

# Feed-through header - DFK-MC 1,5/16-GF-3,81 - 1829471

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Feed-through header, 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: Solder/Slip-on connection, color: green, contact surface: Tin, mounting: Direct mounting, pin layout: Linear pinning, solder pin [P]: 9.4 mm

The figure shows a 10-position version of the product

## Your advantages

- Free choice – permanent solder connection or standardized slip-on connection
- Cable connection on the inside of the device enables flexible positioning of the panel feed-through



## Key Commercial Data

Packing unit	50 pc
GTIN	
GTIN	4017918051150

## Technical data

### Item properties

Brief article description	Feed-through header
Plug-in system	MINI COMBICON
Type of contact	Male connector
Range of articles	DFK-MC 1,5/...-GF
Pitch	3.81 mm
Number of positions	16
Connection method	Solder/Slip-on connection
Mounting type	Direct mounting
Pin layout	Linear pinning
Locking	Threaded flange
Number of levels	1
Number of connections	16
Number of potentials	16

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## Technical data

### Electrical parameters

Nominal current	8 A
Nom. voltage	160 V
Max. current slip-on connection	8 A
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	Solder/Slip-on connection
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

### 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 contact area (top layer)	Tin (5 - 7 µm Sn)
Metal surface contact area (middle layer)	Nickel (2 - 3 µm Ni),
Metal surface soldering area (top layer)	Tin (5 - 7 µm Sn)
Metal surface soldering area (middle layer)	Nickel (2 - 3 µm Ni)

### 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

### Dimensions for the product

Length [ l ]	16.2 mm
Width [ w ]	75.35 mm
Height [ h ]	20.4 mm
Pitch	3.81 mm
Height (without solder pin)	11 mm
Solder pin [P]	9.4 mm
Pin dimensions	0.8 x 2.8 mm
Dimensions of slip-on connection	2,8 x 0,8 mm

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## Technical data

### Packaging information

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

### Ambient conditions

Ambient temperature (storage/transport)	-40 °C ... 70 °C
Ambient temperature (assembly)	-5 °C ... 100 °C
Ambient temperature (operation)	-40 °C ... 100 °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 / > 7 N
	0.14 mm <sup>2</sup> / flexible / > 7 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
Insertion and withdrawal force	IEC 60512-13-2:2006-02
No. of cycles	25
Insertion strength per pos. approx.	7 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.	25.5 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

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## Technical data

### Current carrying capacity / derating curves

Caption	Type: MC 1,5/...-STF-3,81 with DFK-MC 1,5/...-GF-3,81 (with flat plug)
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.	7 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>	2.2 mΩ
Insertion/withdrawal cycles	25
Contact resistance R <sub>2</sub>	2.2 mΩ
Impulse withstand voltage at sea level	2.95 kV
Power-frequency withstand voltage	1.39 kV
Insulation resistance, neighboring positions	31 TΩ

### 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 DC
Upper limiting temperature requirements <100 °C	Test passed

### Climatic tests (D)

Specification	ISO 6988:1985-02
Cold stress	-40 °C/2 h
Thermal stress	100 °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

### Standards and Regulations

Connection in acc. with standard	EN-VDE
	CSA

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## Technical data

### Standards and Regulations

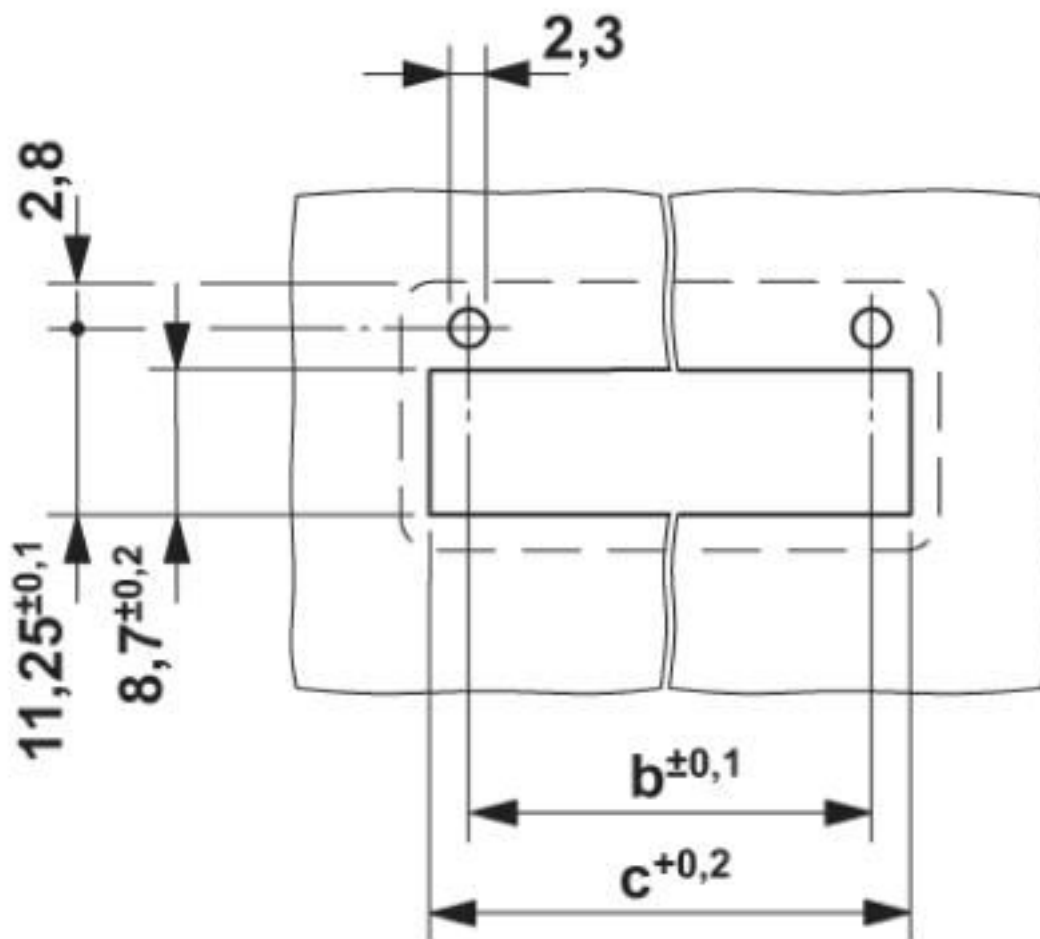
Flammability rating according to UL 94	V0
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### Environmental Product Compliance

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

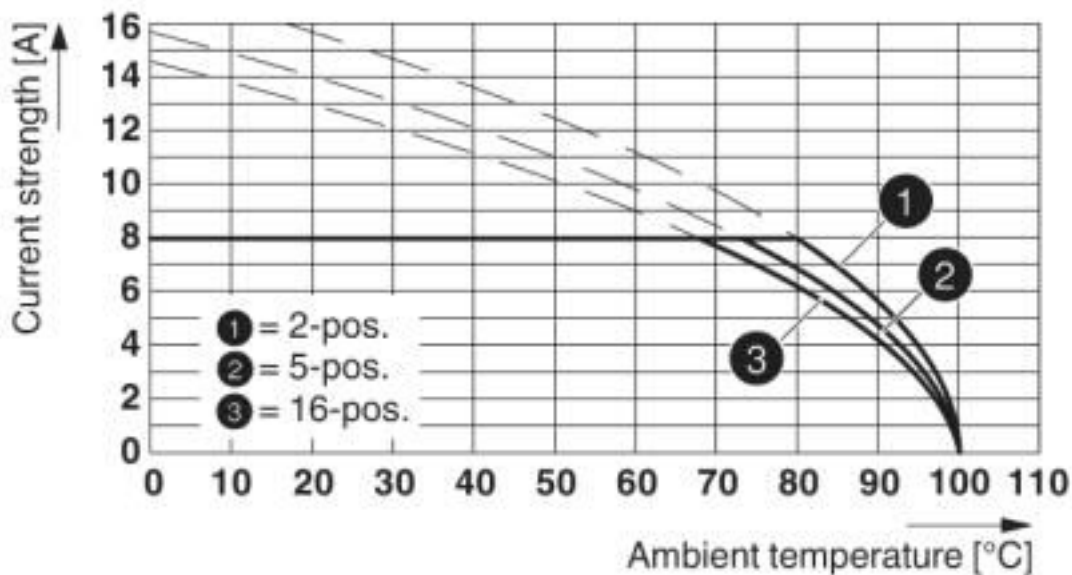
Drilling diagram



Dimension b: 6.19 mm + (no. of pos. x 3.81 mm)  
 Dimension c: Dim. b + 4.7 mm

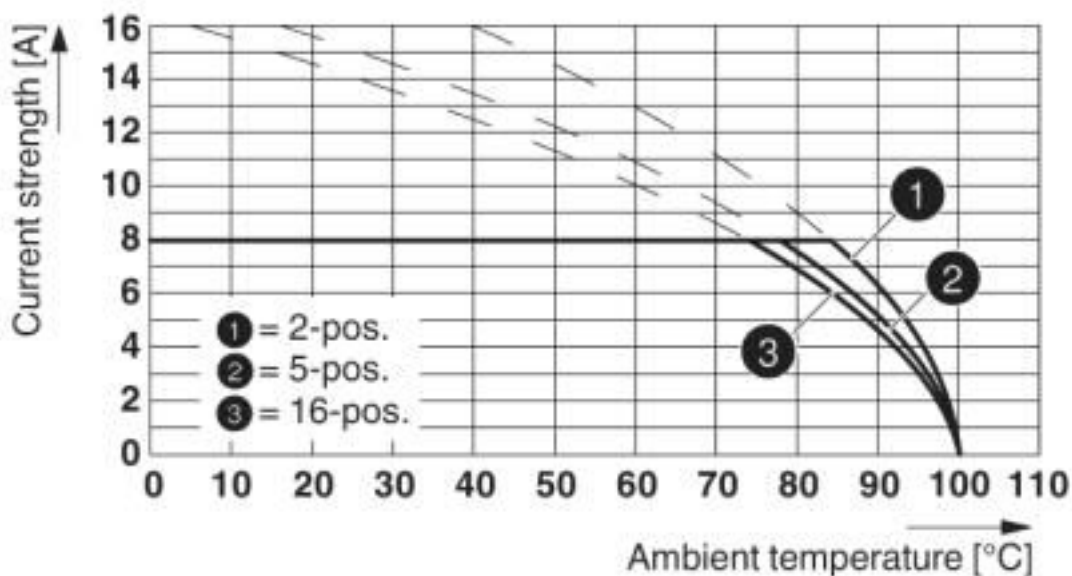
# Feed-through header - DFK-MC 1,5/16-GF-3,81 - 1829471

Diagram



Type: MC 1,5/...-STF-3,81 with DFK-MC 1,5/...-GF-3,81 (with flat plug)

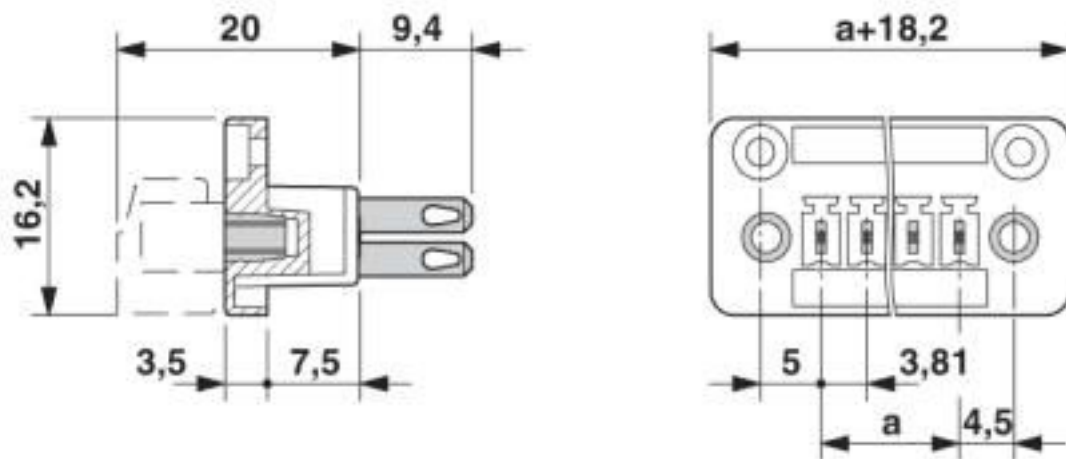
Diagram



Type: MC 1,5/...-STF-3,81 with DFK-MC 1,5/...-GF-3,81 (with solder connection)

## Feed-through header - DFK-MC 1,5/16-GF-3,81 - 1829471

Dimensional drawing



### Classifications

#### eCl@ss

eCl@ss 10.0.1	27440402
eCl@ss 4.0	27260700
eCl@ss 4.1	27260700
eCl@ss 5.0	27141100
eCl@ss 5.1	27141100
eCl@ss 6.0	27141100
eCl@ss 7.0	27141134
eCl@ss 8.0	27440402
eCl@ss 9.0	27440402

#### ETIM

ETIM 3.0	EC001283
ETIM 4.0	EC001283
ETIM 5.0	EC002637
ETIM 6.0	EC002637
ETIM 7.0	EC002637

#### UNSPSC

UNSPSC 6.01	30211810
UNSPSC 7.0901	39121409
UNSPSC 11	39121409
UNSPSC 12.01	39121409
UNSPSC 13.2	39121410
UNSPSC 18.0	39121409
UNSPSC 19.0	39121409
UNSPSC 20.0	39121409

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## Classifications

### UNSPSC

UNSPSC 21.0	39121409
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## Approvals


### Approvals


### Approvals


CSA / IECCEB CB Scheme / VDE Gutachten mit Fertigungsüberwachung / EAC / cULus Recognized

### Ex Approvals

## Approval details

CSA		<a href="http://www.csagroup.org/services-industries/product-listing/">http://www.csagroup.org/services-industries/product-listing/</a>	13631
Nominal voltage UN		150 V	
Nominal current IN		8 A	

IECEE CB Scheme		<a href="http://www.iecee.org/">http://www.iecee.org/</a>	DE1-60987-B1B2
Nominal voltage UN		160 V	
Nominal current IN		8 A	
mm <sup>2</sup> /AWG/kcmil		0.2-1.5	

VDE Gutachten mit Fertigungsüberwachung		<a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a>	40011723
Nominal voltage UN		160 V	
Nominal current IN		8 A	
mm <sup>2</sup> /AWG/kcmil		0.2-1.5	

EAC		B.01687	
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## Approvals

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	D	
Nominal voltage UN	300 V	300 V	
Nominal current IN	8 A	8 A	

## 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

#### Mounting material

Screw set - DFK-MC SS - 0710015



Screw set, for securing the header to the housing wall, consists of M2 x 8 screw, spring washer and nut, 1 piece each

#### Screwdriver tools

## Feed-through header - DFK-MC 1,5/16-GF-3,81 - 1829471

### 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 - QC 0,5/16-STF-3,81 - 1897681



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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Printed-circuit board connector - MCC 1/16-STZF-3,81 - 1852503



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)

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Printed-circuit board connector - FK-MCP 1,5/16-STF-3,81 - 1851371



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

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Printed-circuit board connector - FRONT-MC 1,5/16-STF-3,81 - 1850990



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

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## Feed-through header - DFK-MC 1,5/16-GF-3,81 - 1829471

### Accessories

#### Printed-circuit board connector - MCVW 1,5/16-STF-3,81 - 1828634



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 - MCVR 1,5/16-STF-3,81 - 1828485



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 - MC 1,5/16-STF-3,81 - 1827842



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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