1768981

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PCB headers, nominal cross section: 2.5 mm<sup>2</sup>, color: black, nominal current: 12 A, rated voltage (III/2): 320 V, contact surface: Gold, contact connection type: Pin, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: CCVA 2,5/..-G, pitch: 5.08 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: packed in cardboard, For user information and design recommendations for through-hole reflow technology, go to: Downloads

## Your advantages

- · Gold-plated contacts ensure transfer quality remains stable over the long term
- · Designed for integration into the SMT soldering process
- · Vertical connection enables multi-row arrangement on the PCB
- · 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                          | 1768981                        |
|--------------------------------------|--------------------------------|
| Packing unit                         | 50 pc                          |
| Minimum order quantity               | 50 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA03                           |
| Product key                          | AACTBI                         |
| GTIN                                 | 4046356461016                  |
| Weight per piece (including packing) | 1.37 g                         |
| Weight per piece (excluding packing) | 1.11 g                         |
| Customs tariff number                | 85366930                       |
| Country of origin                    | DE                             |

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## Technical data

#### **Product properties**

| PCB headers                                |
|--|
| CCVA 2,5/G                                 |
| COMBICON Connectors M                      |
| Component suitable for through hole reflow |
| 2  |
| 5.08 mm                                    |
| 2  |
| 1  |
| 2  |
| without                                    |
| Linear pinning                             |
| 1  |
|  |

#### **Electrical properties**

| Nominal current I <sub>N</sub> | 12 A  |
|--------------------------------|-------|
| Nominal voltage U <sub>N</sub> | 320 V |
| Degree of pollution            | 3     |
| 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 |

#### 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 partially gold-plated Metal surface contact area (top layer) Gold (0.8 - 1.4 µm Au) Metal surface contact area (middle layer) Nickel (2 - 4 µm Ni)

| Metal surface contact area (top layer)      | Gold (0.8 - 1.4 µm Au) |
|---|------------------------|
| Metal surface contact area (middle layer)   | Nickel (2 - 4 µm Ni)   |
| Metal surface soldering area (top layer)    | Tin (5 - 7 μm Sn)      |
| Metal surface soldering area (middle layer) | Nickel (2 - 4 µm Ni)   |
|   |                        |

#### Material data - housing

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

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| Insulating material                    | LCP  |
|--|------|
| Insulating material group              | Illa |
| CTI according to IEC 60112             | 175  |
| Flammability rating according to UL 94 | V0   |

#### 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   | h<br>p   |
|-----------------------|----------|
| Pitch                 | 5.08 mm  |
| Width [w]             | 12.96 mm |
| Height [h]            | 14.6 mm  |
| Length [I]            | 8.57 mm  |
| Installed height      | 12 mm    |
| Solder pin length [P] | 2.6 mm   |
| Pin dimensions        | 1 x 1 mm |
| PCB design            |          |

| Hole diameter 1.6 mm |
|----------------------|
|----------------------|

#### Electrical tests

| Air clearances and creepage distances                  |                     |
|--|---------------------|
| Specification  | IEC 60664-1:2007-04 |
| Insulating material group                              | Illa                |
| 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                |



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#### Environmental and real-life conditions

#### Ambient conditions

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

#### Packaging specifications

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



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#### Approvals

🌣 To download certificates, visit the product detail page: https://www.phoenixcontact.com/ca/products/1768981

| Approval ID: E6042 | Approval ID: E60425-19931011   |                                |                   |                               |
|--------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
|                    | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
| Use group B        |                                |                                |                   |                               |
| Standard           | 300 V                          | 16 A                           | -                 | -                             |
| Use group D        |                                |                                |                   |                               |
| Standard           | 300 V                          | 10 A                           | -                 | -                             |
| Alternative 1      | 150 V                          | 15 A                           | -                 | -                             |



#### VDE Zeichengenehmigung Approval ID: 40050079

| Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
|--------------------------------|--------------------------------|-------------------|-------------------------------|
| 320 V                          | 16 A                           | -                 | -                             |

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## Classifications

#### ECLASS

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

#### ETIM

|        | ETIM 8.0    | 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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