

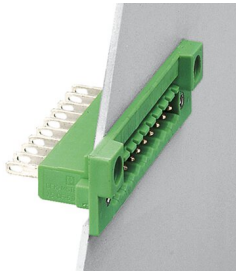
# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



0710183

<https://www.phoenixcontact.com/us/products/0710183>

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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, contact connection type: Pin, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: DFK-MSTB 2,5/..-GF, pitch: 5.08 mm, connection method: Solder/Slip-on connection, mounting: Direct mounting, 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 mechanism, 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

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 0710183             |
| Packing unit                         | 1 pc                |
| Minimum order quantity               | 50 pc               |
| Sales key                            | AA03                |
| Product key                          | AACWBB              |
| Catalog page                         | Page 353 (C-1-2013) |
| GTIN                                 | 4017918005214       |
| Weight per piece (including packing) | 4.812 g             |
| Weight per piece (excluding packing) | 4.231 g             |
| Customs tariff number                | 85366930            |
| Country of origin                    | DE                  |

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



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## Technical data

### Product properties

|                           |                       |
|---------------------------|-----------------------|
| Type                      | Feed-through header   |
| Product line              | COMBICON Connectors M |
| Product type              | Feed-through header   |
| Product family            | DFK-MSTB 2,5/...-GF   |
| Number of positions       | 3                     |
| Pitch                     | 5.08 mm               |
| Number of connections     | 3                     |
| Number of rows            | 1                     |
| Mounting flange           | Threaded flange       |
| Number of potentials      | 3                     |
| Pin layout                | Linear pinning        |
| Solder pins per potential | 1                     |

### Electrical properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 12 A   |
| Nominal voltage $U_N$       | 320 V  |
| Degree of pollution         | 3      |
| Contact resistance          | 1.3 mΩ |
| 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   |
| Rated voltage (II/2)        | 630 V  |
| Rated surge voltage (II/2)  | 4 kV   |

### Mounting

|                   |                           |
|-------------------|---------------------------|
| Mounting type     | Direct mounting           |
| Pin layout        | Linear pinning            |
| Connection method | Solder/Slip-on connection |

### Flange

|                   |        |
|-------------------|--------|
| Tightening torque | 0.3 Nm |
|-------------------|--------|

### Attachment to feed-through panel

|                   |                                                           |
|-------------------|-----------------------------------------------------------|
| 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 |
|------|----------------------------------------------------------------------------------|

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



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|                                             |                                 |
|---------------------------------------------|---------------------------------|
| 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)    |
| Metal surface soldering area (middle layer) | Nickel (2 - 3 $\mu\text{m}$ Ni) |

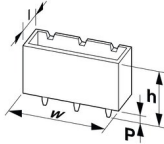
## Material data - housing

|                                        |              |
|----------------------------------------|--------------|
| Color (Housing)                        | 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. |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Dimensions

|                       |                                                                                      |
|-----------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing   |  |
| Pitch                 | 5.08 mm                                                                              |
| Width [w]             | 35.56 mm                                                                             |
| Height [h]            | 29.5 mm                                                                              |
| Length [l]            | 17.5 mm                                                                              |
| Installed height      | 20.2 mm                                                                              |
| Solder pin length [P] | 9.3 mm                                                                               |
| Pin dimensions        | 0.8 x 2.8 mm                                                                         |

## Mechanical tests

### Visual inspection

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

### Dimension check

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

### Resistance of inscriptions

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

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



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## Polarization and coding

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

## Contact holder in insert

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

## Insertion and withdrawal forces

|                                     |             |
|-------------------------------------|-------------|
| Result                              | Test passed |
| No. of cycles                       | 25          |
| Insertion strength per pos. approx. | 8 N         |
| Withdraw strength per pos. approx.  | 6 N         |

## 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                |
| 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      |

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



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|                        |                             |
|------------------------|-----------------------------|
| Sweep speed            | 1 octave/min                |
| Amplitude              | 0.35 mm (10 Hz ... 60.1 Hz) |
| Sweep speed            | 5g (60.1 Hz ... 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 $R_1$                     | 1.3 m $\Omega$        |
| Contact resistance $R_2$                     | 1.5 m $\Omega$        |
| Insertion/withdrawal cycles                  | 25                    |
| Insulation resistance, neighboring positions | > 5 M $\Omega$        |

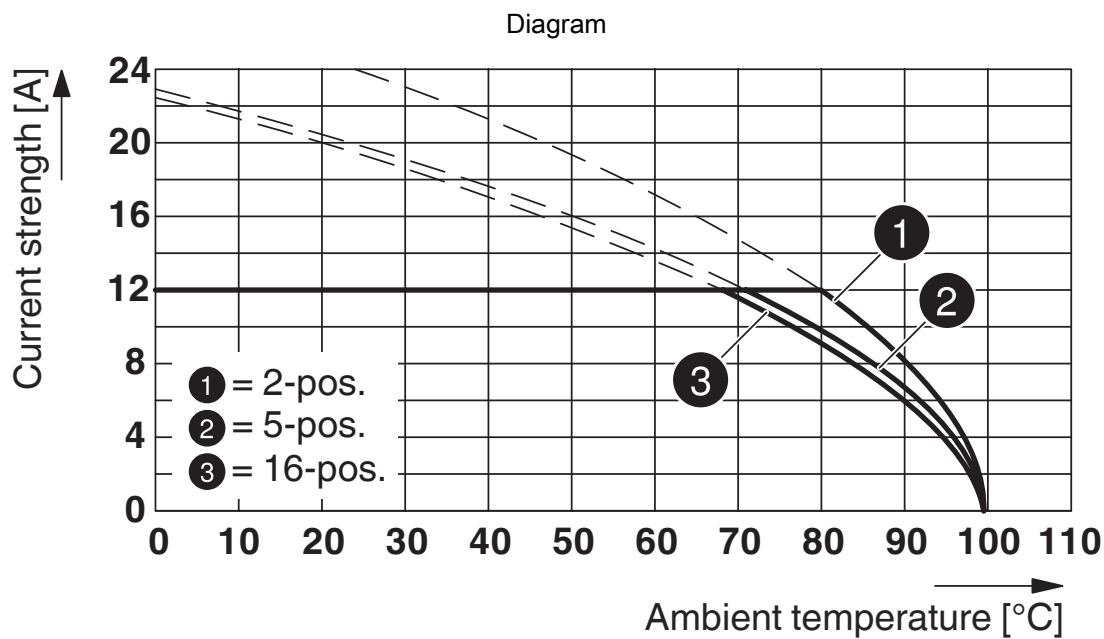
## Climatic test

|                                   |                                                                           |
|-----------------------------------|---------------------------------------------------------------------------|
| 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                                    |

## Drawings



Type: FKCVR 2,5/...-STF-5,08 with DFK-MSTB 2,5/...-GF-5,08

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/0710183>

|  <b>CSA</b><br>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>EAC</b><br>Approval ID: B.01687 |  |  |  |  |
|----------------------------------------------------------------------------------------------------------------------|--|--|--|--|
|----------------------------------------------------------------------------------------------------------------------|--|--|--|--|

|  <b>cULus Recognized</b><br>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><br>Approval ID: 40050648 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                            | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                            | 250 V                 | 12 A                  | -                 | -                           |

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27460201 |
| ECLASS-12.0 | 27460201 |
| ECLASS-13.0 | 27460201 |

### ETIM

|          |          |
|----------|----------|
| ETIM 8.0 | EC002637 |
|----------|----------|

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

Environmental product compliance

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

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



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## Accessories

### DFK-MSTB-SS - Screw set

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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### CR-MSTB - Coding section

1734401

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



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

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



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## MSTB-BL - Accessories

1755477

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



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

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

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

## DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header

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<https://www.phoenixcontact.com/us/products/0710183>



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

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

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

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



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<https://www.phoenixcontact.com/us/products/0710183>

## MSTB 2,5/ 3-STF-5,08 - PCB connector

1777992

<https://www.phoenixcontact.com/us/products/1777992>



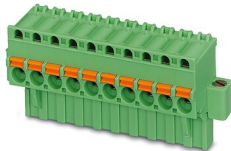
PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MSTB 2,5/...-STF, pitch: 5.08 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 mechanism, mounting: Screw flange, type of packaging: packed in cardboard

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## FKCVR 2,5/ 3-STF-5,08 - PCB connector

1874112

<https://www.phoenixcontact.com/us/products/1874112>



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, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FKCVR 2,5/...-STF, pitch: 5.08 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 mechanism, mounting: Screw flange, type of packaging: packed in cardboard

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



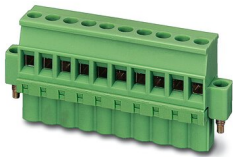
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<https://www.phoenixcontact.com/us/products/0710183>

## MVSTBW 2,5/ 3-STF-5,08 - PCB connector

1834916

<https://www.phoenixcontact.com/us/products/1834916>



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, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MVSTBW 2,5/...-STF, pitch: 5.08 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 mechanism, mounting: Screw flange, type of packaging: packed in cardboard

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## MSTBC 2,5/ 3-STZF-5,08 - PCB connector

1809747

<https://www.phoenixcontact.com/us/products/1809747>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MSTBC 2,5/...-STZF, pitch: 5.08 mm, connection method: Crimp connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON MSTB 2,5, locking: Screw locking mechanism, mounting: Screw flange, type of packaging: packed in cardboard, Corresponding female crimp contacts with current [A] and conductor cross section range [mm<sup>2</sup>] data: 10A/MSTBC-MT 0,5-1,0 (3190564); 10A/MSTBC-MT 0,5-1,0 BA (3190645); 12A/MSTBC-MT 1,5-2,5 (3190551); 12A/MSTBC-MT 1,5-2,5 BA (3190658). BA = Bandkontakte

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



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## FRONT-MSTB 2,5/ 3-STF-5,08 - PCB connector

1777811

<https://www.phoenixcontact.com/us/products/1777811>



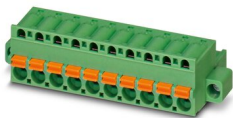
PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FRONT-MSTB 2,5/...-STF, pitch: 5.08 mm, connection method: Front screw connection, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: Screw locking mechanism, mounting: Screw flange, type of packaging: packed in cardboard

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## FKC 2,5/ 3-STF-5,08 - PCB connector

1873210

<https://www.phoenixcontact.com/us/products/1873210>



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, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: FKC 2,5/...-STF, pitch: 5.08 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 mechanism, mounting: Screw flange, type of packaging: packed in cardboard

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



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## TMSTBP 2,5/ 3-STF-5,08 - PCB connector

1853117

<https://www.phoenixcontact.com/us/products/1853117>



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, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 6, product range: TMSTBP 2,5/...-STF, pitch: 5.08 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 mechanism, mounting: Screw flange, type of packaging: packed in cardboard, The plug allows conductors to be looped through from module to module.

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## MSTBT 2,5/ 3-STF-5,08 - PCB connector

1805314

<https://www.phoenixcontact.com/us/products/1805314>



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, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: MSTBT 2,5/...-STF, pitch: 5.08 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 mechanism, mounting: Screw flange, type of packaging: packed in cardboard

# DFK-MSTB 2,5/ 3-GF-5,08 - Feed-through header



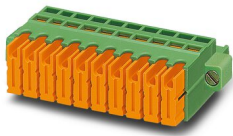
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## QC 1/ 3-STF-5,08 - PCB connector

1883365

<https://www.phoenixcontact.com/us/products/1883365>



PCB connector, nominal cross section: 1 mm<sup>2</sup>, color: green, nominal current: 10 A, rated voltage (III/2): 630 V, contact surface: Tin, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: QC 1/...-STF, pitch: 5.08 mm, connection method: Displacement connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON MSTB 2,5, locking: Screw locking mechanism, mounting: Screw flange, type of packaging: packed in cardboard

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