

GMSTBVA 2,5 HC/12-G-7,62-LR - PCB header



1813075

<https://www.phoenixcontact.com/us/products/1813075>

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PCB headers, nominal cross section: 2.5 mm², color: green, nominal current: 16 A, rated voltage (III/2): 630 V, contact surface: Sn, contact connection type: Pin, number of potentials: 12, number of rows: 1, number of positions: 12, number of connections: 12, product range: GMSTBVA 2,5 HC/...-G-LR, pitch: 7.62 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.9 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5 HC, Pin connector pattern alignment: Standard, locking: Lock-and-release locking system, mounting method: Lock & Release, type of packaging: packed in cardboard



Your advantages

- Well-known mounting principle allows worldwide use
- Maximum flexibility when it comes to device design – one header for connectors with different connection technologies
- Automatic locking and intuitive release through Lock and Release operating lever in contrasting color
- Larger pitch for increased voltage requirements
- Vertical connection enables multi-row arrangement on the PCB

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 1813075 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Note | Made to order (non-returnable) |
| Sales key | AA03 |
| Product key | AACSJQ |
| GTIN | 4046356728980 |
| Weight per piece (including packing) | 6.3 g |
| Weight per piece (excluding packing) | 2.22 g |
| Customs tariff number | 85366930 |
| Country of origin | DE |

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Technical data

Product properties

| | |
|---------------------------|--------------------------------|
| Product type | PCB headers |
| Product family | GMSTBVA 2,5 HC/..-G-LR |
| Product line | COMBICON Connectors M |
| Type | Standard |
| Number of positions | 12 |
| Pitch | 7.62 mm |
| Number of connections | 12 |
| Number of rows | 1 |
| Number of potentials | 12 |
| Mounting type | Lock & release threaded flange |
| Pin layout | Linear pinning |
| Solder pins per potential | 1 |

Electrical properties

Properties

| | |
|-----------------------------|---------|
| Nominal current I_N | 16 A |
| Nominal voltage U_N | 630 V |
| Contact resistance | 0.64 mΩ |
| Rated voltage (III/3) | 500 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) | 1000 V |
| Rated surge voltage (II/2) | 6 kV |

Mounting

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

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 (3 μm - 5 μm Sn) |
| Metal surface contact area (middle layer) | Nickel (1.3 μm - 3 μm Ni) |
| Metal surface soldering area (top layer) | Tin (3 μm - 5 μm Sn) |
| Metal surface soldering area (middle layer) | Nickel (1.3 μm - 3 μm Ni) |

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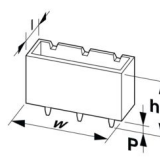
Material data - housing

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

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] | 102.02 mm |
| Height [h] | 15.9 mm |
| Length [l] | 8.6 mm |
| Installed height | 12 mm |
| Solder pin length [P] | 3.9 mm |
| Pin dimensions | 1 x 1 mm |

PCB design

| | |
|---------------|--------|
| Hole diameter | 1.4 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 |
|---------------|------------------------|

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| | |
|---|------------------------|
| Result | Test passed |
| 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 Requirements >20 N | Test passed |
| Insertion and withdrawal forces | |
| Specification | IEC 60512-13-2:2006-02 |
| Result | Test passed |
| No. of cycles | 50 |
| Insertion strength per pos. approx. | 6 N |
| Withdraw strength per pos. approx. | 4 N |

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 |

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) | 500 V |
| Rated surge voltage (III/3) | 6 kV |
| minimum clearance value - non-homogenous field (III/3) | 5.5 mm |
| minimum creepage distance (III/3) | 6.3 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) | 5.5 mm |
| Rated insulation voltage (II/2) | 1000 V |
| Rated surge voltage (II/2) | 6 kV |
| minimum clearance value - non-homogenous field (II/2) | 5.5 mm |
| minimum creepage distance (II/2) | 5.5 mm |

Environmental and real-life conditions

Durability test

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| | |
|--|-----------------------|
| Specification | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 7.3 kV |
| Contact resistance R ₁ | 0.64 mΩ |
| Contact resistance R ₂ | 0.75 mΩ |
| Insertion/withdrawal cycles | 50 |
| Insulation resistance, neighboring positions | > 5 MΩ |

Climatic test

| | |
|-----------------------------------|---|
| Specification | ISO 6988:1985-02 |
| Corrosive stress | 0.2 dm ³ SO ₂ on 300 dm ³ /40 °C/1 cycle |
| Thermal stress | 100 °C/168 h |
| Power-frequency withstand voltage | 3.31 kV |

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) |
| Acceleration | 5g (60.1 Hz ... 150 Hz) |
| Test duration per axis | 2.5 h |
| Test directions | X-, Y- and Z-axis |

Shocks

| | |
|-----------------|-----------------------------------|
| Specification | IEC 61373:2010-05 |
| Pulse shape | Semi-sinusoidal |
| Acceleration | 30g |
| Shock duration | 18 ms |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |

Railway application: Oscillation/broadband noise

| | |
|------------------------|--|
| Specification | DIN EN 50155 (VDE 0115-200):2018-05 |
| | IEC 61373:2010-05 |
| Spectrum | Long life test category 1, class B, body mounted |
| Frequency | f ₁ = 5 Hz to f ₂ = 150 Hz |
| ASD level | 0.964 (m/s ²)/Hz |
| Acceleration | 0.572 g |
| Test duration per axis | 5 h |
| Test directions | X-, Y- and Z-axis |
| Contact interruption | < 1 μs |
| Result | Test passed |

Railway application: Shocks

| | |
|---------------|-------------------------------------|
| Specification | DIN EN 50155 (VDE 0115-200):2018-05 |
| | IEC 61373:2010-05 |
| Pulse shape | Semi-sinusoidal |
| Acceleration | 30g |

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| | |
|--------------------------------|-----------------------------------|
| Shock duration | 18 ms |
| Number of shocks per direction | 3 |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |
| Contact interruption | < 1 μ s |
| Result | Test passed |

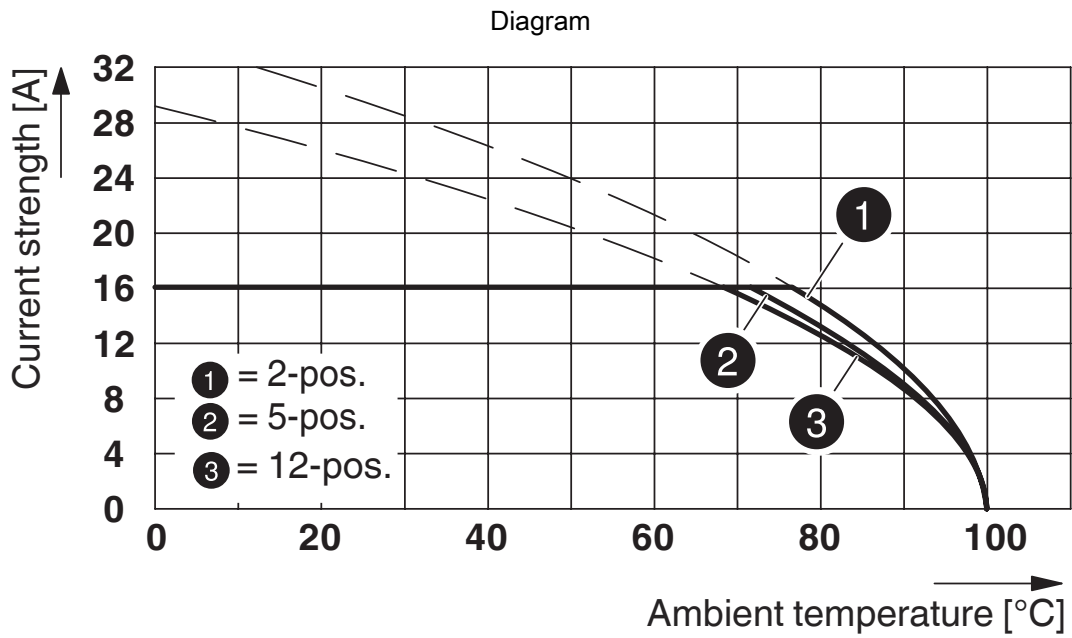
Ambient conditions

| | |
|---|---|
| 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) |

Packaging specifications

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

Drawings



Type: GMSTB 2,5 HCV/...-ST-7,62-LR with GMSTBVA 2,5 HC/...-G-7,62-LR

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1813075>

|  cULus Recognized Approval ID: E60425-19931013 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | 300 V | 20 A | - | - |
| D | 300 V | 10 A | - | - |

|  VDE Zeichengenehmigung Approval ID: 40050079 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | 400 V | 16 A | - | - |

|  UL Recognized Approval ID: E60425-19931013 | | | | |
|--|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| F | - | - | 20 - 300 | - |

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27460201 |
| ECLASS-15.0 | 27460201 |

ETIM

| | |
|-----------|----------|
| ETIM 10.0 | EC002637 |
|-----------|----------|

UNSPSC

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

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Environmental product compliance

EU RoHS

| | |
|---|--------------------|
| Fulfills EU RoHS substance requirements | Yes, No exemptions |
|---|--------------------|

China RoHS

| | |
|--|--|
| Environment friendly use period (EFUP) | EFUP-E |
| | No hazardous substances above the limits |

EU REACH SVHC

| | |
|-------------------------------------|----------------------------|
| REACH candidate substance (CAS No.) | No substance above 0.1 wt% |
|-------------------------------------|----------------------------|

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