

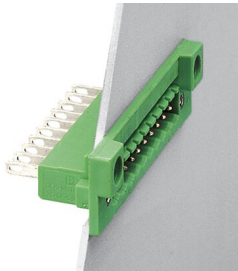
# Feed-through header - DFK-MSTB 2,5/ 3-GF



0710031

<https://www.phoenixcontact.com/us/products/0710031>

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Feed-through header, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: DFK-MSTB 2,5/..-GF, pitch: 5 mm, connection method: Solder/Slip-on connection, pin layout: Linear pinning, solder pin [P]: 9.3 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: Screw locking, mounting: Threaded flange, type of packaging: packed in cardboard

## Your advantages

- Cable connection on the inside of the device enables flexible positioning of the panel feed-through
- Free choice – permanent solder connection or standardized slip-on connection
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Screwable flange for superior mechanical stability

# Feed-through header - DFK-MSTB 2,5/ 3-GF



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## Commercial Data

Item number	0710031
Packing unit	1 pc
Minimum order quantity	50 pc
Sales Key	A01
Product Key	AACWAB
Catalog Page	Page 353 (C-1-2013)
GTIN	4017918005061
Weight per Piece (including packing)	4.8 g
Weight per Piece (excluding packing)	4.219 g
Customs tariff number	85366930
Country of origin	DE

# Feed-through header - DFK-MSTB 2,5/ 3-GF



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## Technical Data

### Product properties

Type	Feed-through header
Product line	COMBICON Connectors M
Product type	Feed-through header
Number of positions	3
Pitch	5 mm
Number of connections	3
Number of rows	1
Mounting flange	Threaded flange
Number of potentials	3
Pin layout	Linear pinning

### Electrical properties

Nominal current $I_N$	12 A
Nominal voltage $U_N$	320 V
Pollution degree	3
Contact resistance	1.6 m $\Omega$
Rated voltage (III/3)	320 V
Rated surge voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV

### Mounting

Mounting type Direct mounting	Direct mounting
Mounting type	Direct mounting

#### Flange

Tightening torque	0.3 Nm
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#### Flange

Tightening torque	0.3 Nm
Screw	0708263 DFK-MSTB SS for housing walls of up to 6 mm thick

### Material specifications

#### 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 $\mu\text{m}$ Sn)
Metal surface contact area (middle layer)	Nickel (2 - 3 $\mu\text{m}$ Ni)
Metal surface soldering area (top layer)	Tin (5 - 7 $\mu\text{m}$ Sn)

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Metal surface soldering area (middle layer)	Nickel (2 - 3 µm Ni)
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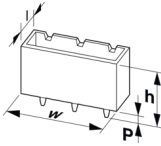
## Material data - housing

Housing color	green (6021)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V2

## Notes

Notes on operation	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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## Dimensions

Dimensional drawing	
Pitch	5 mm
Width [w]	35 mm
Height [h]	29.5 mm
Length [l]	17.5 mm
Installed height	20.2 mm
Solder pin length [P]	9.3 mm

## Mechanical tests

### Test for conductor damage and slackening

Specification	IEC 60999-1:1999-11
Result	Test passed

### Pull-out test

Specification	IEC 60999-1:1999-11
Conductor cross section/conductor type/tractive force setpoint/actual value	0.2 mm <sup>2</sup> / solid / > 10 N
	0.2 mm <sup>2</sup> / flexible / > 10 N
	2.5 mm <sup>2</sup> / solid / > 50 N
	2.5 mm <sup>2</sup> / flexible / > 50 N

### Insertion and withdrawal forces

Result	Test passed
No. of cycles	25
Insertion strength per pos. approx.	10 N
Withdraw strength per pos. approx.	7 N

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## Torque test

Specification	IEC 60999-1:1999-11
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## Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Contact holder in insert Requirements >20 N	Test passed

## Resistance of inscriptions

Specification	IEC 60068-2-70:1995-12
Result	Test passed

## Polarization and coding

Specification	IEC 60512-13-5:2006-02
Result	Test passed

## Visual inspection

Specification	IEC 60512-1-1:2002-02
Result	Test passed

## Dimension check

Specification	IEC 60512-1-2:2002-02
Result	Test passed

## Electrical tests

### Thermal test | Test group C

Specification	IEC 60512-5-1:2002-02
Tested number of positions	16

### Insulation resistance

Specification	IEC 60512-3-1:2002-02
Insulation resistance, neighboring positions	> 5 MΩ

### Air clearances and creepage distances |

Specification	IEC 60664-1:2007-04
Insulating material group	I
Comparative tracking index (IEC 60112)	CTI 600
Rated insulation voltage (III/3)	320 V
Rated surge voltage (III/3)	4 kV
minimum clearance value - non-homogenous field (III/3)	3 mm
minimum creepage distance (III/3)	4 mm
Rated insulation voltage (III/2)	320 V
Rated surge voltage (III/2)	4 kV
minimum clearance value - non-homogenous field (III/2)	3 mm
minimum creepage distance (III/2)	3 mm
Rated insulation voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV

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minimum clearance value - non-homogenous field (II/2)	3 mm
minimum creepage distance (II/2)	3.2 mm

## Environmental and real-life conditions

### Vibration test

Specification	IEC 60068-2-6:2007-12
Frequency	10 - 150 - 10 Hz
Sweep speed	1 octave/min
Amplitude	0.35 mm (10 - 60.1 Hz)
Sweep speed	5g (60.1 - 150 Hz)
Test duration per axis	2.5 h

### Durability test

Specification	IEC 60512-9-1:2010-03
Impulse withstand voltage at sea level	4.8 kV
Contact resistance R <sub>1</sub>	1.6 mΩ
Contact resistance R <sub>2</sub>	1.7 mΩ
Insertion/withdrawal cycles	25
Insulation resistance, neighboring positions	> 5 MΩ

### Climatic test

Specification	ISO 6988:1985-02
Corrosive stress	0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle
Thermal stress	100 °C/168 h
Power-frequency withstand voltage	2.21 kV

### Ambient conditions

Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

## Packaging specifications

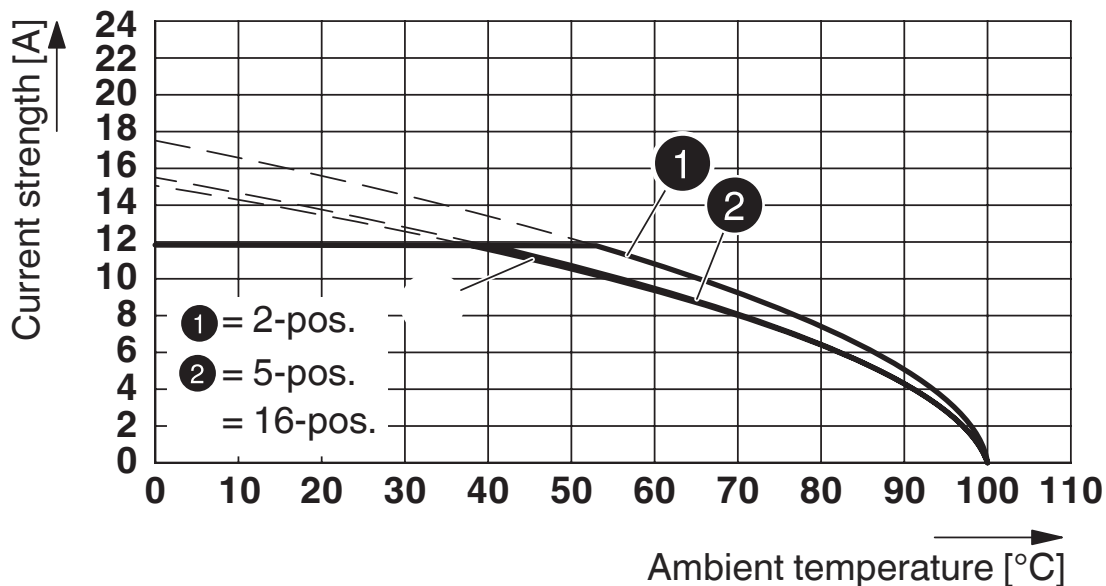
Type of packaging	packed in cardboard
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## Packaging specifications

Type of packaging	packed in cardboard
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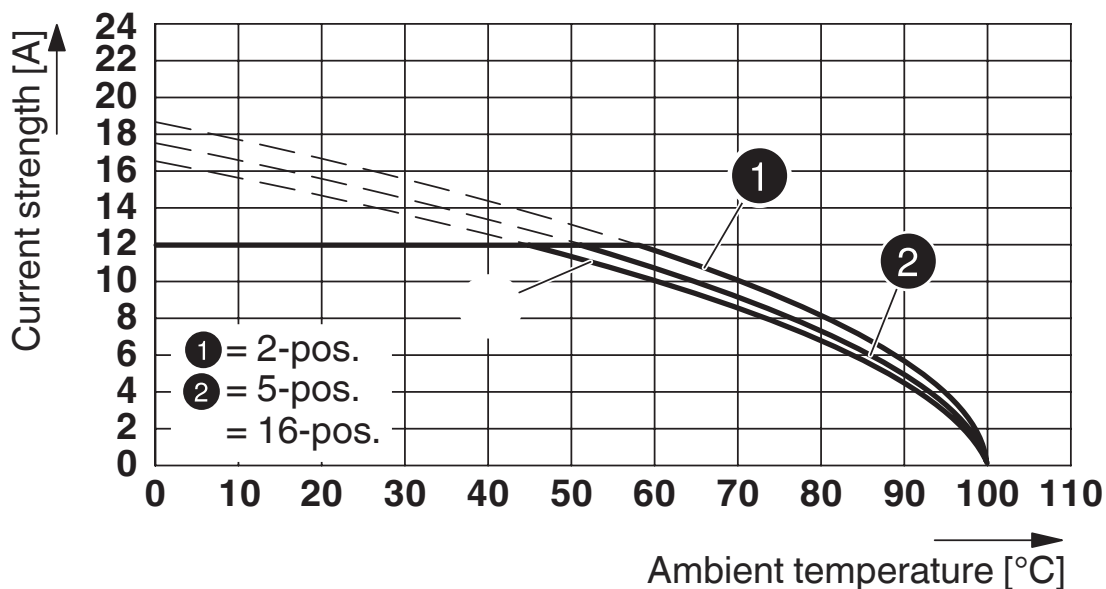
## Drawings

Diagram



Type: MVSTB(RW) 2,5/...-STF with DFK-MSTB/...-GF

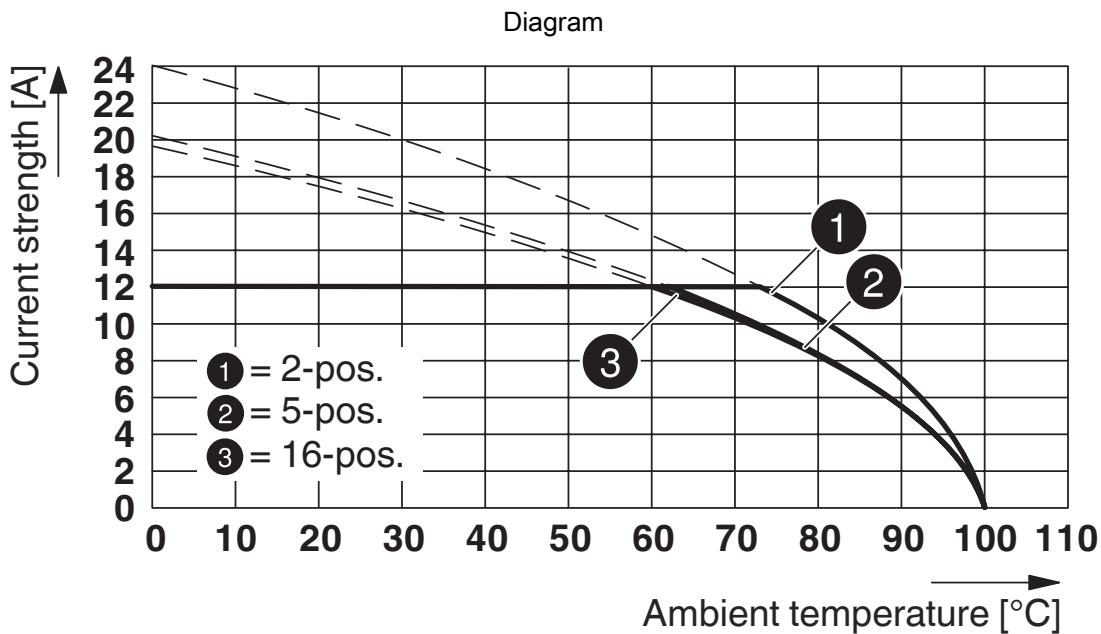
Diagram



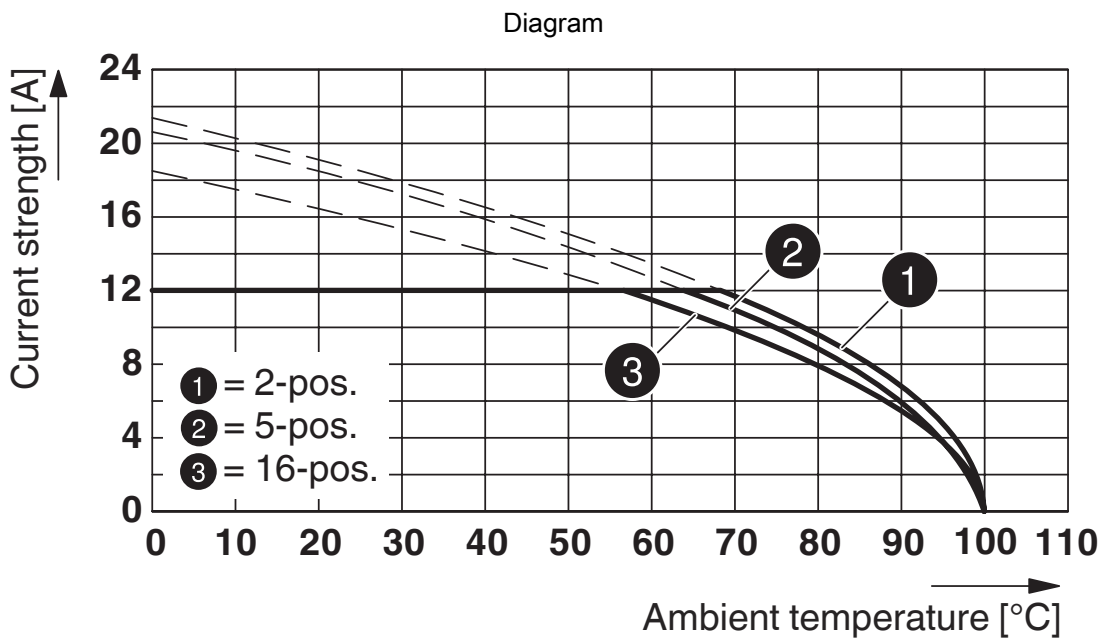
Type: SMSTB 2,5/...-STF with DFK-MSTB 2,5/...-GF

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Type: MSTBT 2,5/...-STF with DFK-MSTB 2,5/...-GF



Type: MSTB 2,5/...-STF with DFK-MSTB 2,5/...-GF

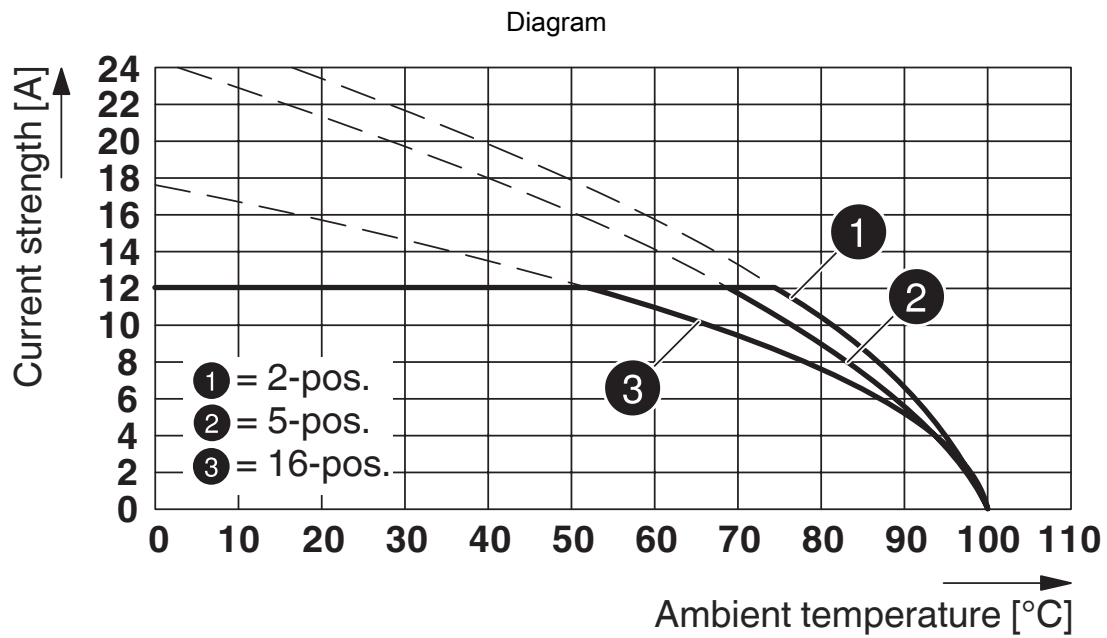


# Feed-through header - DFK-MSTB 2,5/ 3-GF



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Type: FRONT-MSTB 2,5/...-STF with DFK-MSTB 2,5/...-GF


# Feed-through header - DFK-MSTB 2,5/ 3-GF



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<https://www.phoenixcontact.com/us/products/0710031>

## Approvals

 <b>CSA</b> Approval ID: 13631				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
Use group B	300 V	15 A	-	-
Use group D	300 V	10 A	-	-

 <b>IECEE CB Scheme</b> Approval ID: DE1-60988-B1B2				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	250 V	12 A	-	-

 <b>EAC</b> Approval ID: B.01687				
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 <b>cULus Recognized</b> Approval ID: E60425-19931011				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
Use group B	300 V	15 A	-	-
Use group D	300 V	10 A	-	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40050648				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
	250 V	12 A	-	-

# Feed-through header - DFK-MSTB 2,5/ 3-GF



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## Classifications

### ECLASS

ECLASS-9.0	27440402
ECLASS-10.0.1	27440402
ECLASS-11.0	27460201

### ETIM

ETIM 8.0	EC002637
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### UNSPSC

UNSPSC 21.0	39121400
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# Feed-through header - DFK-MSTB 2,5/ 3-GF



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## Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

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## Accessories

### Screw set

Screw set - DFK-MSTB-SS - 0708263

<https://www.phoenixcontact.com/us/products/0708263>



Screw set, for securing the header to the device wall, consists of an M3 x 10 screw, with a spring washer and a nut

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### Coding section

Coding section - CR-MSTB - 1734401

<https://www.phoenixcontact.com/us/products/1734401>



Coding section, inserted into the recess in the header or the inverted plug, red insulating material

# Feed-through header - DFK-MSTB 2,5/ 3-GF



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<https://www.phoenixcontact.com/us/products/0710031>

## Accessories

Accessories - MSTB-BL - 1755477

<https://www.phoenixcontact.com/us/products/1755477>



Keying cap, for forming sections, plugs onto header pin, green insulating material

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## Connector

Connector - C-SCF 1/2,8X0,8 - 3240153

<https://www.phoenixcontact.com/us/products/3240153>



Slip-on sleeve, non-insulated, 0.5 ... 1 mm<sup>2</sup>, 2.8 x 0.8

# Feed-through header - DFK-MSTB 2,5/ 3-GF

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<https://www.phoenixcontact.com/us/products/0710031>

## Connector

Connector - C-SCFI 1,5/2,8X0,8 - 3240049

<https://www.phoenixcontact.com/us/products/3240049>



Slip-on sleeve, red, 0.5 ... 1.5 mm<sup>2</sup>, 2.8 x 0.8

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## Connector

Connector - C-SCFFI 1,5/2,8X0,8 - 3240535

<https://www.phoenixcontact.com/us/products/3240535>



Slip-on sleeve, fully isolated, red, 0.5 ... 1.5 mm<sup>2</sup>, for plug 2.8 x 0.8 mm

# Feed-through header - DFK-MSTB 2,5/ 3-GF

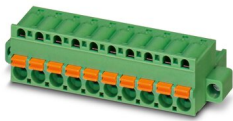
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## PCB connector

PCB connector - FKC 2,5/ 3-STF - 1910539

<https://www.phoenixcontact.com/us/products/1910539>



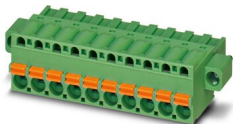
PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FKC 2,5/..-STF, pitch: 5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

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## PCB connector

PCB connector - FKCT 2,5/ 3-STF - 1909414

<https://www.phoenixcontact.com/us/products/1909414>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FKCT 2,5/..-STF, pitch: 5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON MSTB 2,5, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard



# Feed-through header - DFK-MSTB 2,5/ 3-GF

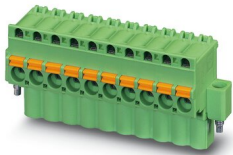
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## PCB connector

PCB connector - FKCVW 2,5/ 3-STF - 1910212

<https://www.phoenixcontact.com/us/products/1910212>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FKCVW 2,5/..-STF, pitch: 5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: -90 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

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## PCB connector

PCB connector - MSTB 2,5/ 3-STF - 1786844

<https://www.phoenixcontact.com/us/products/1786844>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MSTB 2,5/..-STF, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON MSTB 2,5, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

# Feed-through header - DFK-MSTB 2,5/ 3-GF

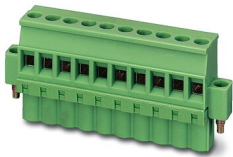
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<https://www.phoenixcontact.com/us/products/0710031>

## PCB connector

PCB connector - MVSTBW 2,5/ 3-STF - 1835290

<https://www.phoenixcontact.com/us/products/1835290>



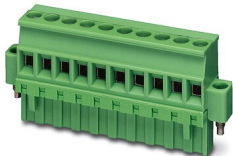
PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MVSTBW 2,5/...-STF, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: -90 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

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## PCB connector

PCB connector - MVSTBR 2,5/ 3-STF - 1835481

<https://www.phoenixcontact.com/us/products/1835481>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MVSTBR 2,5/...-STF, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 90 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

# Feed-through header - DFK-MSTB 2,5/ 3-GF



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## PCB connector

PCB connector - FRONT-MSTB 2,5/ 3-STF - 1779657

<https://www.phoenixcontact.com/us/products/1779657>

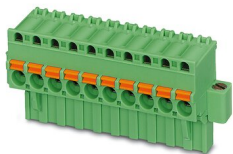


PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FRONT-MSTB 2,5/...-STF, pitch: 5 mm, connection method: Front screw connection, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

## PCB connector

PCB connector - FKCVR 2,5/ 3-STF - 1909896

<https://www.phoenixcontact.com/us/products/1909896>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FKCVR 2,5/...-STF, pitch: 5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 90 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

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