

## Feed-through header - MCVK 1,5/16-G-3,81 - 1832879

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DIN rail connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 16, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin, mounting: DIN rail

### Your advantages

- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- ✓ Direct plug-in block for DIN rail mounting
- ✓ For mounting on a DIN rail NS 15
- ✓ Well-known connection principle allows worldwide use

RoHS



### Key Commercial Data

Packing unit	50 pc
GTIN	
GTIN	4017918051617

### Technical data

#### Item properties

Brief article description	DIN rail connector
Plug-in system	MINI COMBICON
Type of contact	Male connector
Range of articles	MCVK 1,5/..-G
Pitch	3.81 mm
Number of positions	16
Connection method	Screw connection with tension sleeve
Screw thread	M2
Mounting type	DIN rail
Locking	without
Number of levels	1
Number of connections	16

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## Technical data

### Item properties

Number of potentials	16
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### Electrical parameters

Nominal current	8 A
Nom. voltage	160 V
Rated voltage	160 V
Rated voltage (III/2)	160 V
Rated voltage (II/2)	320 V
Rated surge voltage (III/3)	2.5 kV
Rated surge voltage (III/2)	2.5 kV
Rated surge voltage (II/2)	2.5 kV

### Connection capacity

Connection method	Screw connection with tension sleeve
pluggable	Yes
Conductor cross section solid	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section flexible	0.14 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section AWG / kcmil	28 ... 16
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>
2 conductors with same cross section, solid	0.14 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>
2 conductors with same cross section, flexible	0.14 mm <sup>2</sup> ... 0.75 mm <sup>2</sup>
2 conductors with same cross section, flexible, with ferrule without plastic sleeve	0.25 mm <sup>2</sup> ... 0.34 mm <sup>2</sup>
2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 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
Torque	0.22 Nm ... 0.25 Nm

### Flange specifications

Type of locking	without
Mounting flange	without

### Material data - contact

Note	WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/ JEDEC JESD 201
Contact material	Cu alloy
Surface characteristics	Tin-plated
Metal surface terminal point (top layer)	Tin (5 - 7 µm Sn)
Metal surface terminal point (middle layer)	Nickel (2 - 3 µm Ni)
Metal surface contact area (top layer)	Tin (5 - 7 µm Sn)
Metal surface contact area (middle layer)	Nickel (2 - 3 µm Ni),

### Material data - housing

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### Material data - housing

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

### Dimensions for the product

Pitch	3.81 mm
Height (without solder pin)	27 mm

### Packaging information

Type of packaging	packed in cardboard
Pieces per package	50
Denomination packing units	Pcs.

### General product information

Note	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.
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### Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 105 °C (dependent on the derating curve)

### Termination and connection method

Test for conductor damage and slackening	IEC 60999-1:1999-11
	Test passed

### Pull-out test

Pull-out test	IEC 60999-1:1999-11
	Test passed
Conductor cross section / conductor type / tensile force	0.14 mm <sup>2</sup> / solid / > 10 N
	0.14 mm <sup>2</sup> / flexible / > 10 N
	1.5 mm <sup>2</sup> / solid / > 40 N
	1.5 mm <sup>2</sup> / flexible / > 40 N

### Mechanical tests according to standard

Test specification	IEC 61984
Visual inspection	IEC 60512-1-1:2002-02
Dimension check	IEC 60512-1-2:2002-02
Resistance of inscriptions	IEC 60068-2-70:1995-12

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### Technical data

#### Mechanical tests according to standard

Insertion and withdrawal force	IEC 60512-13-2:2006-02
No. of cycles	25
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	4 N
Polarization and coding	IEC 60512-13-5:2006-02
Contact holder in insert	IEC 60512-15-1:2008-05
Test force per pos.	28 N

#### Air clearances and creepage distances

Clearances and creepage distances	IEC 60664-1:2007-04
Specification	IEC 60664-1:2007-04
Minimum clearance - inhomogeneous field (III/3)	1.5 mm
Minimum clearance - inhomogeneous field (III/2)	1.5 mm
Minimum clearance - inhomogeneous field (II/2)	1.5 mm
Minimum creepage distance value (III/3)	2 mm
Minimum creepage distance value (III/2)	1.5 mm
Minimum creepage distance value (II/2)	1.6 mm
Note on connection cross section	With connected conductor 1.5 mm <sup>2</sup> (stranded).

#### Current carrying capacity / derating curves

Caption	Type: MC 1,5/...-ST-3,81 with MCVK 1,5/...-G-3,81
Specification	IEC 61984:2008-10
Reduction factor	0.8
Note	Representation based on IEC 60512-5-2:2002-02
	For number of positions, see diagram

#### Mechanical tests (A)

Test specification	IEC 61984
Insertion strength per pos. approx.	8 N
Withdraw strength per pos. approx.	4 N
Polarization when inserted requirement >20 N	Test passed
Contact holder in insert requirements >20 N	Test passed

#### Durability tests (B)

Specification	IEC 60512-9-1:2010-03
Contact resistance R <sub>1</sub>	3.3 mΩ
Insertion/withdrawal cycles	25
Contact resistance R <sub>2</sub>	3.3 mΩ
Impulse withstand voltage at sea level	2.95 kV
Power-frequency withstand voltage	1.39 kV
Insulation resistance, neighboring positions	> 38 GΩ

#### Thermal tests (C)

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### Technical data

#### Thermal tests (C)

Specification	IEC 60512-5-1:2002-02
Number of positions	16
Conductor cross section	1.5 mm <sup>2</sup>
Test current	8 A
Upper limiting temperature requirements <100 °C	Test passed

#### Climatic tests (D)

Specification	ISO 6988:1985-02
Cold stress	-40 °C/2 h
Thermal stress	105 °C/168 h
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Impulse withstand voltage at sea level	2.95 kV
Power-frequency withstand voltage	1.39 kV

#### Environmental and durability tests (E)

Specification	IEC 61984:2008-10
Result, degree of protection, IP code	Finger safety with IP20 test finger

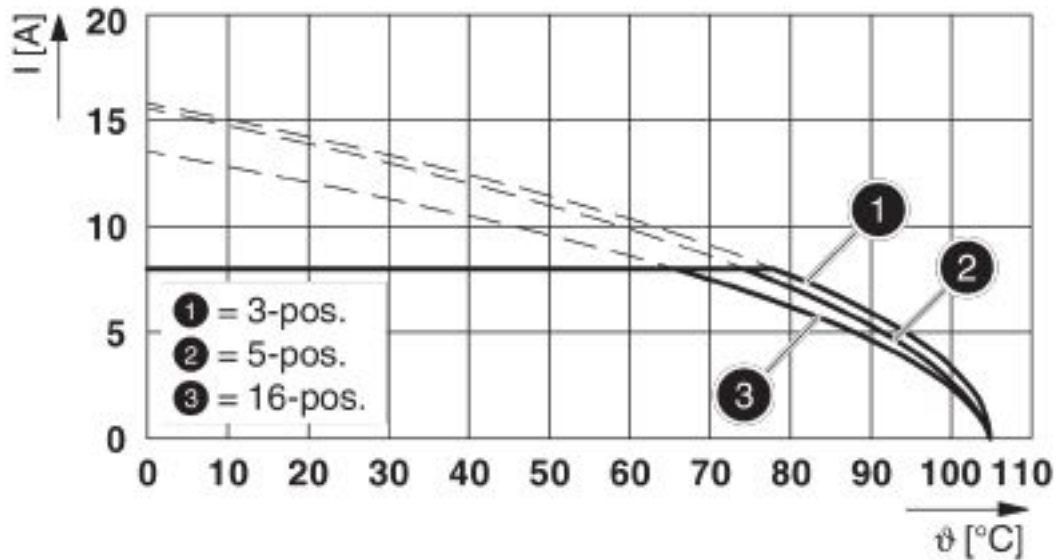
#### Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

### Drawings

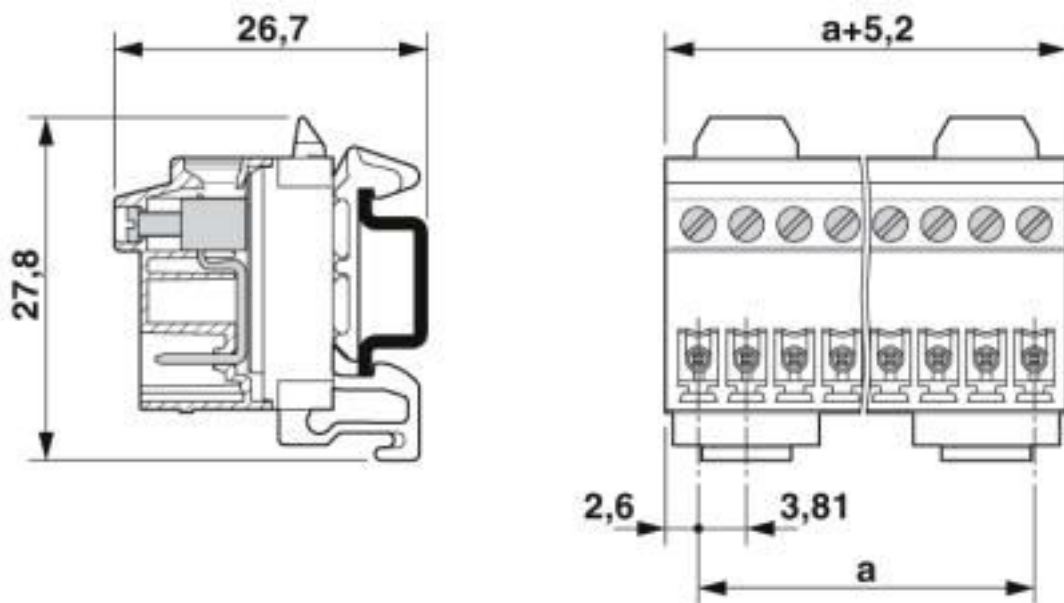
# Feed-through header - MCVK 1,5/16-G-3,81 - 1832879

Diagram



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

Dimensional drawing



## Classifications

eCl@ss

eCl@ss 10.0.1	27141106
eCl@ss 4.0	27260700
eCl@ss 4.1	27260700

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### Classifications

#### eCl@ss

eCl@ss 5.0	27141100
eCl@ss 5.1	27141100
eCl@ss 6.0	27141100
eCl@ss 7.0	27141106
eCl@ss 8.0	27141106
eCl@ss 9.0	27141106

#### ETIM

ETIM 3.0	EC001121
ETIM 4.0	EC002637
ETIM 5.0	EC001284
ETIM 6.0	EC001284
ETIM 7.0	EC001284

#### UNSPSC

UNSPSC 6.01	30211810
UNSPSC 7.0901	39121409
UNSPSC 11	39121409
UNSPSC 12.01	39121409
UNSPSC 13.2	39121409
UNSPSC 18.0	39121409
UNSPSC 19.0	39121409
UNSPSC 20.0	39121409
UNSPSC 21.0	39121409

### Approvals

#### Approvals

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#### Approvals

CSA / EAC / cULus Recognized

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#### Ex Approvals

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#### Approval details

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## Approvals

CSA		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	13631
		B	
Nominal voltage UN	300 V		
Nominal current IN	8 A		
mm <sup>2</sup> /AWG/kcmil	28-16		

EAC			B.01687
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cULus Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	E60425-20110128
		B	
Nominal voltage UN	300 V		
Nominal current IN	8 A		
mm <sup>2</sup> /AWG/kcmil	30-14		

## Accessories

### Accessories

#### Coding element

Coding profile - CP-MSTB - 1734634

Coding profile, is inserted into the slot on the plug or inverted header, red insulating material



#### Labeled terminal marker

Marker card - SK 3,81/2,8:FORTL.ZAHLEN - 0804109



Marker card, Card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... (99)100, mounting type: adhesive, for terminal block width: 3.81 mm, lettering field size: 3.81 x 2.8 mm

#### Screwdriver tools



## Feed-through header - MCVK 1,5/16-G-3,81 - 1832879

### Accessories

Screwdriver - SZS 0,4X2,5 VDE - 1205037



Screwdriver, slot-headed, VDE insulated, size: 0.4 x 2.5 x 80 mm, 2-component grip, with non-slip grip

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### Additional products

Printed-circuit board connector - MCVR 1,5/16-ST-3,81 - 1827266



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 16, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

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Printed-circuit board connector - QC 0,5/16-ST-3,81 - 1897539



PCB connector, nominal current: 6 A, rated voltage (III/2): 200 V, nominal cross section: 0.5 mm<sup>2</sup>, number of positions: 16, pitch: 3.81 mm, connection method: Displacement connection, color: green, contact surface: Tin

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Feed-through header - IMCV 1,5/16-G-3,81 - 1875564



PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 16, pitch: 3.81 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.5 mm

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Feed-through header - IMC 1,5/16-G-3,81 - 1862713



PCB headers, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 16, pitch: 3.81 mm, color: green, contact surface: Tin, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.4 mm

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### Accessories

#### Printed-circuit board connector - MCC 1/16-STZ-3,81 - 1852312



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1 mm<sup>2</sup>, number of positions: 16, pitch: 3.81 mm, connection method: Crimp connection, color: green, Corresponding female crimp contacts with current [A] and conductor cross section range [mm<sup>2</sup>] data: 5A/MCC-MT 0,2-0,35 (1859988); 8A/MCC-MT 0,5-1,0 (1859991)

#### Printed-circuit board connector - FK-MCP 1,5/16-ST-3,81 - 1851180



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 16, pitch: 3.81 mm, connection method: Push-in spring connection, color: green, contact surface: Tin

#### Printed-circuit board connector - FRONT-MC 1,5/16-ST-3,81 - 1850806



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 16, pitch: 3.81 mm, connection method: Front screw connection, color: green, contact surface: Tin

#### Printed-circuit board connector - MC 1,5/16-ST-3,81 - 1803714



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 16, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

#### Printed-circuit board connector - MCVW 1,5/16-ST-3,81 - 1827114



PCB connector, nominal current: 8 A, rated voltage (III/2): 160 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 16, pitch: 3.81 mm, connection method: Screw connection with tension sleeve, color: green, contact surface: Tin

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