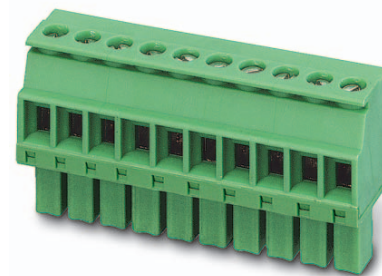


Order No.: 1827046

Type: MCVW 1,5/ 9-ST-3,81

Plug component, Screw connection with tension sleeve



The figure shows a 10-position version of the product

1 Main features



- | | | | |
|---------------------------|--------------------------------------|------------------------|---------------------|
| • No. of pos. | 9 | • Nominal current | 8 A |
| • Conductor cross section | 1.5 mm ² | • Nominal voltage | 160 V |
| • Color | green | • Connection direction | -90 ° |
| • Pitch | 3.81 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/1827046

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1827046 MCVW 1,5/ 9-ST-3,81

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



1827046 MCVW 1,5/ 9-ST-3,81**5 item properties**

Order No.	1827046
Type	MCVW 1,5/ 9-ST-3,81
Type of contact	Female connector
Range of articles	MCVW 1,5/...-ST
Pitch	3.81 mm
Number of positions	9
Connection method	Screw connection with tension sleeve
Drive form screw head	Slotted
Screw thread	M2
Tightening torque	0.22 Nm ... 0.25 Nm
Locking	without

5.1 Connection capacity

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

5.2 Material data

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	Sn 4 µm ... 8 µm	
Surface contact area	Sn 4 µm ... 8 µm	
Surface characteristics	hot-dip tin-plated	
Insulating material data		
Insulating material	Housing	Housing
CTI according to IEC 60112	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

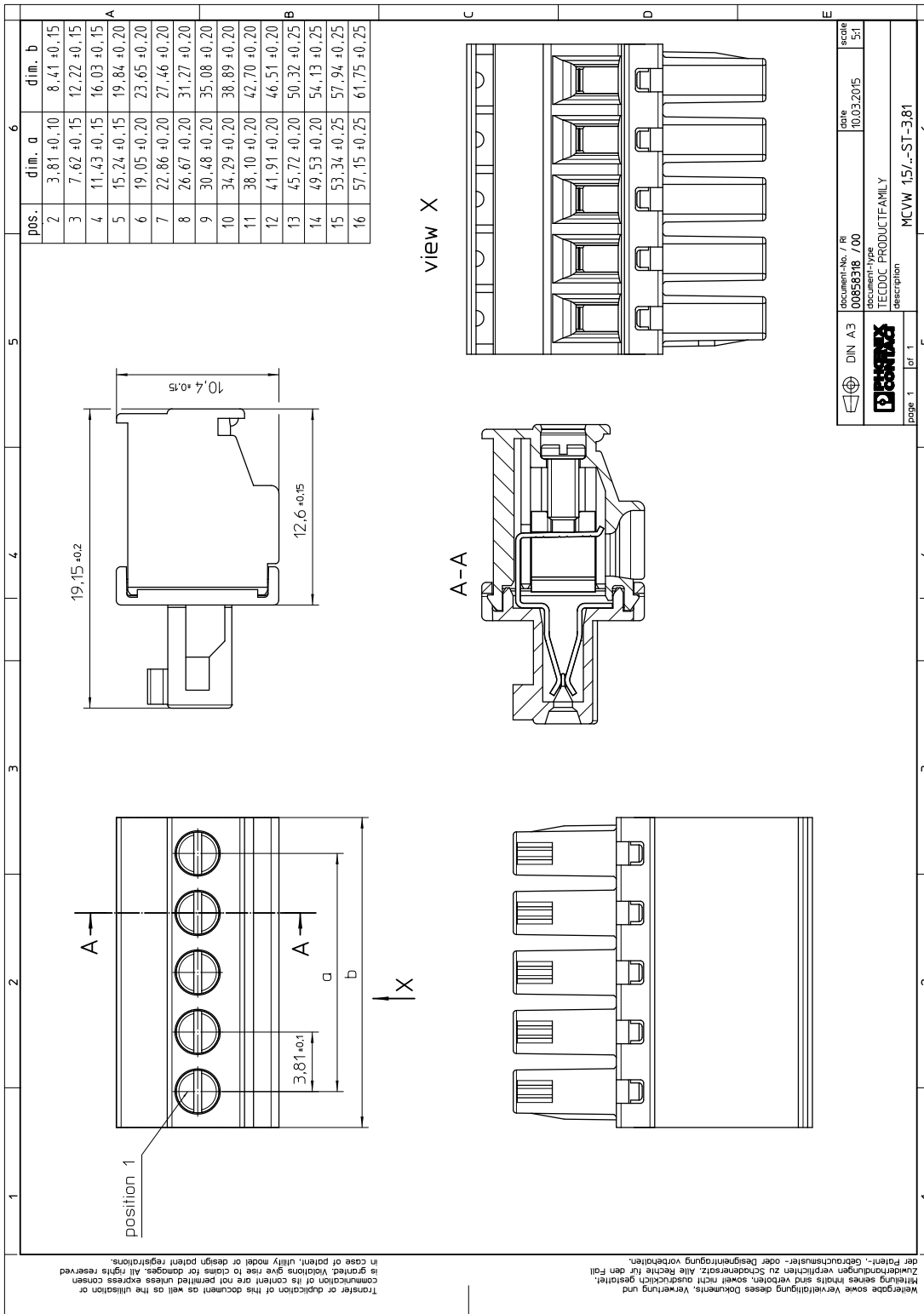
1827046 MCVW 1,5/ 9-ST-3,81

6.1 Dimensions for the product

Length	10.4 mm
Width	35.08 mm
Total height	19.15 mm
Dimension a	30.48 mm

1827046 MCVW 1,5/ 9-ST-3,81

7 Series drawing



1827046 MCVW 1,5/ 9-ST-3,81**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)

1827046 MCVW 1,5/ 9-ST-3,81**10 Mechanical tests**

Mechanical test group A	
Specification	IEC 61984:2008-10
Visual test	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.	8 N
Withdraw strength per pos. approx.	6 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.	22 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 ² / solid / > 10 N
Conductor cross section/conductor type/tractive force actual value	0.14 mm ² / stranded / > 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 / stranded / > 40 N

1827046 MCVW 1,5/ 9-ST-3,81**11 Electrical tests****11.1 Electrical data**

Rated current / conductor cross section	8 A / 1.5 mm ²
Rated insulation voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV
Contact resistance	3.7 mΩ
Degree of pollution	2

11.2 Air and creepage distances

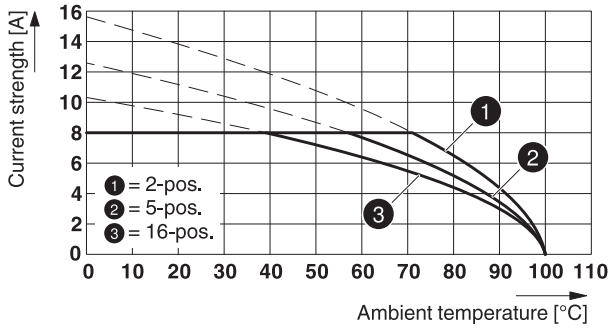
Component	Plug component		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	I		
Comparative tracking index (IEC 60112:2003-01)	CTI 600		
Rated insulation voltage	160 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Degree of pollution	3	2	2
Overvoltage 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

1827046 MCVW 1,5/ 9-ST-3,81

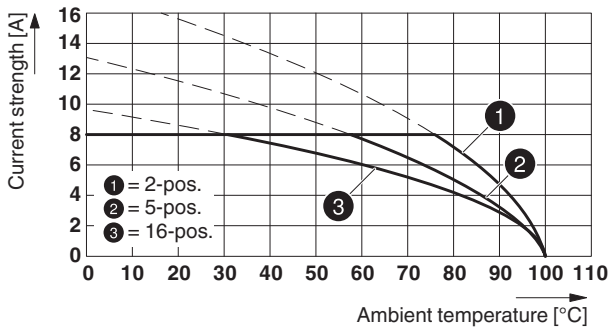
12 Current carrying capacity/derating curves

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 ²

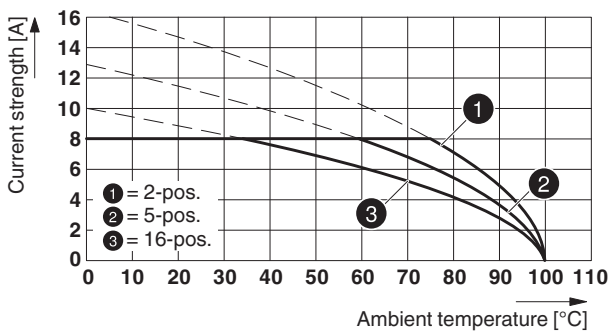
Type: MCVW 1,5/...-ST-3,81 with MC 1,5/...-G-3,81



Type: MCV(W/R) 1,5/...-ST-3,81 with MCD 1,5/...-G1-3,81



Type: MCV(W/R) 1,5/...-ST-3,81 with MCDV 1,5/...-G1-3,81



Type: MCV(W/R) 1,5/...-STF-3,81 with IMC 1,5/...-ST-3,81

88457_1000_en

1827046 MCVW 1,5/ 9-ST-3,81**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

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

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

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

CCA				
mm ² /AWG/kcmil	0.2-1.5			
Voltage	160 V			
Current	8 A			

1827046 MCVW 1,5/ 9-ST-3,81

cULus Recognized 

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

EAC 

1827046 MCVW 1,5/ 9-ST-3,81**16 Commercial Data**

Order No.	1827046
Type	MCVW 1,5/ 9-ST-3,81
Pieces per package	50
Net weight	7.038 g
GTIN	4017918105297
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

17 corresponding headers

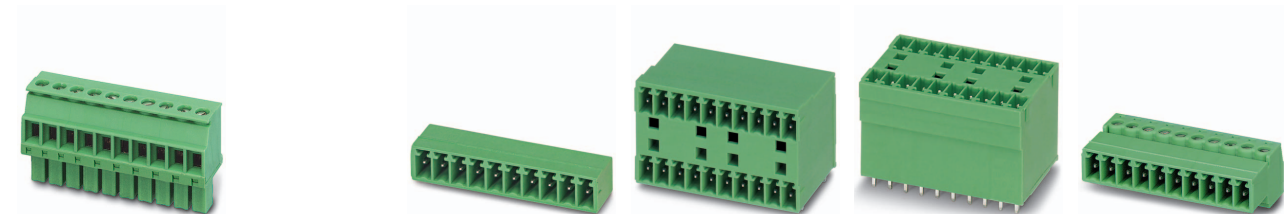
Order No.	Type
1707078	MCV 1,5/ 9-G-3,81 P14 THR
1707492	MCV 1,5/ 9-G-3,81 P26 THR
1713567	MCV 1,5/ 9-G-3,81 P26 THRR56
1782640	MC 1,5/ 9-G-3,81 P20 THRR56
1803345	MC 1,5/ 9-G-3,81
1803497	MCV 1,5/ 9-G-3,81
1827347	SMC 1,5/ 9-G-3,81
1830020	MCD 1,5/ 9-G-3,81
1830473	MCDV 1,5/ 9-G-3,81
1837502	MCVDU 1,5/ 9-G-3,81
1843143	MCD 1,5/ 9-G1-3,81
1847806	MCDV 1,5/ 9-G1-3,81
1860715	EMCV 1,5/ 9-G-3,81
1861714	MCO 1,5/ 9-GR-3,81
1861798	MCO 1,5/ 9-GL-3,81
1897872	EMC 1,5/ 9-G-3,81
1908839	MC 1,5/ 9-G-3,81 THT
1943823	MC 1,5/ 9-G-3,81 THT-R56

18 Accessories

Description	Order No.	Type
	0804109	SK 3,81/2,8: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
	0805056	SK 3,81/2,8:SO
Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm	1051993	B-STIFT
Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch	1733495	EBPL 2-3,81
Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch	1733505	EBPL 3-3,81
Insertion bridge for plugs featuring a screw connection with a 3.81 mm pitch	1733518	EBPL 4-3,81

1827046 MCVW 1,5/ 9-ST-3,81

19 Combination tests



MCVW 1,5/..-ST	MC 1,5/..-G	MCD 1,5/..-G1	MCDV 1,5/..-G1	IMC 1,5/..-ST
Specification	IEC 61984	IEC 61984	IEC 61984	IEC 61984
Mechanical tests (A)				
Insertion/withdrawal force per position	approx. 8 N / 6 N	approx. 8 N / 6 N	approx. 8 N / 6 N	approx. 7 N / 3 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 ₁	3.7 mΩ		4 mΩ	4 mΩ
Insertion/withdrawal cycles	25	25	25	25
Contact resistance R ₂	3.9 mΩ		4.3 mΩ	4.1 mΩ
Rated impulse voltage at sea level Voltage waveform ≥ (1.2/50 μs)	4.8 kV	2.95 kV	2.95 kV	2.95 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	2.21 kV	1.39 kV	1.39 kV	1.39 kV
Insulation resistance Requirements > 5 MΩ	> 0.2 TΩ	> 0.4 TΩ	> 0.4 TΩ	> 0.2 TΩ
Thermal tests (C)				
Tested number of positions	16	16	16	16
Tested conductor cross section	1.5 mm ²	1.5 mm ²	1.5 mm ²	1.5 mm ²
Test current	8 A	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 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	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	2.95 kV	2.95 kV	2.95 kV
Power-frequency withstand voltage Voltage waveform ≥ (50/60 Hz)	2.21 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