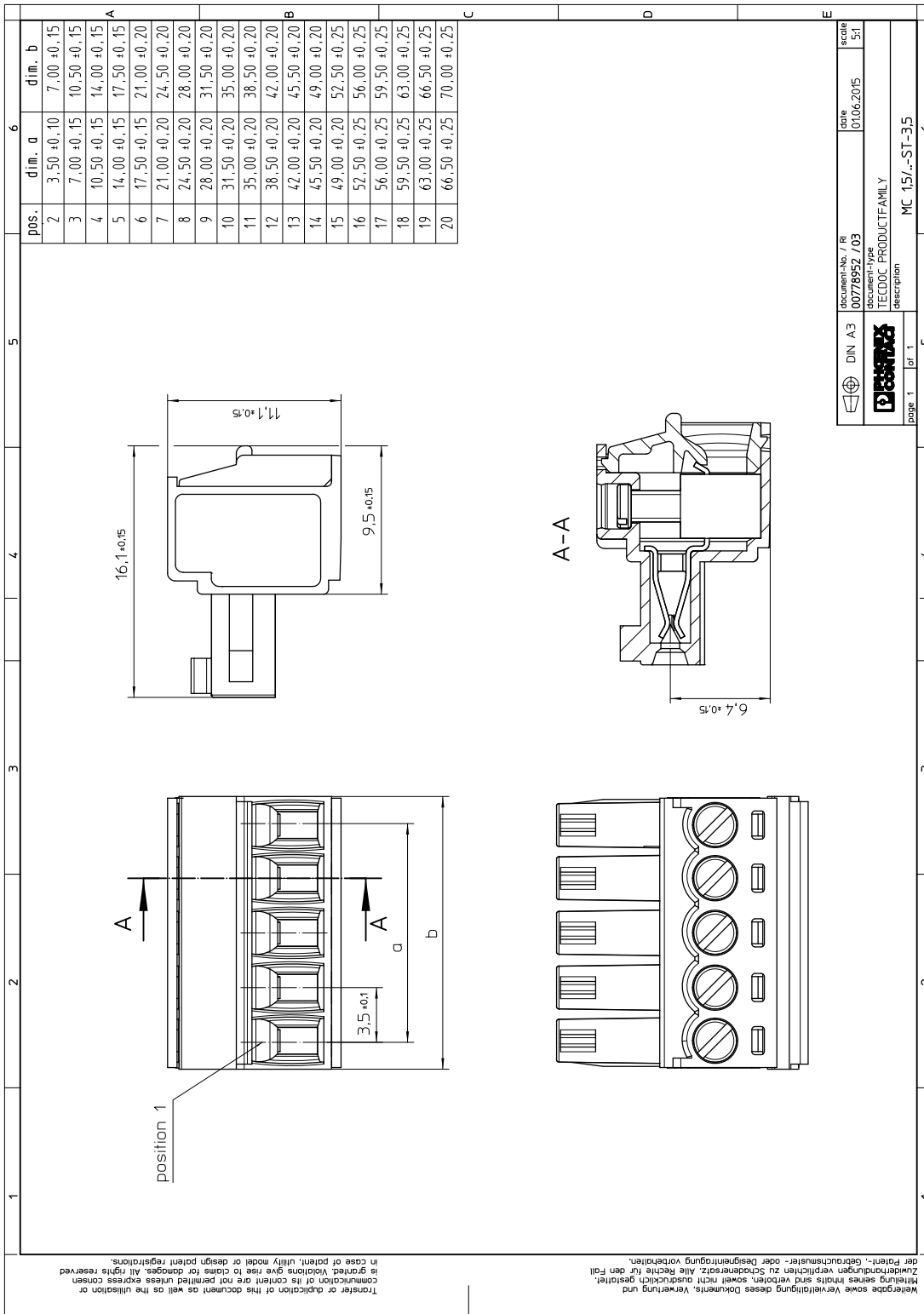
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**6.1 Dimensions for the product**

Length	16.1 mm
Width	49 mm
Total height	11.1 mm
Dimension a	45.5 mm

1840489 MC 1,5/14-ST-3,5

7 Series drawing



**1840489 MC 1,5/14-ST-3,5****8 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	50

**9 Application****9.1 Temperature limit values**

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

**1840489 MC 1,5/14-ST-3,5****10 Mechanical tests**

Mechanical test group A	
Specification	IEC 61984:2008-10
Visual examination	Test passed
Specification	IEC 60512-1-1:2002-02
Dimensional test	Test passed
Specification	IEC 60512-1-2:2002-02
Resistance of marking	Test passed
Specification	IEC 60068-2-70:1995-12
Insertion and withdrawal force	Test passed
Specification	IEC 60512-13-2:2006-02
No. of cycles	25
Insertion strength per pos. approx.	6 N
Withdraw strength per pos. approx.	4 N
Polarization and coding	Test passed
Specification	IEC 60512-13-5:2006-02
Test force	20 N
Contact retention in insert	Test passed
Specification	IEC 60512-15-1:2008-05
Test force per pos.	24.5 N

**10.1 Termination and connection method**

Specification	IEC 60999-1:1999-11
Check for damage to conductor or loosening	Test passed

**10.2 Pull-out test**

Termination and connection method: pull-out test	
Specification	IEC 60999-1:1999-11
Result	Test passed
Conductor cross section/conductor type/tractive force actual value	0.14 mm <sup>2</sup> / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.14 mm <sup>2</sup> / stranded / > 10 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm <sup>2</sup> / solid / > 40 N
Conductor cross section/conductor type/tractive force actual value	1.5 mm <sup>2</sup> / stranded / > 40 N
Conductor cross section/conductor type/tractive force actual value	AWG 16 / stranded / > 40 N

**1840489 MC 1,5/14-ST-3,5****11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	8 A / 1.5 mm <sup>2</sup>
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	1.3 mΩ
Degree of pollution	2

**11.2 Air and creepage distances**

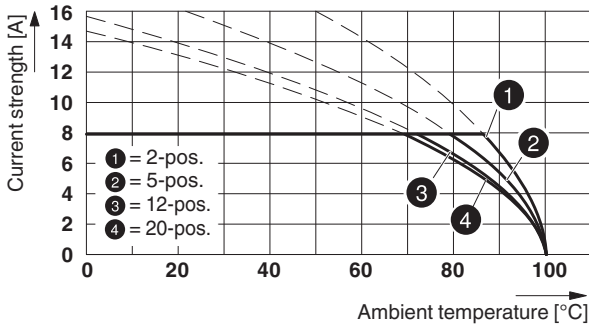
Component	Plug component		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	160 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Degree of pollution	3	2	2
Overvoltage category	III	III	II
Minimum clearance case A (inhomogeneous field)	1.5 mm	1.5 mm	1.5 mm
Minimum value of the creepage path requirement in acc. with table	2 mm	1.5 mm	1.6 mm

1840489 MC 1,5/14-ST-3,5

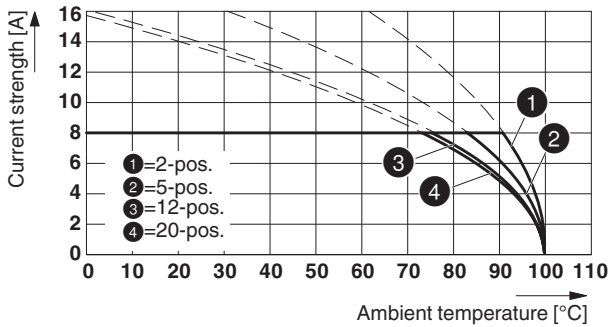
12 Current carrying capacity/derating curves

Specification	IEC 61984:2008-10
Note	Representation based on IEC 60512-5-2:2002-02
Reduction factor	0.8
Number of positions	See diagram
Conductor cross section	1.5 mm <sup>2</sup>

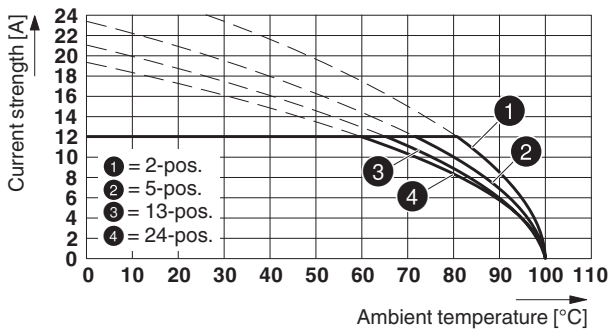
Type: MC 1,5/...-ST-3,5 with MC 1,5/...-G-3,5



Type: MC 1,5/...-ST-3,5 with MCV 1,5/...-G-3,5



Type: MC 1,5/...-ST(F)-3,5 with MC 1,5/...-G(F)-3,5 P... THR



Type: MC 1,5/ 5-ST-3,5 with MCD 1,5/ 5-G3-3,5 P26 THR MAG

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**1840489 MC 1,5/14-ST-3,5****13 Environmental and durability tests****13.1 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

**14 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

**15 Approvals**


<b>CSA</b>				
Use group	B	D		
mm <sup>2</sup> /AWG/kcmil	28-16	28-16		
Voltage	300 V	300 V		
Current	8 A	8 A		

<b>VDE Gutachten mit Fertigungsüberwachung</b>				
mm <sup>2</sup> /AWG/kcmil	0.2-1.5			
Voltage	160 V			
Current	8 A			

<b>IECEE CB Scheme</b>				
mm <sup>2</sup> /AWG/kcmil	0.2-1.5			
Voltage	160 V			
Current	8 A			

<b>CCA</b>				
mm <sup>2</sup> /AWG/kcmil	0.2-1.5			
Voltage	160 V			
Current	8 A			

# 1840489 MC 1,5/14-ST-3,5

cULus Recognized 

Use group	B	D		
mm <sup>2</sup> /AWG/kcmil	30-14	30-14		
Voltage	300 V	300 V		
Current	8 A	8 A		

EAC 

**1840489 MC 1,5/14-ST-3,5****16 Commercial Data**

Order No.	1840489
Type	MC 1,5/14-ST-3,5
Pieces per package	50
Net weight	9.274 g
GTIN	4017918111649
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

**17 corresponding headers**

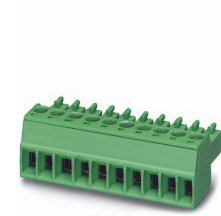
Order No.	Type
1843729	MCV 1,5/14-G-3,5
1844333	MC 1,5/14-G-3,5
1897212	EMC 1,5/14-G-3,5
1911130	EMCV 1,5/14-G-3,5
1952908	MCDNV 1,5/14-G1-3,5 P26THR
1953130	MCDNV 1,5/14-G1-3,5 P14THR
1953839	MCDN 1,5/14-G1-3,5 P26THR
1954058	MCDN 1,5/14-G1-3,5 P14THR

**18 Accessories**

Description	Order No.	Type
	0804073	SK 3,5/2,8:FORTL.ZAHLEN
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
	0803883	SK U/2,8 WH:UNBEDRUCKT
Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm	1051993	B-STIFT

## 1840489 MC 1,5/14-ST-3,5

## 19 Combination tests



MC 1,5/...-ST



MC 1,5/...-G



MCV 1,5/...-G



MC 1,5/...-G-THR



MCD 1,5/...-G3-THR

Mechanical tests (A)				
Insertion/withdrawal force per position	approx. 6 N / 4 N	approx. 6 N / 4 N	approx. 8 N / 5 N	approx. 7 N / 4 N
Polarization when inserted Requirement >20 N	Test passed	Test passed	Test passed	Test passed
Contact holder in insert Requirements >20 N	Test passed	Test passed	Test passed	Test passed
Durability tests (B)				
Contact resistance R <sub>1</sub>	1.3 mΩ	1.8 mΩ	1.3 mΩ	2.2 mΩ
Insertion/withdrawal cycles	25	25	25	25
Contact resistance R <sub>2</sub>	1.4 mΩ	2.2 mΩ	1.3 mΩ	2.2 mΩ
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	2.95 kV	2.95 kV	2.95 kV	2.95 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	1.39 kV	1.39 kV	1.39 kV	1.39 kV
Insulation resistance Requirements > 5 MΩ	> 1.6 TΩ	54 TΩ	> 4 TΩ	> 0.2 TΩ
Thermal tests (C)				
Tested number of positions	20	20	20	5
Tested conductor cross section	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>
Test current	8 A DC	8 A DC	8 A	8 A
Upper limiting temperature Requirements < 100°C	Test passed	Test passed	Test passed	Test passed
Climatic tests (D)				
Test sequence 1: low temperature storage	-40 °C/2 h	-40 °C/2 h	-40 °C/2 h	-40 °C/2 h
Test sequence 2: heat storage	100 °C/168 h	100 °C/168 h	100 °C/168 h	100 °C/168 h
Test sequence 3: noxious gas storage (ISO 6988)	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> / 40 °C/1 cycle	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> / 40 °C/1 cycle	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> / 40 °C/1 cycle	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> / 40 °C/1 cycle
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	2.95 kV	2.95 kV	2.95 kV	2.95 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	1.39 kV	1.39 kV	1.39 kV	1.39 kV
Environmental and endurance tests (E)				
Specification	IEC 61984:2008-10	IEC 61984:2008-10	IEC 61984:2008-10	IEC 61984:2008-10
Degree of protection	Finger safety with IP20 test finger	Finger safety with IP20 test finger	Finger safety with IP20 test finger	Finger safety with IP20 test finger