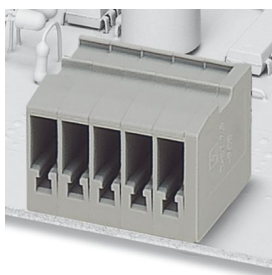


# ST 2,5-PCB/ 5-G-5,2 - PCB header

1980404

<https://www.phoenixcontact.com/us/products/1980404>

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ST-COMBI receptacle, plug-in direction horizontal to the PCB, pitch: 5.2 mm, no. of positions: 5

## Your advantages

- Universal plug-in solutions from the DIN rail through to the device can be implemented with the same plug
- The pitch width of this base strip is matched to that of the COMBI plug

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1980404                        |
| Packing unit                         | 50 pc                          |
| Minimum order quantity               | 50 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA03                           |
| Product key                          | BE643X                         |
| GTIN                                 | 4017918972073                  |
| Weight per piece (including packing) | 8.644 g                        |
| Weight per piece (excluding packing) | 8.063 g                        |
| Customs tariff number                | 85366930                       |
| Country of origin                    | PL                             |

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## Technical data

### Product properties

|                           |                       |
|---------------------------|-----------------------|
| Product type              | PCB headers           |
| Product family            | ST 2,5-PCB/..-G       |
| Product line              | COMBICON Connectors M |
| Number of positions       | 5                     |
| Pitch                     | 5.2 mm                |
| Number of rows            | 1                     |
| Mounting type             | without               |
| Pin layout                | Zigzag pinning W      |
| Solder pins per potential | 1                     |

### Electrical properties

#### Properties

|                             |              |
|-----------------------------|--------------|
| Nominal current $I_N$       | 20 A         |
| Nominal voltage $U_N$       | 630 V        |
| Contact resistance          | 1 m $\Omega$ |
| 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    | Zigzag pinning W |

### 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 (4 $\mu$ m - 8 $\mu$ m Sn)   |
| Metal surface soldering area (top layer) | Tin (4 $\mu$ m - 8 $\mu$ m Sn)   |

#### Material data - housing

|                            |             |
|----------------------------|-------------|
| Color (Housing)            | gray (7042) |
| Insulating material        | PA          |
| Insulating material group  | I           |
| CTI according to IEC 60112 | 600         |

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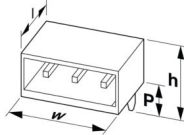
<https://www.phoenixcontact.com/us/products/1980404>

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

|                     |  |
|---------------------|--|
| Note on application | 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                 | 5.2 mm  |
| Width [w]             | 28.1 mm   |
| Height [h]            | 21.55 mm  |
| Length [l]            | 21.7 mm   |
| Installed height      | 18.05 mm  |
| Solder pin length [P] | 3.5 mm  |
| Pin dimensions        | 11 mm   |

## PCB design

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

## Mechanical tests

### Visual inspection

|               |                     |
|---------------|---------------------|
| Specification | IEC 60512-2:1985-00 |
| Result        | Test passed         |

### Dimension check

|               |                     |
|---------------|---------------------|
| Specification | IEC 60512-2:1985-00 |
| Result        | Test passed         |

### Resistance of inscriptions

|               |                        |
|---------------|------------------------|
| Specification | IEC 60068-2-70:1995-12 |
| Result        | Test passed            |

### Polarization and coding

|               |                                    |
|---------------|------------------------------------|
| Specification | IEC 60512-7:1993-08 (Polarization) |
| Result        | Test passed                        |

### Contact holder in insert

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|   |                     |
|---|---------------------|
| Specification                               | IEC 60512-8:1993-01 |
| Contact holder in insert Requirements >20 N | Test passed         |

## Insertion and withdrawal forces

|                                     |                     |
|-------------------------------------|---------------------|
| Specification                       | IEC 60512-7:1993-08 |
| 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 60512-2:1985-00 |
| Insulation resistance, neighboring positions | $10^{12} \Omega$    |

### 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

|  |                     |
|--|---------------------|
| Specification                          | IEC 60512-5:1992-08 |
| Impulse withstand voltage at sea level | 7.3 kV              |
| Contact resistance $R_1$               | 1 m $\Omega$        |
| Contact resistance $R_2$               | 1.5 m $\Omega$      |
| Insertion/withdrawal cycles            | 50                  |

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## Climatic test

|                                   |                   |
|-----------------------------------|-------------------|
| Specification                     | ISO 6988:1985-02  |
| Corrosive stress                  | KFW 0.2 S/1 cycle |
| Thermal stress                    | 100 °C/168 h      |
| Power-frequency withstand voltage | 3.31 kV           |

## Vibration test

|                        |                             |
|------------------------|-----------------------------|
| Specification          | IEC 60068-2-6:1995-03       |
| 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           |

## 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 |
|-------------------|---------------------|

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## Drawings

Diagram



Type: SP 2,5/... with ST 2,5-PCB/...-G-5,2

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## Approvals

📄 To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1980404>

|  <b>cULus Recognized</b><br>Approval ID: E60425-20000825 |  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|---|--|-----------------------|-----------------------|-------------------|-----------------------------|
| B   |  | 300 V                 | 15 A                  | -                 | -                           |
| C   |  | 300 V                 | 15 A                  | -                 | -                           |

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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% |
|-------------------------------------|----------------------------|

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.056 kg CO2e |
|---------|---------------|

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