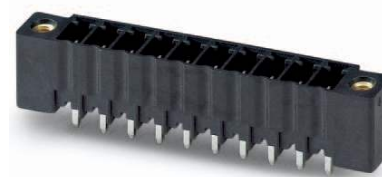


# Data sheet

Order No.: 1779064

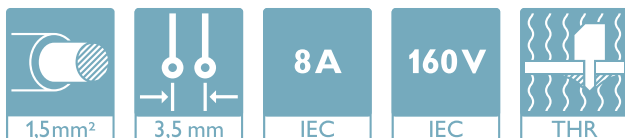
Type: MCV 1,5/ 2-GF-3,5 P26 THR

Header, Reflow/wave soldering



The figure shows a 10-position version of the product

## 1 Main features



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

## 2 Your advantages

- ✓ Designed for integration into the SMT soldering process
- ✓ Screwable flange for superior mechanical stability
- ✓ 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.

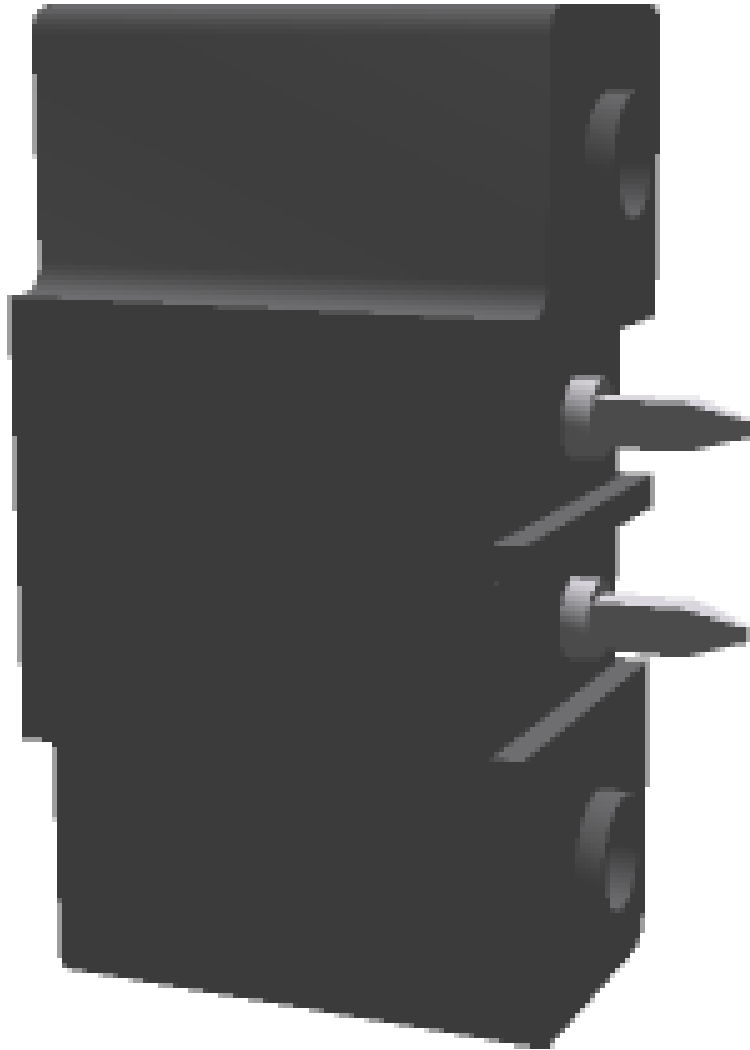
It can be downloaded at: [phoenixcontact.net/product/1779064](https://phoenixcontact.net/product/1779064)

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1779064 MCV 1,5/ 2-GF-3,5 P26 THR

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



**1779064 MCV 1,5/ 2-GF-3,5 P26 THR****5 item properties**

Order No.	1779064
Type	MCV 1,5/ 2-GF-3,5 P26 THR
Type of contact	Male connector
Range of articles	MCV 1,5/...-GF-THR
Pitch	3.5 mm
Number of positions	2
Locking	Threaded flange
Mounting type	THR soldering
Pin layout	Linear pinning
Product note	User information and design recommendations for through hole reflow technology can be found under "Downloads"

**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 1.3 µm ... 3 µm , Sn 3 µm ... 5 µm	
Soldering area surface	Ni 1.3 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	LCP	
CTI according to IEC 60112	225	
Flammability rating according to UL 94	V0	
Color	black (9005)	

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

Length	6.9 mm
Width	17.3 mm
Height (without solder pin)	9.2 mm
Total height	11.8 mm
Solder pin [P]	2.6 mm
Dimension a	3.5 mm

**6.2 Dimensions for PCB design**

Hole diameter	1.4 mm
Pin dimensions	0,8 x 0,8 mm

**1779064 MCV 1,5/ 2-GF-3,5 P26 THR****7 Series drawing****8 Packaging information**

Type of packaging	packed in cardboard
Pieces per package	100

**9 Application****9.1 Processing notes**

Process	Reflow/wave soldering
Specification	Following IPC/JEDEC J-STD-020E:2014-12
Specification	Following IEC 61760-1:2006-04
Specification	Following IEC 60068-2-58:2015-03
Moisture Sensitive Level	MSL 1
Classification temperature $T_c$	max. 260 °C
Solder cycles in the reflow	3
swash circumference	see dimensional drawing

**9.2 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)

**1779064 MCV 1,5/ 2-GF-3,5 P26 THR****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.	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.	20.5 N

**1779064 MCV 1,5/ 2-GF-3,5 P26 THR****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	1.2 mΩ
Degree of pollution	2

**11.2 Air and creepage distances**

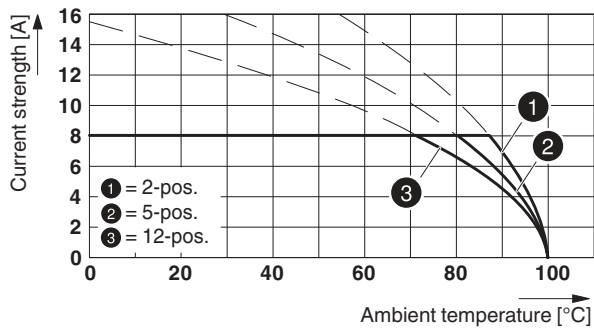
Component	Header		
Specification	IEC 60664-1:2007-04		
Mains type	unearthed mains		
Insulating material group	IIIa		
Comparative tracking index (IEC 60112:2003-01)	CTI 225		
Rated insulation voltage	160 V	160 V	250 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Degree of pollution	3	2	2
Overvoltage category	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

1779064 MCV 1,5/ 2-GF-3,5 P26 THR

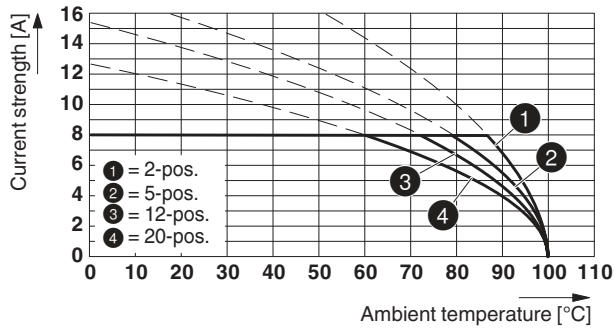
12 Current carrying capacity/derating curves

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(F)-3,5 with MCV 1,5/...-G(F)-3,5 P... THR



Type: FMC 1,5/...-STF-3,5 with MCV 1,5/...-GF-3,5 P... THR





**1779064 MCV 1,5/ 2-GF-3,5 P26 THR****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****VDE Gutachten mit Fertigungsüberwachung **

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

**cULus Recognized **

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

**IECEE CB Scheme **

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

**EAC **

**1779064 MCV 1,5/ 2-GF-3,5 P26 THR****16 Commercial Data**

Order No.	1779064
Type	MCV 1,5/ 2-GF-3,5 P26 THR
Pieces per package	100
Net weight	1.626 g
GTIN	4046356532242
	Information that applies locally, see link on page 1
Country of origin	Information that applies locally, see link on page 1

**17 Accessories**

Description	Order No.	Type
Coding profile, is inserted into the slot on the plug or inverted header, red insulating material	1734634	CP-MSTB

## 1779064 MCV 1,5/ 2-GF-3,5 P26 THR

## 18 Combination tests

**MCV 1,5/..-GF-THR****MC 1,5/..-ST****FMC 1,5/..-STF**

Specification

IEC 61984

IEC 61984

**Mechanical tests (A)**

Insertion/withdrawal force per position

approx. 6 N / 4 N

approx. 9 N / 7 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  $R_1$ 1.2 m $\Omega$ 1.6 m $\Omega$ 

Insertion/withdrawal cycles

25

25

Contact resistance  $R_2$ 1.3 m $\Omega$ 1.7 m $\Omega$ Rated impulse voltage at sea level  
Voltage waveform  $\geq$  (1.2/50  $\mu$ s)

2.95 kV

2.95 kV

Power-frequency withstand voltage  
Voltage waveform  $\geq$  (50/60 Hz)

1.39 kV

1.39 kV

Insulation resistance  
Requirements > 5 M $\Omega$ > 1 T $\Omega$ > 22 T $\Omega$ **Thermal tests (C)**

Tested number of positions

12

20

Tested conductor cross section

1.5 mm<sup>2</sup>1.5 mm<sup>2</sup>

Test current

8 A DC

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<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycleRated impulse voltage at sea level  
Voltage waveform  $\geq$  (1.2/50  $\mu$ s)

2.95 kV

2.95 kV

Power-frequency withstand voltage  
Voltage waveform  $\geq$  (50/60 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 fingerFinger safety with IP20  
test finger