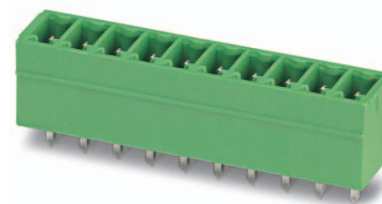


**Order No.: 1843664**

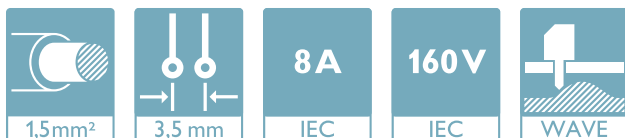
**Type: MCV 1,5/ 8-G-3,5**

**Header**



The figure shows a 10-position version of the product

## 1 Main features



- |                         |                     |                        |                     |
|-------------------------|---------------------|------------------------|---------------------|
| • No. of pos.           | 8                   | • Nominal current      | 8 A                 |
| • Nominal cross section | 1.5 mm <sup>2</sup> | • Nominal voltage      | 160 V               |
| • Color                 | green               | • Connection direction | 90 °                |
| • Pitch                 | 3.5 mm              | • Type of packaging    | packed in cardboard |
| • Mounting type         | Wave soldering      |                        |                     |

## 2 Your advantages

- ✓ Well-known mounting principle allows worldwide use
- ✓ Vertical connection enables multi-row arrangement on the PCB
- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies



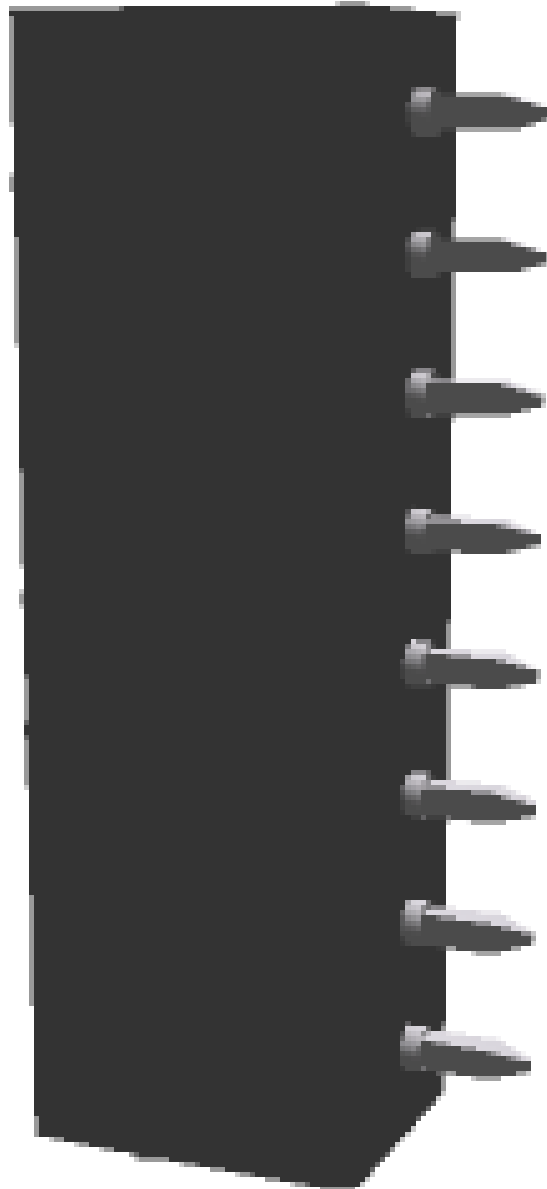
Make sure you always use the latest documentation.  
It can be downloaded at: [phoenixcontact.net/product/1843664](https://phoenixcontact.net/product/1843664)

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1843664 MCV 1,5/ 8-G-3,5

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



**1843664 MCV 1,5/ 8-G-3,5****5 item properties**

Order No.	1843664
Type	MCV 1,5/ 8-G-3,5
Type of contact	Male connector
Range of articles	MCV 1,5/...-G
Pitch	3.5 mm
Number of positions	8
Locking	without
Mounting type	Wave soldering
Pin layout	Linear pinning

**5.1 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	
Surface contact area	Ni 1 µm ... 3 µm , Sn 3 µm ... 5 µm	
Soldering area surface	Ni 1 µm ... 3 µm , Sn 3 µm ... 5 µm	
Surface characteristics	Tin-plated	
<b>Insulating material data</b>	<b>Housing</b>	<b>Housing</b>
Insulating material	PBT	
CTI according to IEC 60112	225	
Flammability rating according to UL 94	V0	
Color	green (6021)	

**6 Dimensions****6.1 Dimensions for the product**

Length	7.25 mm
Width	29.4 mm
Height (without solder pin)	9.2 mm
Total height	12.6 mm
Solder pin [P]	3.4 mm
Dimension a	24.5 mm

**6.2 Dimensions for PCB design**

Hole diameter	1.2 mm
Pin dimensions	0,8 x 0,8 mm

# 7 Series drawing

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The drawing shows a contact strip with various dimensions and cross-sections. Key dimensions include:
 

- Strip width: 7.25 ±0.15
- Strip thickness: 3 ±0.01
- Strip length: 9.2 ±0.15
- Strip height: 2.45 ±0.01
- Strip width: 3.5 ±0.01
- Strip length: 2.45 ±0.01
- Strip width: 3.5 ±0.01
- Strip length: 2.45 ±0.01

 Cross-section A-A shows the contact strip with a diameter of 0.8 ±0.03. Cross-section B-B shows the contact strip with a diameter of 1.05 ±0.03. The drawing also includes a table of dimensions and a table of technical specifications.

pos.	dim. a	dim. b
2	3.50 ±0.10	8.40 ±0.15
3	7.00 ±0.15	11.90 ±0.15
4	10.50 ±0.15	15.40 ±0.15
5	14.00 ±0.15	18.90 ±0.20
6	17.50 ±0.15	22.40 ±0.20
7	21.00 ±0.20	25.90 ±0.20
8	24.50 ±0.20	29.40 ±0.20
9	28.00 ±0.20	32.90 ±0.20
10	31.50 ±0.20	36.40 ±0.20
11	35.00 ±0.20	39.90 ±0.20
12	38.50 ±0.20	43.40 ±0.20
13	42.00 ±0.20	46.90 ±0.20
14	45.50 ±0.20	50.40 ±0.25
15	49.00 ±0.20	53.90 ±0.25
16	52.50 ±0.25	57.40 ±0.25
17	56.00 ±0.25	60.90 ±0.25
18	59.50 ±0.25	64.40 ±0.25
19	63.00 ±0.25	67.90 ±0.25
20	66.50 ±0.25	71.40 ±0.25

DIN A3	document-no. / ri	00655343 / 00	date	25.02.2015	scale	1:5:1
TECDOC 2D-PRODUCTFAMILY	document-type					
page 1	of 1	description				MCV 1,5/...-G-3,5

**1843664 MCV 1,5/ 8-G-3,5****8 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	100

**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)

**1843664 MCV 1,5/ 8-G-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.	20 N

**1843664 MCV 1,5/ 8-G-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	1.8 mΩ
Degree of pollution	2

**11.2 Air and creepage distances**

Component	Header		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	IIIa		
Comparative tracking index (IEC 60112:2003-01)	CTI 225		
Rated insulation voltage	160 V	160 V	250 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	2.5 mm	1.6 mm	2.5 mm

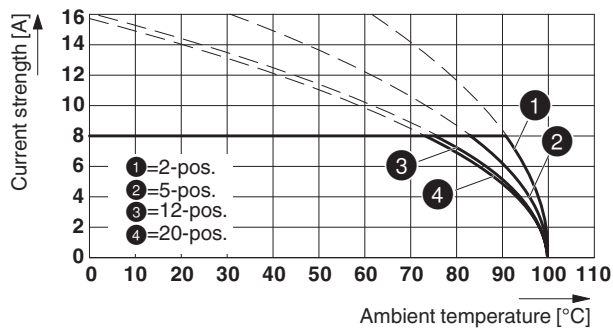


## 1843664 MCV 1,5/ 8-G-3,5

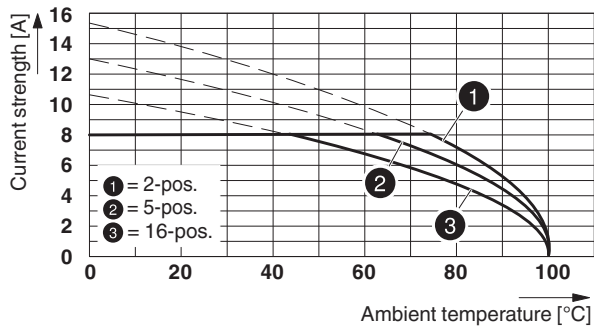
## 12 Current carrying capacity/derating curves

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>
Note	

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



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




**1843664 MCV 1,5/ 8-G-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
Protection against electric shock	Not encapsulated - touch-proof when inserted
Protection class	
Protective conductor	without PE
Lock	no

**15 Approvals**

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

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

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

CCA				
mm <sup>2</sup> /AWG/kcmil				
Voltage	160 V			
Current	8 A			

# 1843664 MCV 1,5/ 8-G-3,5

cULus Recognized 

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

EAC 

**1843664 MCV 1,5/ 8-G-3,5****16 Commercial Data**

Order No.	1843664
Type	MCV 1,5/ 8-G-3,5
Pieces per package	100
Net weight	2 g
GTIN	4017918112813
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

**17 corresponding plugs**

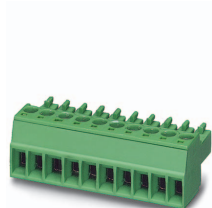
Order No.	Type
1772676	TFMC 1,5/ 8-ST-3,5
1840421	MC 1,5/ 8-ST-3,5
1862917	MCVW 1,5/ 8-ST-3,5
1863217	MCVR 1,5/ 8-ST-3,5
1939963	FK-MCP 1,5/ 8-ST-3,5
1952322	FMC 1,5/ 8-ST-3,5

**18 Accessories**

Description	Order No.	Type
	0803883	SK U/2,8 WH:UNBEDRUCKT
	0804073	SK 3,5/2,8:FORTL.ZAHLEN
	0805030	SK 3,5/2,8:SO
Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm	1051993	B-STIFT
Coding profile, is inserted into the slot on the plug or inverted header, red insulating material	1734634	CP-MSTB

## 1843664 MCV 1,5/ 8-G-3,5

## 19 Combination tests

**MCV 1,5/..-G****MC 1,5/..-ST****MCVW 1,5/..-ST****Mechanical tests (A)**

Insertion/withdrawal force per position	approx. 6 N / 4 N	approx. 6 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 $R_1$	1.8 m $\Omega$	3.5 m $\Omega$		
Insertion/withdrawal cycles	25	25		
Contact resistance $R_2$	2.2 m $\Omega$	3.7 m $\Omega$		
Rated impulse voltage at sea level Voltage waveform $\geq (1.2/50 \mu\text{s})$	2.95 kV	2.95 kV		
Power-frequency withstand voltage Voltage waveform $\geq (50/60 \text{ Hz})$	1.39 kV	1.39 kV		
Insulation resistance Requirements > 5 M $\Omega$	54 T $\Omega$	45 T $\Omega$		

**Thermal tests (C)**

Tested number of positions	20	16		
Tested conductor cross section	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>		
Test current	8 A DC	8 A DC		
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 <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 $\geq (1.2/50 \mu\text{s})$	2.95 kV	2.95 kV		
Power-frequency withstand voltage Voltage waveform $\geq (50/60 \text{ Hz})$	1.39 kV	1.39 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		