

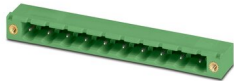
# GMSTB 2,5/ 7-GF-7,62 - PCB header



1806274

<https://www.phoenixcontact.com/in/products/1806274>

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PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 630 V, contact surface: Tin, type of contact: Pin, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, product range: GMSTB 2,5/..-GF, pitch: 7.62 mm, mounting: Wave soldering, conductor/PCB connection direction: 0 °, pin layout: Linear pinning, solder pin [P]: 3.2 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

- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Well-known mounting principle allows worldwide use
- Larger pitch for increased voltage requirements

## Commercial Data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1806274             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales Key                            | AAC                 |
| Product Key                          | AACSJC              |
| Catalog Page                         | Page 343 (C-1-2013) |
| GTIN                                 | 4017918046941       |
| Weight per Piece (including packing) | 4.906 g             |
| Weight per Piece (excluding packing) | 4.906 g             |
| Customs tariff number                | 85366930            |
| Country of origin                    | DE                  |

# GMSTB 2,5/ 7-GF-7,62 - PCB header



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## Technical Data

### Product properties

|                           |                       |
|---------------------------|-----------------------|
| Type                      | Standard              |
| Product line              | COMBICON Connectors M |
| Product type              | PCB headers           |
| Product family            | GMSTB 2,5/..-GF       |
| Number of positions       | 7                     |
| Pitch                     | 7.62 mm               |
| Number of connections     | 7                     |
| Number of rows            | 1                     |
| Mounting flange           | Threaded flange       |
| Number of potentials      | 7                     |
| Pin layout                | Linear pinning        |
| Solder pins per potential | 1                     |

### Electrical properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 12 A   |
| Nominal voltage $U_N$       | 630 V  |
| Degree of pollution         | 3      |
| Contact resistance          | 2.2 mΩ |
| Rated voltage (III/3)       | 400 V  |
| Rated surge voltage (III/3) | 6 kV   |
| Rated voltage (III/2)       | 630 V  |
| Rated surge voltage (III/2) | 6 kV   |
| Rated voltage (II/2)        | 630 V  |
| Rated surge voltage (II/2)  | 6 kV   |

### Mounting

|               |                |
|---------------|----------------|
| Mounting type | Wave soldering |
| Pin layout    | Linear pinning |

### Flange

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

### Attachment on the PCB

|                   |  |
|-------------------|--|
| Tightening torque | 0.3 Nm   |
| Screw             | Sheet metal screw ISO 1481-ST 2,2x6,5 C or ISO 7049-ST 2,2x6,5 C |
| Tightening torque | 0.3 Nm   |
| Screw             | Sheet metal screw ISO 1481-ST 2,2x6,5 C or ISO 7049-ST 2,2x6,5 C |

### Material specifications

# GMSTB 2,5/ 7-GF-7,62 - PCB header

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## 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 (3 - 5 $\mu\text{m}$ Sn)   |
| Metal surface contact area (middle layer)   | Nickel (1.3 - 3 $\mu\text{m}$ Ni)  |
| Metal surface soldering area (top layer)    | Tin (3 - 5 $\mu\text{m}$ Sn)   |
| Metal surface soldering area (middle layer) | Nickel (1.3 - 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                            | 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       |

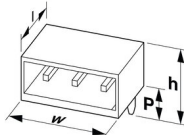
## Material data – actuating element

|          |    |
|----------|----|
| Color () | () |
|----------|----|

## 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                 | 7.62 mm  |
| Width [w]             | 63.92 mm   |
| Height [h]            | 11.8 mm  |
| Length [l]            | 12 mm  |
| Installed height      | 8.6 mm   |
| Solder pin length [P] | 3.2 mm   |

## Mechanical tests

Test for conductor damage and slackening

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|               |                     |
|---------------|---------------------|
| 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.  | 8 N         |

## Torque test

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
|---------------|---------------------|

## 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 | 12                    |

### Insulation resistance

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

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## 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)                       | 400 V               |
| Rated surge voltage (III/3)                            | 6 kV                |
| minimum clearance value - non-homogenous field (III/3) | 5.5 mm              |
| minimum creepage distance (III/3)                      | 5 mm                |
| Rated insulation voltage (III/2)                       | 630 V               |
| Rated surge voltage (III/2)                            | 6 kV                |
| minimum clearance value - non-homogenous field (III/2) | 5.5 mm              |
| minimum creepage distance (III/2)                      | 3.2 mm              |
| Rated insulation voltage (II/2)                        | 630 V               |
| Rated surge voltage (II/2)                             | 6 kV                |
| minimum clearance value - non-homogenous field (II/2)  | 5.5 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 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       | 7.3 kV                |
| Contact resistance $R_1$                     | 2.2 m $\Omega$        |
| Contact resistance $R_2$                     | 2.2 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                    | 105 °C/168 h  |
| Power-frequency withstand voltage | 3.31 kV   |

### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (operation)         | -40 °C ... 105 °C (dependent on the derating curve) |
| Ambient temperature (storage/transport) | -40 °C ... 70 °C                                    |
| Relative humidity (storage/transport)   | 30 % ... 70 %                                       |

# GMSTB 2,5/ 7-GF-7,62 - PCB header



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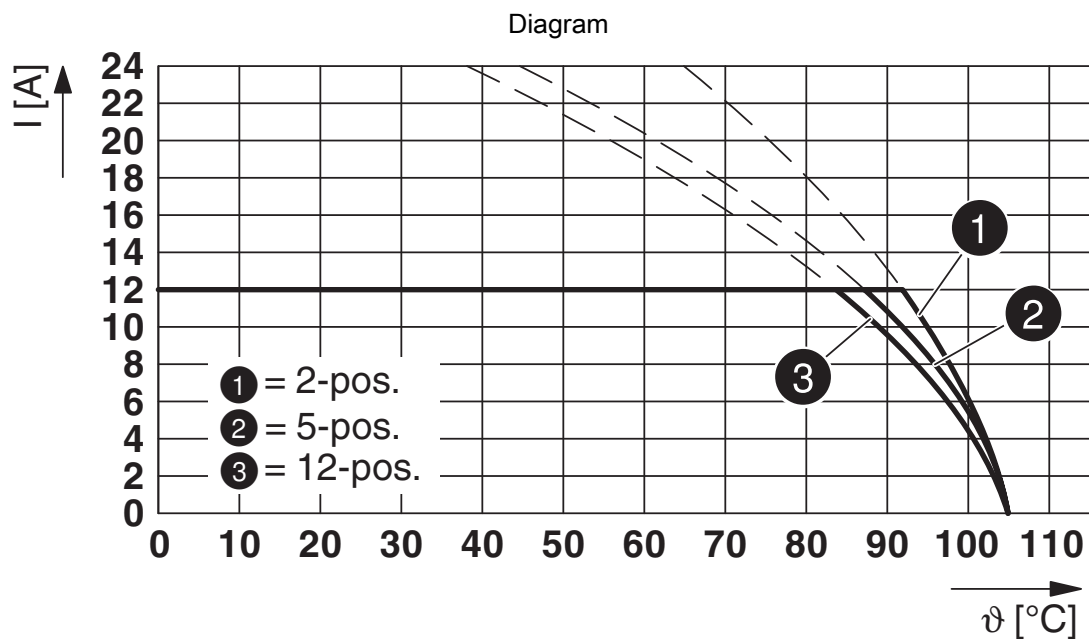
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|                                |                  |
|--------------------------------|------------------|
| Ambient temperature (assembly) | -5 °C ... 100 °C |
|--------------------------------|------------------|

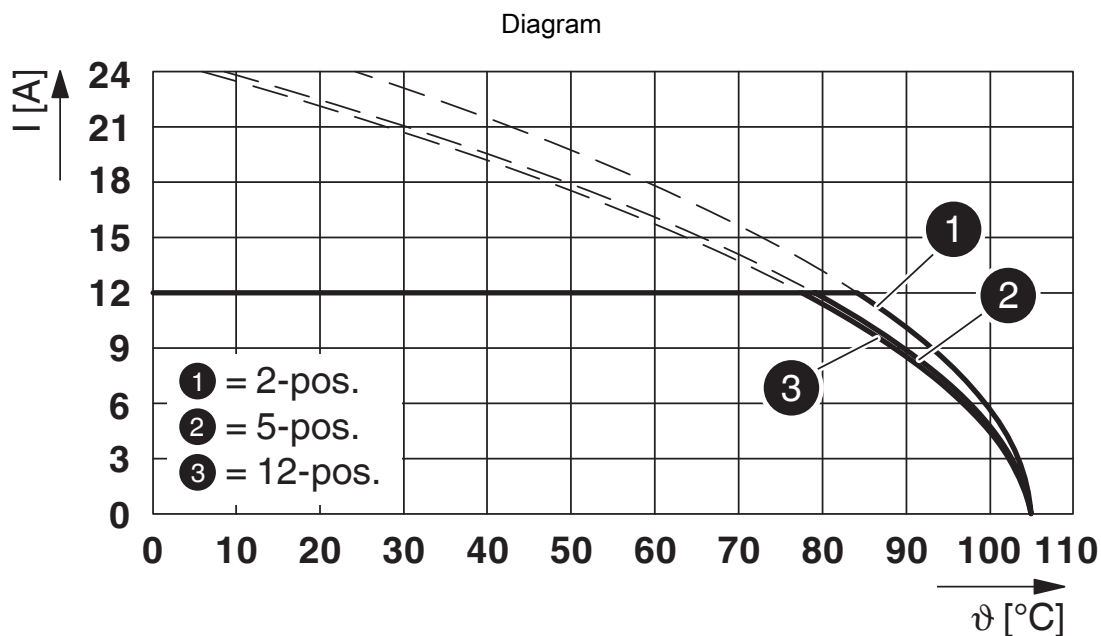
## Packaging specifications

|                   |                     |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

## Drawings



Type: GFKC 2,5/...-STF-7,62 with GMSTB 2,5/...-GF-7,62

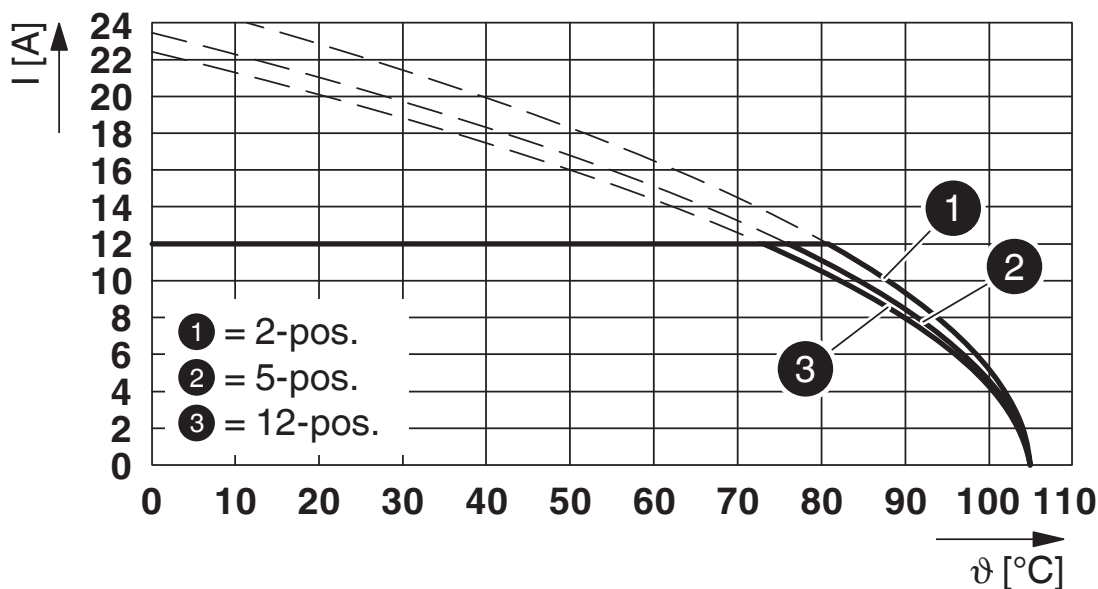


Type: GMSTB 2,5/...-STF-7,62 with GMSTB 2,5/...-GF-7,62

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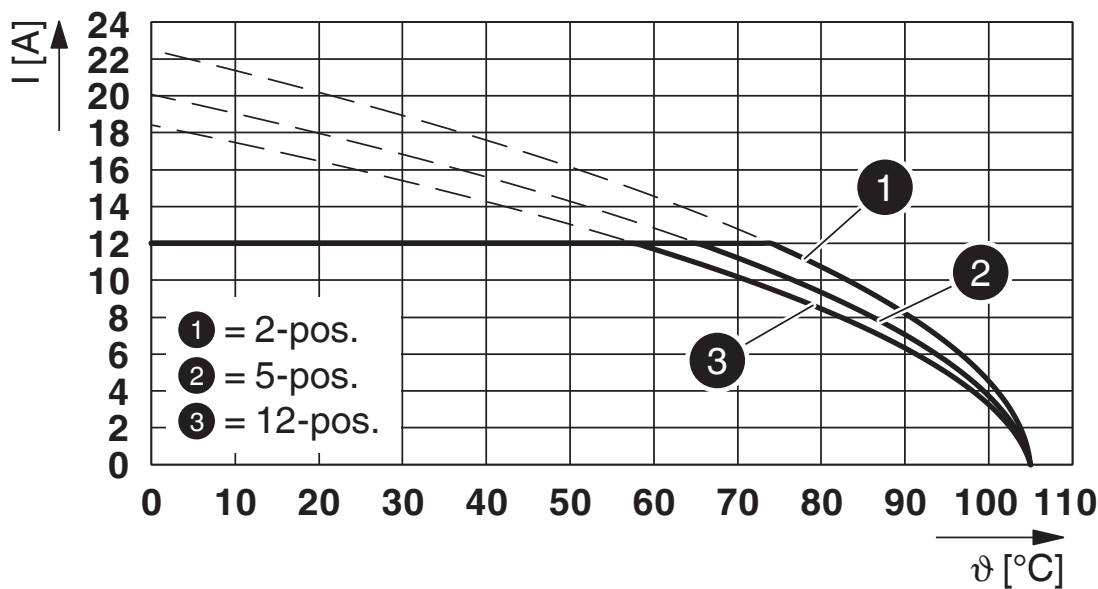
<https://www.phoenixcontact.com/in/products/1806274>

Diagram



Type: FRONT-GMSTB 2,5/...-STF-7,62 with GMSTB 2,5/...-GF-7,62

Diagram



Type: GMVSTBW 2,5/...-STF-7,62 with GMSTB 2,5/...-GF-7,62



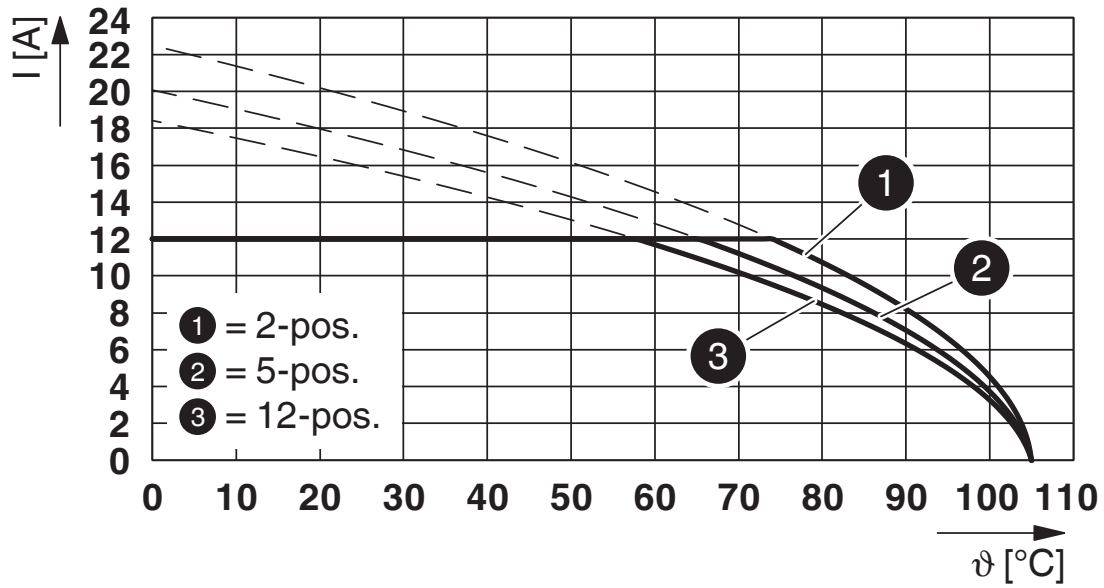
# GMSTB 2,5/ 7-GF-7,62 - PCB header



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Diagram



Type: GMVSTBR 2,5/...-STF-7,62 with GMSTB 2,5/...-GF-7,62


# GMSTB 2,5/ 7-GF-7,62 - PCB header




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## Approvals

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

|  <b>IECEE CB Scheme</b><br>Approval ID: DE1-60988-B1B2 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
|   | 400 V                 | 12 A                  | -                 | -                           |

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

|  <b>cULus Recognized</b><br>Approval ID: E60425-19931013 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal Voltage $U_N$ | Nominal Current $I_N$ | Cross Section AWG | Cross Section $\text{mm}^2$ |
|   | 300 V                 | 15 A                  | -                 | -                           |
|   | 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 $\text{mm}^2$ |
|  | 400 V                 | 12 A                  | -                 | -                           |

# GMSTB 2,5/ 7-GF-7,62 - PCB 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 |
|-------------|----------|

# GMSTB 2,5/ 7-GF-7,62 - PCB header



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<https://www.phoenixcontact.com/in/products/1806274>

## Environmental Product Compliance

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

# GMSTB 2,5/ 7-GF-7,62 - PCB header

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## Accessories

### MSTB-BL - Accessories

1755477

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



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

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### CR-MSTB - Coding section

1734401

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



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

# GMSTB 2,5/ 7-GF-7,62 - PCB header

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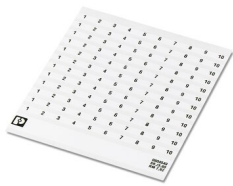
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## SK 7,62/3,8:FORTL.ZAHLEN - Marker card

0804549

<https://www.phoenixcontact.com/in/products/0804549>



Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: adhesive, for terminal block width: 7.62 mm, lettering field size: 7.62 x 3.8 mm

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## FRONT-GMSTB 2,5/ 7-STF-7,62 - PCB connector

1806054

<https://www.phoenixcontact.com/in/products/1806054>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 630 V, contact surface: Tin, type of contact: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, product range: FRONT-GMSTB 2,5/-STF, pitch: 7.62 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, mounting: Screw flange, type of packaging: packed in cardboard

# GMSTB 2,5/ 7-GF-7,62 - PCB header

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## GMVSTBR 2,5/ 7-STF-7,62 - PCB connector

1847932

<https://www.phoenixcontact.com/in/products/1847932>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 630 V, contact surface: Tin, type of contact: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, product range: GMVSTBR 2,5/...-STF, pitch: 7.62 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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## GMVSTBW 2,5/ 7-STF-7,62 - PCB connector

1848041

<https://www.phoenixcontact.com/in/products/1848041>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 630 V, contact surface: Tin, type of contact: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, product range: GMVSTBW 2,5/...-STF, pitch: 7.62 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

# GMSTB 2,5/ 7-GF-7,62 - PCB header

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## GMSTB 2,5/ 7-STF-7,62 - PCB connector

1858811

<https://www.phoenixcontact.com/in/products/1858811>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 630 V, contact surface: Tin, type of contact: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, product range: GMSTB 2,5/..-STF, pitch: 7.62 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

## GFKC 2,5/ 7-STF-7,62 - PCB connector

1939798

<https://www.phoenixcontact.com/in/products/1939798>



PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: green, nominal current: 12 A, rated voltage (III/2): 630 V, contact surface: Tin, type of contact: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, product range: GFKC 2,5/..-STF, pitch: 7.62 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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