

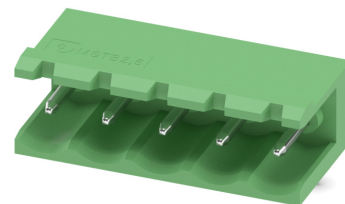
# Data sheet

2024-03-19  
Product version 04  
Document revision 02

Item No.: 1759046

Type: MSTB 2,5/ 5-G-5,08

PCB headers



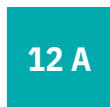
## 1 Main features



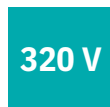
2,5 mm<sup>2</sup>



5,08 mm



IEC



IEC



WAVE



SIZE

- |                         |                     |                        |                     |
|-------------------------|---------------------|------------------------|---------------------|
| • No. of pos.           | 5                   | • Nominal current      | 12 A                |
| • Nominal cross section | 2.5 mm <sup>2</sup> | • Nominal voltage      | 320 V               |
| • Color                 | green (RAL 6021)    | • Connection direction | 0 °                 |
| • Pitch                 | 5.08 mm             | • Type of packaging    | packed in cardboard |
| • Mounting type         | Wave soldering      |                        |                     |

## 2 Your advantages

- ✓ Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- ✓ Easy PCB replacement thanks to plug-in modules
- ✓ Well-known mounting principle allows worldwide use
- ✓ Plug-in direction parallel to the PCB
- ✓ Items that can be aligned in various pitches support flexible and space-saving PCB assembly



Make sure you always use the latest documentation.

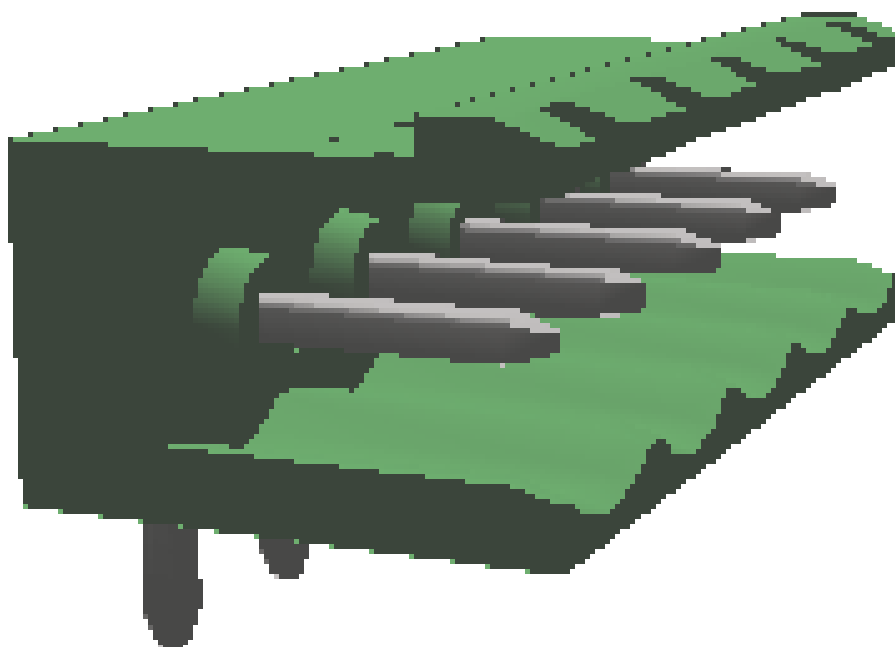
It can be downloaded at: [phoenixcontact.com/product/1759046](https://phoenixcontact.com/product/1759046)

**3 Table of contents**

|    |                                                              |    |
|----|--------------------------------------------------------------|----|
| 1  | Main features.....                                           | 1  |
| 2  | Your advantages .....                                        | 1  |
| 3  | Table of contents .....                                      | 2  |
| 4  | 3D model in PDF can be activated (Acrobat Reader only) ..... | 3  |
| 5  | General Technical Data .....                                 | 4  |
| 6  | Mounting.....                                                | 5  |
| 7  | Material properties.....                                     | 5  |
| 8  | Dimensions.....                                              | 6  |
| 9  | Series drawing.....                                          | 7  |
| 10 | Product notes .....                                          | 8  |
| 11 | Application.....                                             | 8  |
| 12 | Packaging specifications .....                               | 8  |
| 13 | Mechanical tests.....                                        | 9  |
| 14 | Insertion and withdrawal forces .....                        | 10 |
| 15 | Electrical tests .....                                       | 11 |
| 16 | Air and creepage distances .....                             | 12 |
| 17 | Current carrying capacity/derating curves .....              | 13 |
| 18 | Environmental and durability tests .....                     | 19 |
| 19 | Data transmission.....                                       | 20 |
| 20 | Approvals / Certificates.....                                | 21 |
| 21 | Commercial Data.....                                         | 22 |
| 22 | corresponding plugs .....                                    | 22 |
| 23 | Accessories .....                                            | 22 |
| 24 | Combination tests.....                                       | 23 |

1759046 MSTB 2,5/ 5-G-5,08

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



**1759046 MSTB 2,5/ 5-G-5,08****5 General Technical Data****5.1 item properties**

|                                                  |                       |
|--------------------------------------------------|-----------------------|
|                                                  |                       |
| Item no.                                         | 1759046               |
| Type                                             | MSTB 2,5/ 5-G-5,08    |
| Product line                                     | COMBICON Connectors M |
| Connector system                                 | COMBICON MSTB 2,5     |
| Product type                                     | PCB headers           |
| Contact connection type                          | Pin                   |
| Range of articles                                | MSTB 2,5/..-G         |
| Pitch                                            | 5.08 mm               |
| Number of positions                              | 5                     |
| Number of rows                                   | 1                     |
| Number of connections                            | 5                     |
| Number of potentials                             | 5                     |
| Connection direction of the connector to the PCB | 0 °                   |
| Pin layout                                       | Linear pinning        |
| Solder pins per potential                        | 1                     |
| Type                                             | Standard              |

**1759046 MSTB 2,5/ 5-G-5,08****6 Mounting****6.1 Flange mounting**

|                 |         |
|-----------------|---------|
| Type of locking | without |
| Mounting flange | without |

**7 Material properties****7.1 Material of metal parts**

|                                                                   |                                                                         |
|-------------------------------------------------------------------|-------------------------------------------------------------------------|
| Note                                                              | WEEE/RoHS-compliant, whisker-free acc. to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material                                                  | Cu alloy                                                                |
| Surface contact area                                              | Nickel (1.3 - 3 µm Ni) , Tin (3 - 5 µm Sn)                              |
| Soldering area surface                                            | Nickel (1.3 - 3 µm Ni) , Tin (3 - 5 µm Sn)                              |
| Surface characteristics                                           | Tin-plated                                                              |
| Insulating material data                                          | Housing                                                                 |
| Color                                                             | green (RAL 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                                                                  |

**1759046 MSTB 2,5/ 5-G-5,08****8 Dimensions****8.1 Dimensions for the product**

|                             |         |
|-----------------------------|---------|
|                             |         |
| Length                      | 12 mm   |
| Width                       | 25.4 mm |
| Height (without solder pin) | 8.57 mm |
| Total height                | 11.8 mm |
| Solder pin [P]              | 3.23 mm |

## 9 Series drawing

## 10 Product notes

### 10.1 General information

|                    |                                                                                                                                                                                          |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 11 Application

## 12 Packaging specifications

|                   |                     |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
| Packing unit      | 250                 |

### 12.1 Temperature limit values

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

**1759046 MSTB 2,5/ 5-G-5,08****13 Mechanical tests****13.1 Visual examination**

|                    |                       |
|--------------------|-----------------------|
|                    |                       |
| Specification      | IEC 61984:2008-10     |
| Visual examination | Test passed           |
| Specification      | IEC 60512-1-1:2002-02 |

**13.2 Dimensional test**

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

**13.3 Resistance of marking**

|                       |                        |
|-----------------------|------------------------|
|                       |                        |
| Resistance of marking | Test passed            |
| Specification         | IEC 60068-2-70:1995-12 |

**13.4 Polarization and coding**

|                         |                        |
|-------------------------|------------------------|
|                         |                        |
| Polarization and coding | Test passed            |
| Specification           | IEC 60512-13-5:2006-02 |
| Test force              | 20 N                   |

**13.5 Contact retention in insert**

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

**1759046 MSTB 2,5/ 5-G-5,08****14 Insertion and withdrawal forces**

Insertion and withdrawal force

Test passed

Specification

IEC 60512-13-2:2006-02

No. of cycles

25

Insertion strength per pos. approx.

8 N

Withdraw strength per pos. approx.

6 N

**1759046 MSTB 2,5/ 5-G-5,08****15 Electrical tests**

|                                         |                            |
|-----------------------------------------|----------------------------|
| Rated current / conductor cross section | 12 A / 2.5 mm <sup>2</sup> |
| Rated insulation voltage (III/2)        | 320 V                      |
| Rated surge voltage (III/2)             | 4 kV                       |
| Contact resistance                      | 1.4 mΩ                     |
| Degree of pollution                     | 2                          |

**1759046 MSTB 2,5/ 5-G-5,08****16 Air and creepage distances**

|                                                                   |                     |       |        |
|-------------------------------------------------------------------|---------------------|-------|--------|
| Component                                                         | PCB headers         |       |        |
| Specification                                                     | IEC 60664-1:2007-04 |       |        |
| Mains type                                                        | unearthed mains     |       |        |
| Insulating material group                                         | I                   |       |        |
| Comparative tracking index (IEC 60112)                            | CTI 600             |       |        |
| Rated insulation voltage                                          | 320 V               | 320 V | 630 V  |
| Rated surge voltage                                               | 4 kV                | 4 kV  | 4 kV   |
| Degree of pollution                                               | 3                   | 2     | 2      |
| Overvoltage category                                              | III                 | III   | II     |
| Minimum clearance case A (inhomogeneous field)                    | 3 mm                | 3 mm  | 3 mm   |
| Minimum value of the creepage path requirement in acc. with table | 4 mm                | 3 mm  | 3.2 mm |

## 1759046 MSTB 2,5/ 5-G-5,08

## 17 Current carrying capacity/derating curves

Specification

IEC 61984:2008-10

Note

Representation based on IEC 60512-5-2:2002-02

Note

For number of positions, see diagram

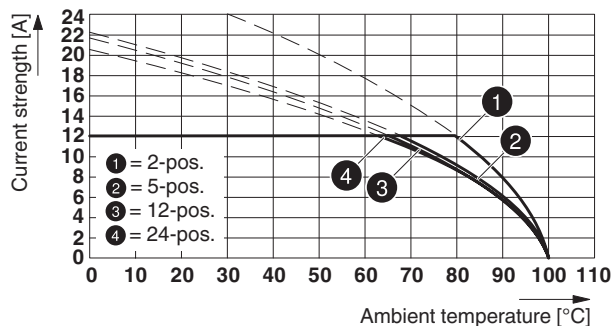
Reduction factor

0.8

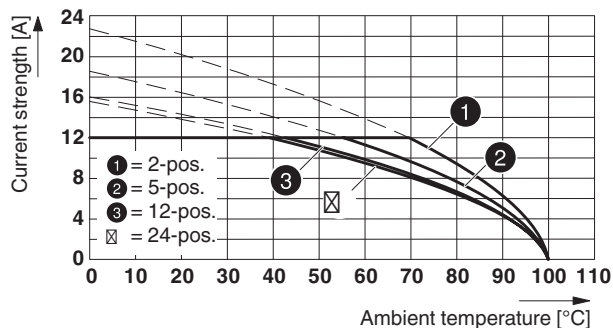
Conductor cross section

2.5 mm<sup>2</sup>

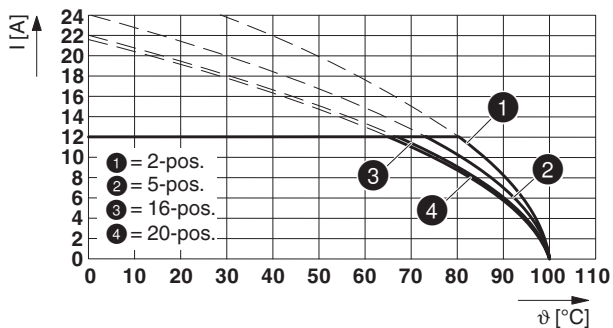
Type: MSTB 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08

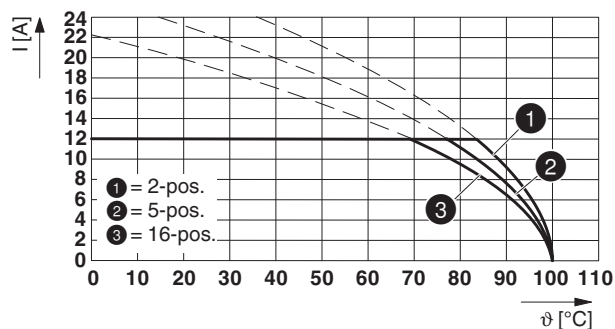
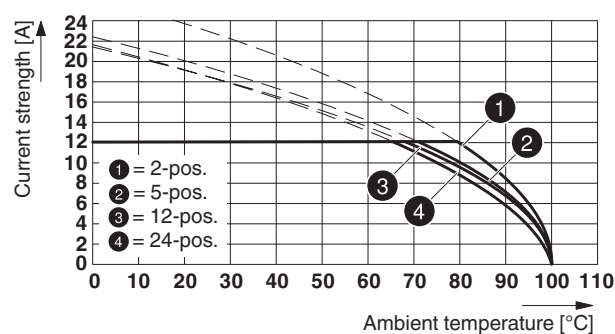
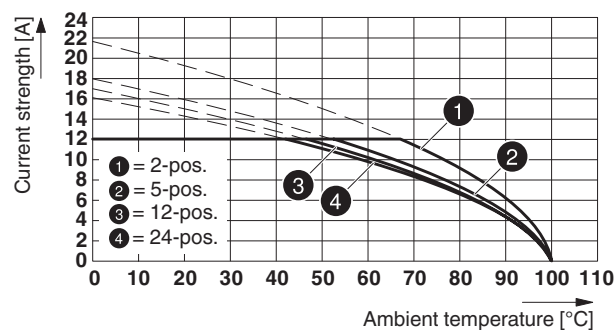


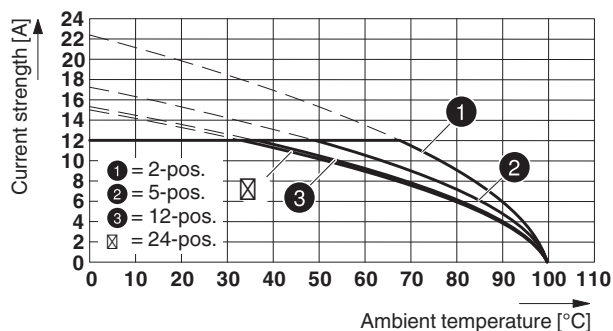
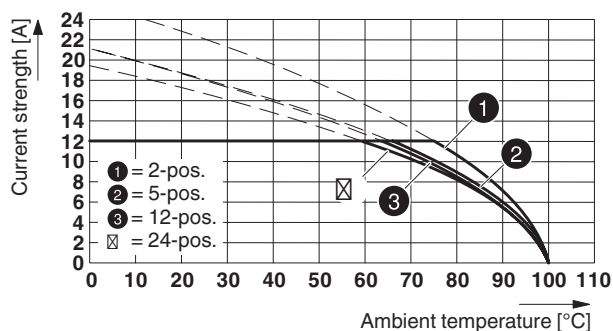
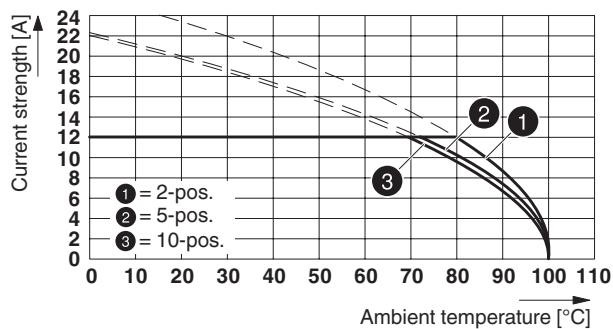
Type: MSTBU 2,5/...-STD-5,08 with MSTB 2,5/...-G-5,08

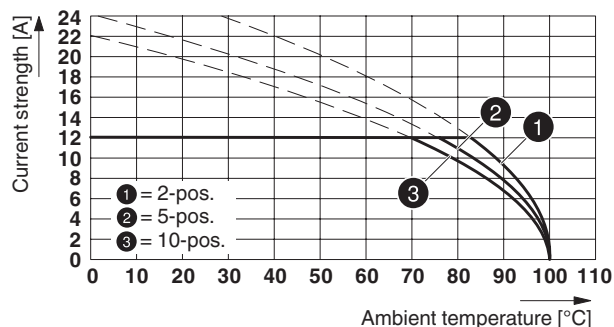
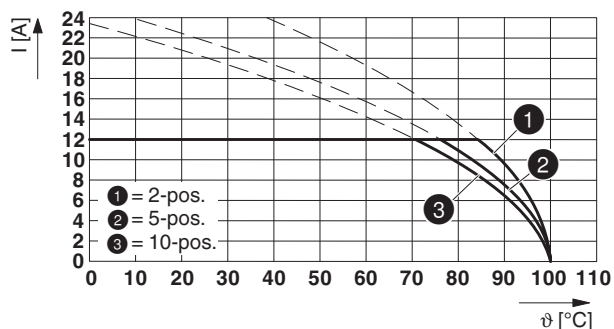
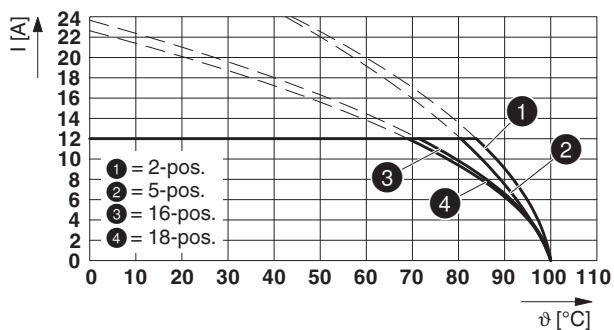
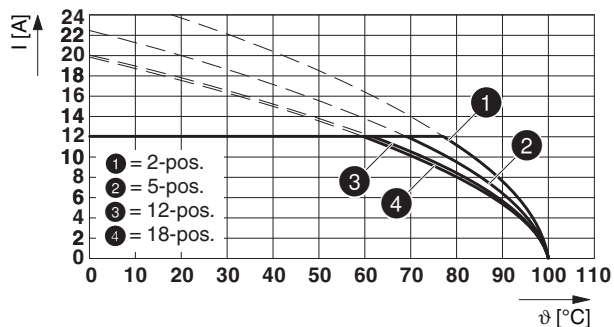


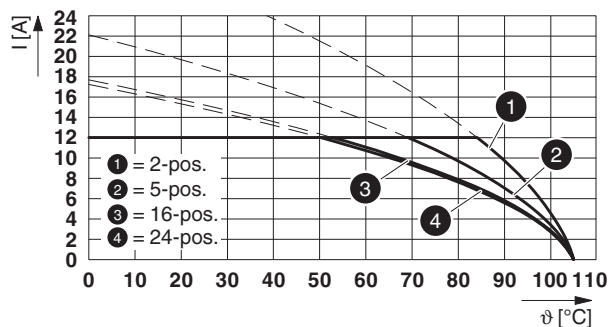
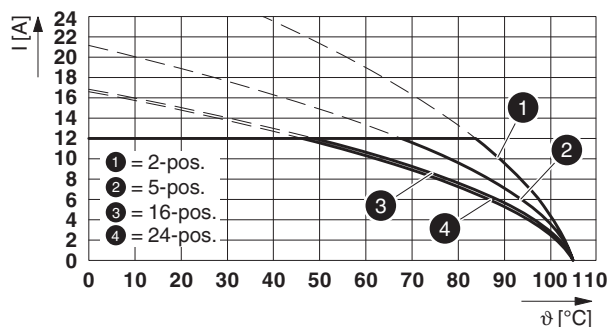
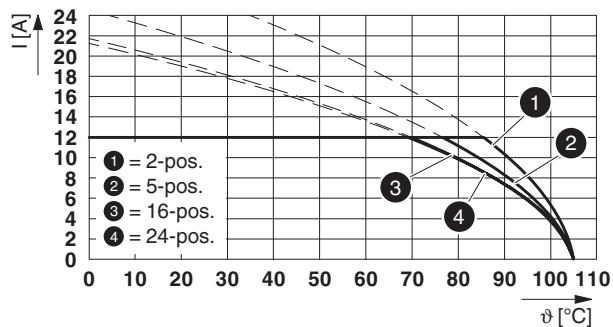
Type: FKCT 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08

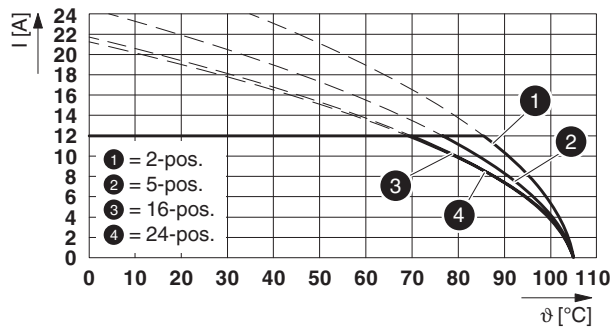


**1759046 MSTB 2,5/ 5-G-5,08****Type: FKCV(W/R) 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08****Type: MSTBP 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08****Type: SMSTB 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08**

**1759046 MSTB 2,5/ 5-G-5,08****Type: MVSTB(R/W) 2,5/...-ST with MDSTBVA 2,5/...-G-5,08****Type: FRONT-MSTB 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08****Type: TMSTBP 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08**

**1759046 MSTB 2,5/ 5-G-5,08****Type: TVMSTB 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08****Type: TFKC 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08****Type: FKCN 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08****Type: MSTBT 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08**

**1759046 MSTB 2,5/ 5-G-5,08****Type: ICV 2,5/...-G-5,08 with MSTB 2,5/...-G-5,08****Type: IC 2,5/...-G-5,08 with MSTB 2,5/...-G-5,08****Type: FKCOR 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08**

**1759046 MSTB 2,5/ 5-G-5,08****Type: FKCOV 2,5/...-ST-5,08 with MSTB 2,5/...-G-5,08**

**1759046 MSTB 2,5/ 5-G-5,08****18 Environmental and durability tests****18.1 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 Hz ... 60.1 Hz)                    |
| Acceleration           | 5g (60.1 Hz ... 150 Hz)                        |
| Test duration per axis | 2.5 h                                          |
| Test directions        | X-, Y- and Z-axis                              |
| Note                   | The connecting cables must be strain relieved. |

**18.2 Insulation resistance**

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

1759046 MSTB 2,5/ 5-G-5,08

## 19 Data transmission

## 1759046 MSTB 2,5/ 5-G-5,08

## 20 Approvals / Certificates

| CSA                     | Voltage<br>[V] | Current<br>[A] | Cross section<br>[AWG] | Cross section<br>[mm <sup>2</sup> ] |
|----------------------------------------------------------------------------------------------------------|----------------|----------------|------------------------|-------------------------------------|
| <b>Usegroup B</b>                                                                                        |                |                |                        |                                     |
|                                                                                                          | 300 V          | 10 A           | -                      | -                                   |
| <b>Usegroup D</b>                                                                                        |                |                |                        |                                     |
|                                                                                                          | 300 V          | 10 A           | -                      | -                                   |
| cULus Recognized        | Voltage<br>[V] | Current<br>[A] | Cross section<br>[AWG] | Cross section<br>[mm <sup>2</sup> ] |
| <b>Usegroup B</b>                                                                                        |                |                |                        |                                     |
|                                                                                                          | 300 V          | 15 A           | -                      | -                                   |
| <b>Usegroup D</b>                                                                                        |                |                |                        |                                     |
|                                                                                                          | 300 V          | 10 A           | -                      | -                                   |
| VDE Zeichengenehmigung  | Voltage<br>[V] | Current<br>[A] | Cross section<br>[AWG] | Cross section<br>[mm <sup>2</sup> ] |
|                                                                                                          | 250 V          | 12 A           | -                      | -                                   |

**1759046 MSTB 2,5/ 5-G-5,08****21 Commercial Data**

|              |                                                      |
|--------------|------------------------------------------------------|
| Item no.     | 1759046                                              |
| Type         | MSTB 2,5/ 5-G-5,08                                   |
| Packing unit | 250                                                  |
| Net weight   | 1.744 g                                              |
| GTIN         | 4017918030513                                        |
|              | Information that applies locally, see link on page 1 |

**22 corresponding plugs**

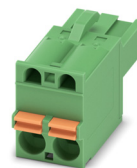
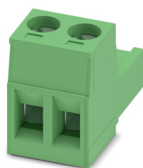
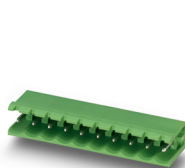
| Item no. | Type                      |
|----------|---------------------------|
| 1757048  | MSTB 2,5/ 5-ST-5,08       |
| 1719037  | TVMSTB 2,5/ 5-ST-5,08     |
| 1754597  | FKCN 2,5/ 5-ST-5,08       |
| 1776142  | MSTB 2,5/ 5-STZ-5,08      |
| 1777316  | FRONT-MSTB 2,5/ 5-ST-5,08 |
| 1781014  | MSTBT 2,5/ 5-ST-5,08      |
| 1792278  | MVSTBR 2,5/ 5-ST-5,08     |
| 1792786  | MVSTBW 2,5/ 5-ST-5,08     |
| 1808845  | MSTBC 2,5/ 5-ST-5,08      |
| 1809530  | MSTBC 2,5/ 5-STZ-5,08     |
| 1824159  | MSTBU 2,5/ 5-STD-5,08     |
| 1831346  | MSTBVK 2,5/ 5-ST-5,08     |
| 1833849  | UMSTBVK 2,5/ 5-ST-5,08    |
| 1853049  | TMSTBP 2,5/ 5-ST-5,08     |
| 1873087  | FKC 2,5/ 5-ST-5,08        |
| 1873689  | FKCVW 2,5/ 5-ST-5,08      |
| 1873980  | FKCVR 2,5/ 5-ST-5,08      |
| 1883284  | QC 1/ 5-ST-5,08           |
| 1902149  | FKCT 2,5/ 5-ST-5,08       |
| 1962639  | TFKC 2,5/ 5-ST-5,08       |
| 1975105  | FKCS 2,5/ 5-ST-5,08       |

**23 Accessories**

| Description                                                                                                                 | Item No. | Type                     |
|-----------------------------------------------------------------------------------------------------------------------------|----------|--------------------------|
| Coding section, inserted into the recess in the header or the inverted plug, red insulating material                        | 1734401  | CR-MSTB                  |
| Mounting flange, for fixing both ends of the header onto the PCB, green insulating material, with M 2 x 14 screws and nuts. | 1759981  | MSTB-BF                  |
| Keying cap, for forming sections, plugs onto header pin, green insulating material                                          | 1755477  | MSTB-BL                  |
|                                                                                                                             | 0804293  | SK 5,08/3,8:FORTL.ZAHLEN |
| Marker pen, for manual labeling of unprinted Zack strips, smear-proof and waterproof, line thickness 0.5 mm                 | 1051993  | B-STIFT                  |

## 1759046 MSTB 2,5/ 5-G-5,08

## 24 Combination tests

**MSTB 2,5/..-G**

IEC 61984

**Mechanical tests (A)**

Insertion/withdrawal force per position

Polarization when inserted  
Requirement >20 NContact holder in insert  
Requirements >20 N**Durability tests (B)**Contact resistance  $R_1$  1st levelContact resistance  $R_1$  2nd level

Insertion/withdrawal cycles

Contact resistance  $R_2$ Rated impulse voltage at sea level  
Voltage waveform  $\geq (1.2/50 \mu s)$ Power-frequency withstand voltage  
Voltage waveform  $\geq (50/60 \text{ Hz})$ Insulation resistance  
Requirements > 5 M $\Omega$ **Thermal tests (C)**

Tested number of positions

Tested conductor cross section

Test current

Upper limiting temperature  
Requirements < 100°C**Climatic tests (D)**

Test sequence 1: low temperature storage

Test sequence 2: heat storage

Test sequence 3: noxious gas storage

Rated impulse voltage at sea level  
Voltage waveform  $\geq (1.2/50 \mu s)$ Power-frequency withstand voltage  
Voltage waveform  $\geq (50/60 \text{ Hz})$ **Environmental and endurance tests (E)**

Specification

Degree of protection

**MSTB 2,5/..-ST**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

1.4 m $\Omega$ 

25

1.4 m $\Omega$ 

4.8 kV

2.21 kV

> 5 M $\Omega$ 

24

2.5 mm<sup>2</sup>

12 A

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger**MSTBU 2,5/..-STD**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

2.5 m $\Omega$ 

25

2.5 m $\Omega$ 

4.8 kV

2.21 kV

> 5 M $\Omega$ 

24

2.5 mm<sup>2</sup>

12 A

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger**FKCT 2,5/..-ST**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

1.3 m $\Omega$ 

25

1.1 m $\Omega$ 

4.8 kV

2.21 kV

> 5 M $\Omega$ 

20

2.5 mm<sup>2</sup>

12 A

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger**FKCVW 2,5/..-ST**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

1 m $\Omega$ 

25

1.1 m $\Omega$ 

4.8 kV

2.21 kV

> 5 M $\Omega$ 

16

2.5 mm<sup>2</sup>

12 A

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

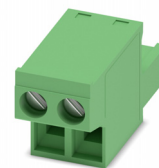
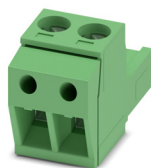
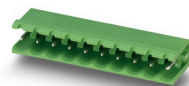
4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger

## 1759046 MSTB 2,5/ 5-G-5,08

**MSTB 2,5/..-G****MSTBP 2,5/..-ST****SMSTB 2,5/..-ST****MVSTBW 2,5/..-ST****FRONT-MSTB 2,5/..-ST**

IEC 61984

IEC 61984

IEC 61984

IEC 61984

IEC 61984

**Mechanical tests (A)**

Insertion/withdrawal force per position

approx. 8 N / 6 N

approx. 8 N / 6 N

approx. 8 N / 6 N

approx. 8 N / 6 N

Polarization when inserted  
Requirement >20 N

Test passed

Test passed

Test passed

Test passed

Contact holder in insert  
Requirements >20 N

Test passed

Test passed

Test passed

Test passed

**Durability tests (B)**Contact resistance  $R_1$  1st level1.3 m $\Omega$ 2.4 m $\Omega$ 2.6 m $\Omega$ 1.6 m $\Omega$ Contact resistance  $R_1$  2nd level

Insertion/withdrawal cycles

25

25

25

25

Contact resistance  $R_2$ 1.4 m $\Omega$ 2.4 m $\Omega$ 2.6 m $\Omega$ 1.6 m $\Omega$ Rated impulse voltage at sea level  
Voltage waveform  $\geq$  (1.2/50  $\mu$ s)

4.8 kV

4.8 kV

4.8 kV

4.8 kV

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

2.21 kV

2.21 kV

2.21 kV

2.21 kV

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

Tested number of positions

24

24

24

24

Tested conductor cross section

2.5 mm<sup>2</sup>2.5 mm<sup>2</sup>2.5 mm<sup>2</sup>2.5 mm<sup>2</sup>

Test current

12 A

12 A

12 A

12 A

Upper limiting temperature  
Requirements < 100°C

Test passed

Test passed

Test passed

Test passed

**Climatic tests (D)**

Test sequence 1: low temperature storage

-40 °C/2 h

-40 °C/2 h

-40 °C/2 h

-40 °C/2 h

Test sequence 2: heat storage

100 °C/168 h

100 °C/168 h

100 °C/168 h

100 °C/168 h

Test sequence 3: noxious gas storage

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 cycle0.2 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)

4.8 kV

4.8 kV

4.8 kV

4.8 kV

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

2.21 kV

2.21 kV

2.21 kV

2.21 kV

**Environmental and endurance tests (E)**

Specification

IEC 61984:2008-10

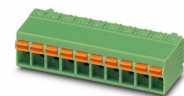
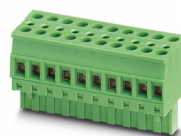
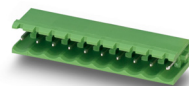
IEC 61984:2008-10

IEC 61984:2008-10

IEC 61984:2008-10

Degree of protection

Finger safety with IP20  
test fingerFinger safety with IP20  
test fingerFinger safety with IP20  
test fingerFinger safety with IP20  
test finger

**1759046 MSTB 2,5/ 5-G-5,08****MSTB 2,5/..-G**

IEC 61984

**Mechanical tests (A)**

Insertion/withdrawal force per position

Polarization when inserted  
Requirement >20 NContact holder in insert  
Requirements >20 N**Durability tests (B)**Contact resistance R<sub>1</sub> 1st levelContact resistance R<sub>1</sub> 2nd level

Insertion/withdrawal cycles

Contact resistance R<sub>2</sub>Rated impulse voltage at sea level  
Voltage waveform ≥ (1.2/50 μs)Power-frequency withstand voltage  
Voltage waveform ≥ (50/60 Hz)Insulation resistance  
Requirements > 5 MΩ**Thermal tests (C)**

Tested number of positions

Tested conductor cross section

Test current

Upper limiting temperature  
Requirements < 100°C**Climatic tests (D)**

Test sequence 1: low temperature storage

Test sequence 2: heat storage

Test sequence 3: noxious gas storage

Rated impulse voltage at sea level  
Voltage waveform ≥ (1.2/50 μs)Power-frequency withstand voltage  
Voltage waveform ≥ (50/60 Hz)**Environmental and endurance tests (E)**

Specification

Degree of protection

**TMSTBP 2,5/..-ST**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

1.1 mΩ

25

1.1 mΩ

4.8 kV

2.21 kV

&gt; 5 MΩ

10

2.5 mm<sup>2</sup>

12 A

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger**TVMSTB 2,5/..-ST**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

1.1 mΩ

25

1.2 mΩ

4.8 kV

2.21 kV

&gt; 5 MΩ

10

2.5 mm<sup>2</sup>

12 A

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger**TFKC 2,5/..-ST**

IEC 61984

approx. 12 N / 11 N

Test passed

Test passed

1.1 mΩ

25

1.1 mΩ

4.8 kV

2.21 kV

&gt; 5 MΩ

10

2.5 mm<sup>2</sup>

12 A

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger**FKCN 2,5/..-ST**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

1 mΩ

25

1.1 mΩ

4.8 kV

2.21 kV

&gt; 5 MΩ

18

2.5 mm<sup>2</sup>

12 A

Test passed

-40 °C/2 h

100 °C/168 h

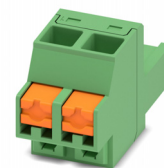
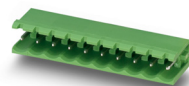
0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger

**1759046 MSTB 2,5/ 5-G-5,08****MSTB 2,5/..-G**

IEC 61984

**Mechanical tests (A)**

Insertion/withdrawal force per position

Polarization when inserted  
Requirement >20 NContact holder in insert  
Requirements >20 N**Durability tests (B)**Contact resistance R<sub>1</sub> 1st levelContact resistance R<sub>1</sub> 2nd level

Insertion/withdrawal cycles

Contact resistance R<sub>2</sub>Rated impulse voltage at sea level  
Voltage waveform  $\geq (1.2/50 \mu s)$ Power-frequency withstand voltage  
Voltage waveform  $\geq (50/60 \text{ Hz})$ Insulation resistance  
Requirements > 5 M $\Omega$ **Thermal tests (C)**

Tested number of positions

Tested conductor cross section

Test current

Upper limiting temperature  
Requirements < 100°CUpper limiting temperature  
Requirements < 100°C**Climatic tests (D)**

Test sequence 1: low temperature storage

Test sequence 2: heat storage

Test sequence 3: noxious gas storage

Rated impulse voltage at sea level  
Voltage waveform  $\geq (1.2/50 \mu s)$ Power-frequency withstand voltage  
Voltage waveform  $\geq (50/60 \text{ Hz})$ **Environmental and endurance tests (E)**

Specification

Degree of protection

**MSTBT 2,5/..-ST**

IEC 61984

approx. 8 N / 6 N

Test passed

Test passed

1.4 m $\Omega$ 

25

1.4 m $\Omega$ 

4.8 kV

2.21 kV

> 5 M $\Omega$ 

18

2.5 mm<sup>2</sup>

12 A

Test passed

Test passed

-40 °C/2 h

100 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger**ICV 2,5/..-G**

IEC 61984

approx. 11 N / 8 N

Test passed

Test passed

1.2 m $\Omega$ 

25

1.3 m $\Omega$ 

4.8 kV

2.21 kV

> 5 M $\Omega$ 

24

2.5 mm<sup>2</sup>

12 A

Test passed

Test passed

-40 °C/2 h

105 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger**IC 2,5/..-G**

IEC 61984

approx. 10 N / 8 N

Test passed

Test passed

1.2 m $\Omega$ 

25

1.3 m $\Omega$ 

4.8 kV

2.21 kV

> 5 M $\Omega$ 

24

2.5 mm<sup>2</sup>

12 A

Test passed

Test passed

-40 °C/2 h

105 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Back of hand safety with  
IP10 access probe**FKCOR 2,5/..-ST**

IEC 61984

approx. 10 N / 9 N

Test passed

Test passed

1.2 m $\Omega$ 

25

1.2 m $\Omega$ 

4.8 kV

2.21 kV

> 5 M $\Omega$ 

24

2.5 mm<sup>2</sup>

12 A

Test passed

Test passed

-40 °C/2 h

105 °C/168 h

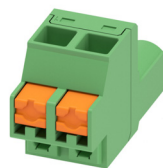
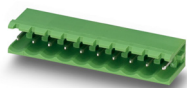
0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger

**1759046 MSTB 2,5/ 5-G-5,08****MSTB 2,5/..-G**

IEC 61984

**Mechanical tests (A)**

Insertion/withdrawal force per position

Polarization when inserted  
Requirement >20 NContact holder in insert  
Requirements >20 N**Durability tests (B)**Contact resistance  $R_1$  1st levelContact resistance  $R_1$  2nd level

Insertion/withdrawal cycles

Contact resistance  $R_2$ Rated impulse voltage at sea level  
Voltage waveform  $\geq (1.2/50 \mu s)$ Power-frequency withstand voltage  
Voltage waveform  $\geq (50/60 \text{ Hz})$ Insulation resistance  
Requirements > 5 M $\Omega$ **Thermal tests (C)**

Tested number of positions

Tested conductor cross section

Test current

Upper limiting temperature  
Requirements < 100°C**Climatic tests (D)**

Test sequence 1: low temperature storage

Test sequence 2: heat storage

Test sequence 3: noxious gas storage

Rated impulse voltage at sea level  
Voltage waveform  $\geq (1.2/50 \mu s)$ Power-frequency withstand voltage  
Voltage waveform  $\geq (50/60 \text{ Hz})$ **Environmental and endurance tests (E)**

Specification

Degree of protection

**FKCOW 2,5/..-ST**

IEC 61984

approx. 10 N / 9 N

Test passed

Test passed

1.2 m $\Omega$ 

25

1.2 m $\Omega$ 

4.8 kV

2.21 kV

> 5 M $\Omega$ 

24

2.5 mm<sup>2</sup>

12 A

Test passed

-40 °C/2 h

105 °C/168 h

0.2 dm<sup>3</sup> SO<sub>2</sub> on 300 dm<sup>3</sup>/  
40 °C/1 cycle

4.8 kV

2.21 kV

IEC 61984:2008-10

Finger safety with IP20  
test finger