1085839

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PCB headers, nominal cross section: 2.5 mm², color: black, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Pin, number of rows: 1, number of positions: 4, product range: CCVA 2,5/..-G, pitch: 5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm, number of solder pins per potential: 1, plug-in system: COMBICON MSTB 2,5, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 56 mm wide tape

Your advantages

- · Designed for integration into the SMT soldering process
- · Maximum flexibility when it comes to device design one header for connectors with different connection technologies
- Closed contour for optimum stability of the plug-in connection

Commercial data

| Item number | 1085839 |
|--------------------------------------|---------------|
| Packing unit | 1 pc |
| Minimum order quantity | 140 pc |
| Sales key | AA03 |
| Product key | AACTAC |
| GTIN | 4055626875347 |
| Weight per piece (including packing) | 5.8 g |
| Weight per piece (excluding packing) | 5.8 g |
| Customs tariff number | 85366930 |
| Country of origin | DE |

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Technical data

Product properties

| Product line | COMBICON Connectors M |
|---------------------------|-----------------------|
| Product type | PCB headers |
| Product family | CCVA 2,5/G |
| Number of positions | 4 |
| Pitch | 5 mm |
| Number of rows | 1 |
| 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 | 1.2 mΩ |
| Rated voltage (III/3) | 250 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) | 400 V |
| Rated surge voltage (II/2) | 4 kV |

Mounting

| Mounting type | THR soldering |
|------------------|----------------|
| Pin layout | Linear pinning |
| Processing notes | |

| Process | Reflow/wave soldering |
|----------------------------------|-----------------------|
| Moisture Sensitive Level | MSL 1 |
| Classification temperature T_c | 260 °C |
| Solder cycles in the reflow | 3 |

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

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| Material data - housing | |
|-------------------------|--|
|-------------------------|--|

| Color (Housing) | black (9005) |
|--|--------------|
| Insulating material | LCP |
| Insulating material group | Illa |
| CTI according to IEC 60112 | 175 |
| Flammability rating according to UL 94 | VO |

Notes

| Details for soldering processes | Processing using reflow processes in compliance with IEC 60068-2-58 or DIN EN 61760-1 (latest version) Moisture Sensitive Level (MSL) = 1 according to IPC/JEDEC J- STD-020-C |
|---------------------------------|--|
| 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 | h h b h |
|---------------------|------------------|
| Pitch | 5 mm |
| Width [w] | 22.8 mm |
| Height [h] | 14.6 mm |

| Height [h] | 14.0 [[][]] |
|-----------------------|-------------|
| Length [I] | 8.57 mm |
| Installed height | 12 mm |
| Solder pin length [P] | 2.6 mm |
| Pin dimensions | 1 x 1 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 |
| Polarization and coding | |
| Specification | IEC 60512-13-5:2006-02 |



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| 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 | |
| Result | Test passed |
| No. of cycles | 25 |
| Insertion strength per pos. approx. | 8 N |
| Withdraw strength per pos. approx. | 6 N |
| ectrical tests | |
| Thermal test Test group C | |
| Specification | IEC 60512-5-1:2002-02 |
| Tested number of positions | 24 |
| 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 | |
| Comparative tracking index (IEC 60112) | CTI 175 |
| Rated insulation voltage (III/3) | 250 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) | 3.2 mm |
| Rated insulation voltage (II/2) | 400 V |
| Rated surge voltage (II/2) | 4 kV |
| minimum clearance value - non-homogenous field (II/2) | 3 mm |
| minimum creepage distance (II/2) | 4 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) | |

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| 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 | 1.2 mΩ |
| Contact resistance R ₂ | 1.2 mΩ |
| Insertion/withdrawal cycles | 25 |
| Insulation resistance, neighboring positions | > 5 MΩ |
| Climatic test | |
| Specification | ISO 6988:1985-02 |
| Corrosive stress | $0.2 \text{ dm}^3 \text{SO}_2 \text{ on } 300 \text{ dm}^3/40 \text{ °C/1 cycle}$ |
| Thermal stress | 100 °C/168 h |
| Power-frequency withstand voltage | 2.21 kV |
| mbient conditions | |
| Ambient temperature (operation) | -40 °C 100 °C (dependent on the derating curve) |
| Ambient temperature (storage/transport) | -40 °C 70 °C |
| Relative humidity (storage/transport) | 30 % 70 % |
| Ambient temperature (assembly) | -5 °C 100 °C |

Packaging specifications

Dimensional drawing

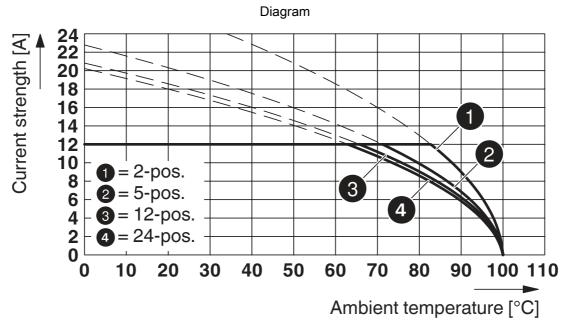
| Type of packaging | 56 mm wide tape |
|-----------------------------|--|
| [W] tape width | 56 mm |
| [W2] coil overall dimension | 62.4 mm |
| [A] coil diameter | 330 mm |
| Outer packaging type | Transparent-Bag |
| ESD level | (D) electrostatically conductive |
| Specification | DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07 |



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Drawings



Type: MSTB 2,5/...-ST with CCVA 2,5/...-G P20 THR



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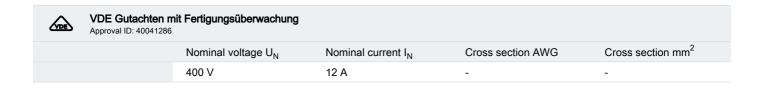
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Approvals

🌣 To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/1085839

| EAC | EAC Approval ID: B.01687 | |
|-----|-----------------------------|--|
|-----|-----------------------------|--|

| CULus Recognized Approval ID: E60425-19931011 | | | | |
|--|--------------------------------|--------------------------------|-------------------|-------------------------------|
| | Nominal voltage U _N | Nominal current I _N | Cross section AWG | Cross section mm ² |
| Use group B | | | | |
| Standard | 300 V | 16 A | - | - |
| Use group D | | | | |
| Standard | 300 V | 10 A | - | - |
| Alternative 1 | 150 V | 15 A | - | - |



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Classifications

ECLASS

| ECLASS-11.0 2 | 27460201 |
|---------------|----------|
| ECLASS-12.0 | 27460201 |
| ECLASS-13.0 | 27460201 |

ETIM

| | ETIM 8.0 | EC002637 | | |
|---|-------------|----------|--|--|
| U | UNSPSC | | | |
| | UNSPSC 21.0 | 39121400 | | |

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Environmental product compliance

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

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Accessories

CR-MSTB NAT HT - Coding section

1954362

https://www.phoenixcontact.com/us/products/1954362

HT coding section, prior to the reflow soldering process it is inserted into the recess on the header, made from high-temperature-resistant beige insulation material



TVFKC 1,5/ 4-ST - PCB connector

1713855 https://www.phoenixcontact.com/us/products/1713855



PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 8, product range: TVFKC 1,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

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TVFKCL 1,5/ 4-ST - PCB connector

1715947

https://www.phoenixcontact.com/us/products/1715947



PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 10 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 8, product range: TVFKCL 1,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

MSTBP 2,5/ 4-ST - PCB connector

1765797 https://www.phoenixcontact.com/us/products/1765797



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MSTBP 2,5/..-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

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SMSTB 2,5/ 4-ST - PCB connector

1768781

https://www.phoenixcontact.com/us/products/1768781



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: SMSTB 2,5/..-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: -45 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

FRONT-MSTB 2,5/ 4-ST - PCB connector

1779437 https://www.phoenixcontact.com/us/products/1779437



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: FRONT-MSTB 2,5/..-ST, pitch: 5 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: without, mounting: without, type of packaging: packed in cardboard

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MSTBT 2,5/ 4-ST - PCB connector

1779851

https://www.phoenixcontact.com/us/products/1779851



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MSTBT 2,5/..-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

MVSTBW 2,5/ 4-STEH - PCB connector

1784299 https://www.phoenixcontact.com/us/products/1784299



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MVSTBW 2,5/..-STEH, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: -90 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

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MVSTBR 2,5/ 4-ST - PCB connector

1792032

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PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MVSTBR 2,5/..-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 90 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

MVSTBW 2,5/ 4-ST - PCB connector

1792540 https://www.phoenixcontact.com/us/products/1792540



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: MVSTBW 2,5/..-ST, pitch: 5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: -90 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

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FKCT 2,5/ 4-ST - PCB connector

1909236

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PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: FKCT 2,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

FKCVR 2,5/ 4-ST - PCB connector

1909731 https://www.phoenixcontact.com/us/products/1909731



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: FKCVR 2,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 90 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

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FKCVW 2,5/ 4-ST - PCB connector

1910050

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PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: FKCVW 2,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: -90 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

FKC 2,5/ 4-ST - PCB connector

1910377 https://www.phoenixcontact.com/us/products/1910377



PCB connector, nominal cross section: 2.5 mm², color: green, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: FKC 2,5/..-ST, pitch: 5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard

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QC 1/ 4-ST-BUS - PCB connector

1921696

https://www.phoenixcontact.com/us/products/1921696



PCB connector, nominal cross section: 1 mm², color: green, nominal current: 10 A, rated voltage (III/2): 630 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: QC 1/..-ST-BUS, pitch: 5 mm, connection method: Displacement connection, conductor/PCB connection direction: 90 °, locking clip: - Locking clip, plug-in system: COMBICON MSTB 2,5, locking: without, mounting: without, type of packaging: packed in cardboard, The plug allows conductors to be looped through from module to module, without interruption

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