

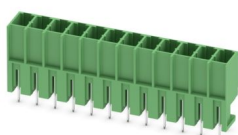
# PCV 4/12-G-7,62 - PCB header



1804784

<https://www.phoenixcontact.com/gb/products/1804784>

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PCB headers, nominal cross section: 4 mm<sup>2</sup>, color: green, nominal current: 20 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: PCV 4/..-G, pitch: 7.62 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 5 mm, number of solder pins per potential: 2, plug-in system: COMBICON PC 4, Pin connector pattern alignment: Standard, locking: without, mounting method: without, type of packaging: packed in cardboard, Mounting flange: Accessory Item No. 1827570

## 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
- Easy PCB replacement thanks to plug-in modules

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1804784             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | AADSAD              |
| Product key                          | AADSAD              |
| Catalog page                         | Page 517 (C-1-2013) |
| GTIN                                 | 4017918046224       |
| Weight per piece (including packing) | 27.62 g             |
| Weight per piece (excluding packing) | 23.056 g            |
| Customs tariff number                | 85366990            |
| Country of origin                    | DE                  |

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## Technical data

### Product properties

|                           |                       |
|---------------------------|-----------------------|
| Product type              | PCB headers           |
| Product family            | PCV 4/..-G            |
| Product line              | COMBICON Connectors L |
| Type                      | Standard              |
| Number of positions       | 12                    |
| Pitch                     | 7.62 mm               |
| Number of connections     | 12                    |
| Number of rows            | 1                     |
| Number of potentials      | 12                    |
| Mounting flange           | without               |
| Pin layout                | Linear pinning        |
| Solder pins per potential | 2                     |

### Electrical properties

#### Properties

|                             |         |
|-----------------------------|---------|
| Nominal current $I_N$       | 20 A    |
| Nominal voltage $U_N$       | 630 V   |
| Contact resistance          | 0.45 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 |

### 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 (5 - 10 μm Sn)                                                               |
| Metal surface contact area (middle layer)   | Nickel (2 - 5 μm Ni)                                                             |
| Metal surface soldering area (top layer)    | Tin (5 - 10 μm Sn)                                                               |
| Metal surface soldering area (middle layer) | Nickel (2 - 5 μm Ni)                                                             |

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## Material data - housing

|                                        |              |
|----------------------------------------|--------------|
| Color (Housing)                        | green (6021) |
| Insulating material                    | PBT          |
| Insulating material group              | IIIa         |
| CTI according to IEC 60112             | 225          |
| 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   |  |
| Pitch                 | 7.62 mm                                                                             |
| Width [w]             | 91.4 mm                                                                             |
| Height [h]            | 34 mm                                                                               |
| Length [l]            | 14.25 mm                                                                            |
| Installed height      | 29 mm                                                                               |
| Solder pin length [P] | 5 mm                                                                                |
| Pin dimensions        | 0.8 x 1 mm                                                                          |

## PCB design

|               |         |
|---------------|---------|
| Pin spacing   | 7.62 mm |
| Hole diameter | 1.3 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<br>Requirements >20 N | Test passed            |
| Insertion and withdrawal forces                |                        |
| Result                                         | Test passed            |
| No. of cycles                                  | 50                     |
| Insertion strength per pos. approx.            | 8 N                    |
| Withdraw strength per pos. approx.             | 6 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 | $>10^{12} \Omega$     |

### Air clearances and creepage distances |

|                                                        |                     |
|--------------------------------------------------------|---------------------|
| Specification                                          | IEC 60664-1:2007-04 |
| Insulating material group                              | IIIa                |
| Comparative tracking index (IEC 60112)                 | CTI 225             |
| 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)                      | 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)                      | 6.3 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)                       | 6.3 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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|                        |                         |
|------------------------|-------------------------|
| Acceleration           | 5g (60.1 Hz ... 150 Hz) |
| Test duration per axis | 2.5 h                   |
| Test directions        | X-, Y- and Z-axis       |

## Durability test

|                                        |                     |
|----------------------------------------|---------------------|
| Specification                          | IEC 60512-5:1992-08 |
| Impulse withstand voltage at sea level | 7.3 kV              |
| Contact resistance $R_1$               | 0.45 m $\Omega$     |
| Contact resistance $R_2$               | 0.6 m $\Omega$      |
| Insertion/withdrawal cycles            | 50                  |

## 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                    | 100 °C/168 h                                                              |
| Power-frequency withstand voltage | 3.31 kV                                                                   |

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

## Drawings

Diagram

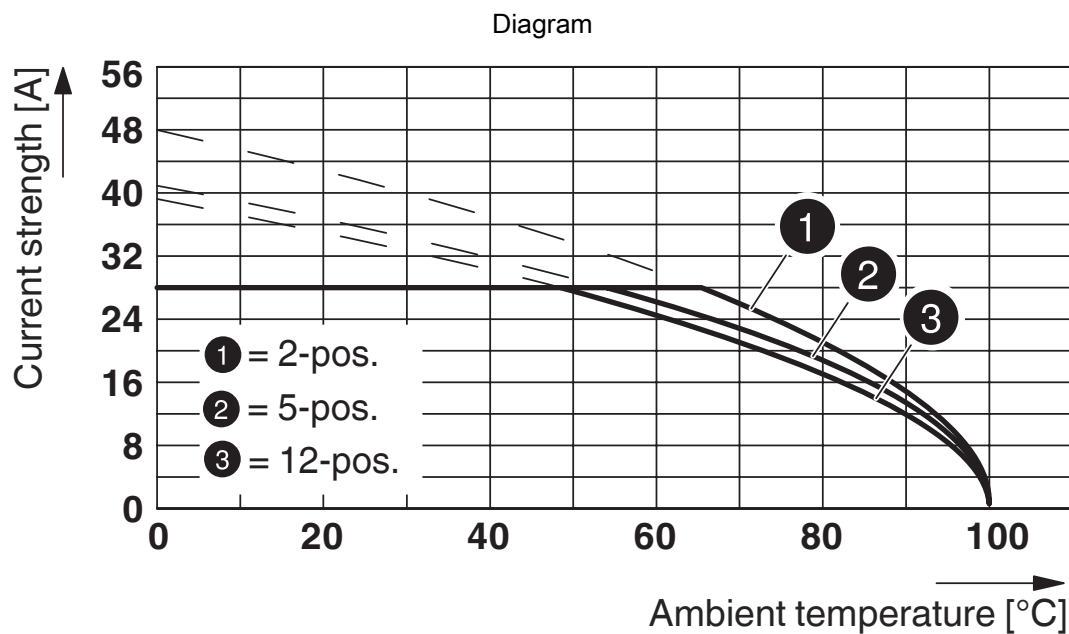


Type: PC 5/...-ST1-7,62 with PCV 4/...-G-7,62  
Conductor cross section: 4 mm<sup>2</sup>

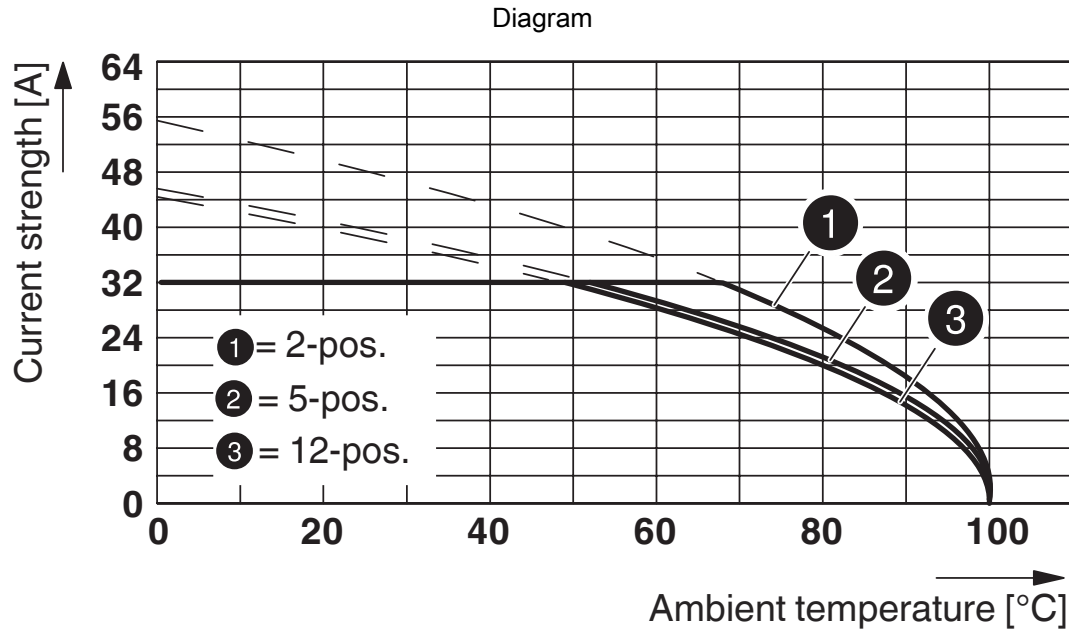
Diagram



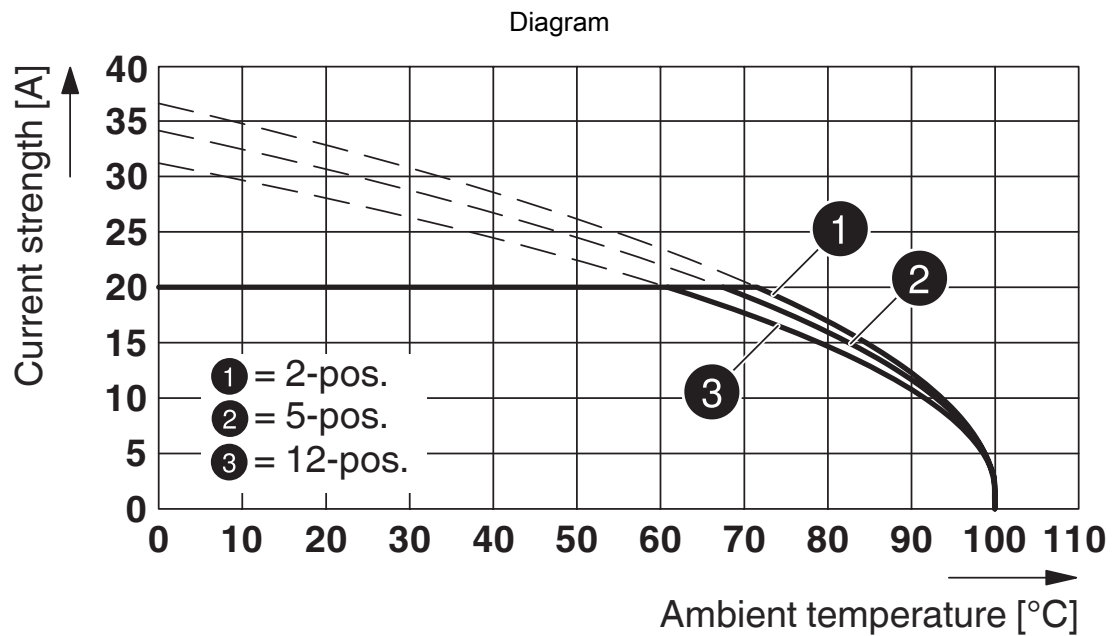
Type: PC 5/...-ST1-7,62 with PCV 4/...-G-7,62  
Conductor cross section: 6 mm<sup>2</sup>



Type: PC 5/...-STF1-7,62 with PCV 4/...-G-7,62 and BF-PC 4  
Conductor cross section: 4 mm<sup>2</sup>

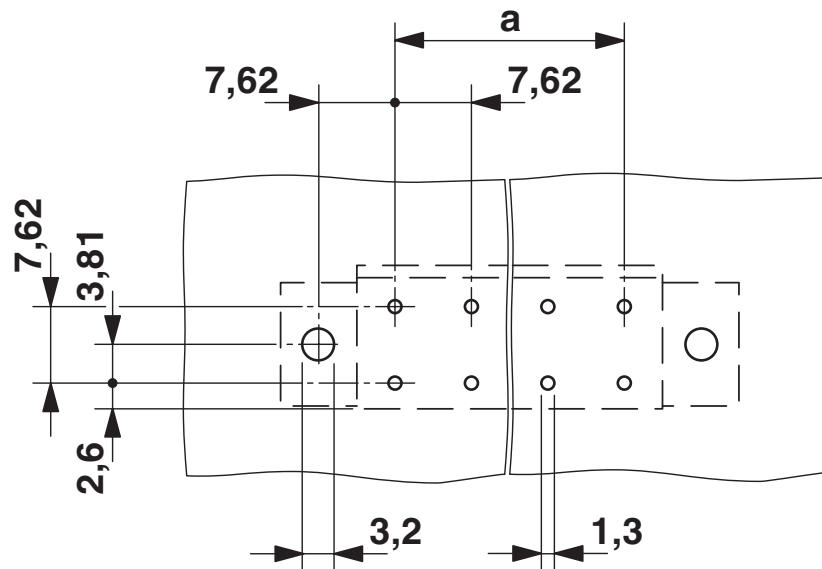


Type: PC 5/...-STF1-7,62 with PCV 4/...-G-7,62 and BF-PC 4  
Conductor cross-section: 6 mm<sup>2</sup>



Type: PC 4/...-STF-7,62 with PCV 4/...-G-7,62 and BF-PC 4

Drilling plan/solder pad geometry



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/1804784>

| CSA<br>Approval ID: 13631 |                       |                       |                   |                             |
|---------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B               |                       |                       |                   |                             |
|                           | 300 V                 | 20 A                  | -                 | -                           |
| Use group C               |                       |                       |                   |                             |
|                           | 300 V                 | 20 A                  | -                 | -                           |

| cULus Recognized<br>Approval ID: E60425-19920722 |                       |                       |                   |                             |
|--------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                  | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                      |                       |                       |                   |                             |
|                                                  | 300 V                 | 30 A                  | -                 | -                           |
| Use group C                                      |                       |                       |                   |                             |
|                                                  | 300 V                 | 30 A                  | -                 | -                           |

| DNV GL<br>Approval ID: TAE00001EZ |  |  |  |  |
|-----------------------------------|--|--|--|--|
|-----------------------------------|--|--|--|--|

| LR<br>Approval ID: LR21308805TA |  |  |  |  |
|---------------------------------|--|--|--|--|
|---------------------------------|--|--|--|--|

| BV<br>Approval ID: 35433/C0 BV |  |  |  |  |
|--------------------------------|--|--|--|--|
|--------------------------------|--|--|--|--|

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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | 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% |
|-------------------------------------|----------------------------|

### EF3.0 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.467 kg CO2e |
|---------|---------------|

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PHOENIX CONTACT Ltd  
Halesfield 13, Telford  
Shropshire, TF7 4PG  
01952 681700  
[info@phoenixcontact.co.uk](mailto:info@phoenixcontact.co.uk)