

# IPCV 5/ 2-GF-7,62 - PCB header

1708938

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PCB headers, nominal cross section: 6 mm<sup>2</sup>, color: green, nominal current: 41 A, rated voltage (III/2): 630 V, contact surface: Tin, contact connection type: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: IPCV 5/-GF, pitch: 7.62 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 5 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 5, Pin connector pattern alignment: Standard, locking: Screw locking mechanism, mounting: Threaded flange, 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
- Inverted header with socket contacts for touch-proof device outputs or PCB/PCB connections
- Screwable flange for superior mechanical stability
- Integrated double steel spring provides additional safety in the event of temperature and power fluctuations

## Commercial data

|                                      |                     |
|--------------------------------------|---------------------|
| Item number                          | 1708938             |
| Packing unit                         | 50 pc               |
| Minimum order quantity               | 50 pc               |
| Sales key                            | AA04                |
| Product key                          | AADSCF              |
| Catalog page                         | Page 543 (C-1-2013) |
| GTIN                                 | 4046356089913       |
| Weight per piece (including packing) | 7.657 g             |
| Weight per piece (excluding packing) | 7.645 g             |
| Customs tariff number                | 85366930            |
| Country of origin                    | PL                  |

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## Technical data

### Product properties

|                           |                       |
|---------------------------|-----------------------|
| Product type              | PCB headers           |
| Product family            | IPCV 5/...-GF         |
| Product line              | COMBICON Connectors L |
| Type                      | Inverted              |
| Number of positions       | 2                     |
| Pitch                     | 7.62 mm               |
| Number of connections     | 2                     |
| Number of rows            | 1                     |
| Number of potentials      | 2                     |
| Mounting flange           | Threaded flange       |
| Pin layout                | Linear pinning        |
| Solder pins per potential | 3                     |

### Electrical properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 41 A   |
| Nominal voltage $U_N$       | 630 V  |
| Degree of pollution         | 3      |
| Contact resistance          | 0.4 mΩ |
| Rated voltage (III/3)       | 630 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 |

### Flange

|                   |                   |
|-------------------|-------------------|
| Tightening torque | 0.3 Nm ... 0.7 Nm |
|-------------------|-------------------|

### 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                  | hot-dip tin-plated                                                               |
| Metal surface contact area (top layer)   | Tin (4 - 8 μm Sn)                                                                |
| Metal surface soldering area (top layer) | Tin (4 - 8 μm Sn)                                                                |

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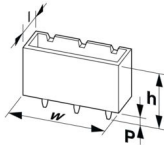
## Material data - housing

|                                                                   |              |
|-------------------------------------------------------------------|--------------|
| 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]             | 30.46 mm                                                                             |
| Height [h]            | 35.1 mm                                                                              |
| Length [l]            | 12.8 mm                                                                              |
| Installed height      | 30.1 mm                                                                              |
| Solder pin length [P] | 5 mm                                                                                 |
| Pin dimensions        | 1.2 x 0.8 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

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1708938

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|               |                        |
|---------------|------------------------|
| Specification | IEC 60068-2-70:1995-12 |
| 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<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 | > 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)                       | 630 V               |
| Rated surge voltage (III/3)                            | 6 kV                |
| minimum clearance value - non-homogenous field (III/3) | 5.5 mm              |
| minimum creepage distance (III/3)                      | 8 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

### Vibration test

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

## Durability test

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level       | 9.8 kV                |
| Contact resistance $R_1$                     | 0.4 mΩ                |
| Contact resistance $R_2$                     | 0.5 mΩ                |
| Insertion/withdrawal cycles                  | 50                    |
| Insulation resistance, neighboring positions | > 5 MΩ                |

## 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                    | 105 °C/168 h                                                              |
| Power-frequency withstand voltage | 4.26 kV                                                                   |

## Shocks

|                 |                                   |
|-----------------|-----------------------------------|
| Specification   | IEC 60068-2-27:2008-02            |
| Pulse shape     | Semi-sinusoidal                   |
| Acceleration    | 30g                               |
| Shock duration  | 18 ms                             |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |

## Ambient conditions

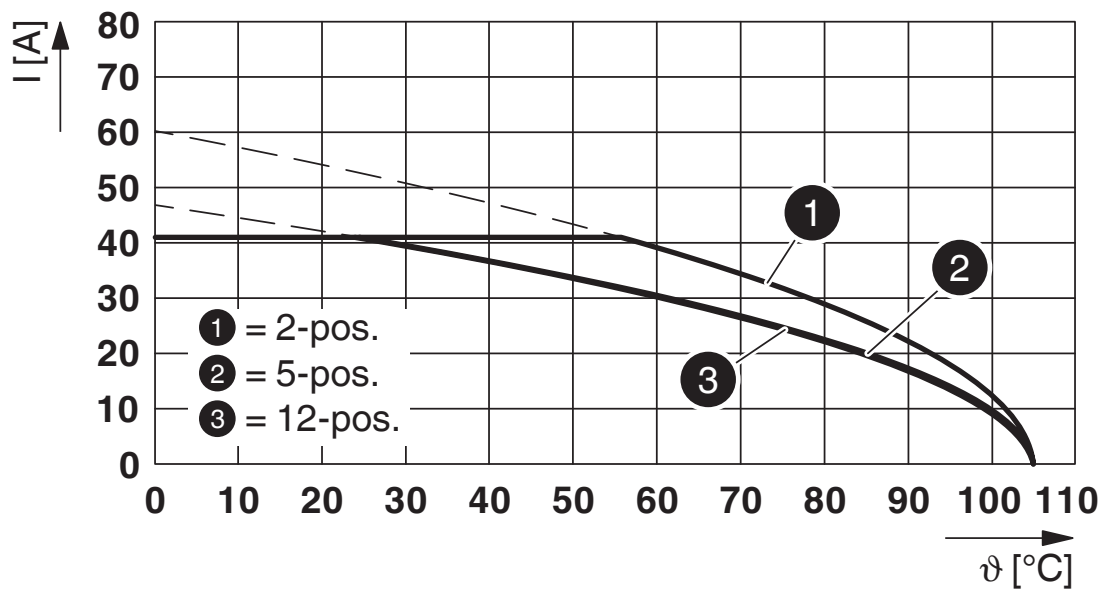
|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (operation)         | -40 °C ... 105 °C (dependent on the derating curve) |
| Ambient 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: IPC 5/...-STF-7,62 with IPCV 5/...-GF-7,62

# IPCV 5/ 2-GF-7,62 - PCB header



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/ca/products/1708938>

|  <b>cULus Recognized</b><br>Approval ID: E60425-19920722 |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                                                                                                               |                       |                       |                   |                             |
| For 600 V applications, additional insulation is required on the solder pins                                                              | 300 V                 | 41 A                  | -                 | -                           |
| Use group C                                                                                                                               |                       |                       |                   |                             |
| For 600 V applications, additional insulation is required on the solder pins                                                              | 300 V                 | 41 A                  | -                 | -                           |
| Use group D                                                                                                                               |                       |                       |                   |                             |
| Alternative 1                                                                                                                             | 600 V                 | 5 A                   | -                 | -                           |

|  <b>UL Recognized</b><br>Approval ID: E60425-19920722 |                       |                       |                   |                             |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                          | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group F                                                                                                                              |                       |                       |                   |                             |
|                                                                                                                                          | 600 V                 | 41 A                  | -                 | -                           |

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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002637 |
|----------|----------|

### UNSPSC

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



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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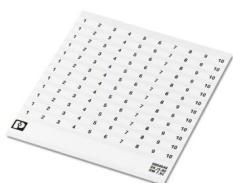


## Accessories

### SK 7,62/3,8:FORTL.ZAHLEN - Marker card

0804549

<https://www.phoenixcontact.com/ca/products/0804549>



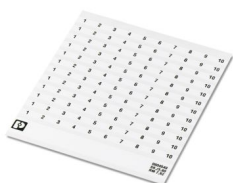
Marker card, white, labeled, horizontal: consecutive numbers 1 ... 10, 11 ... 20, etc. up to 91 ... 100, mounting type: adhesive, for terminal block width: 7.62 mm, lettering field size: 7.62 x 3.8 mm

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### SK 3,8 REEL P7,62 WH CUS - Marker card

0825128

<https://www.phoenixcontact.com/ca/products/0825128>



Marker card, can be ordered: by card, white, labeled according to customer specifications, mounting type: adhesive, for terminal block width: 7.62 mm, lettering field size: continuous x 3.8 mm

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## SK U/3,8 WH:UNBEDRUCKT - Marker card

0803906

<https://www.phoenixcontact.com/ca/products/0803906>



Marker card, Din A4, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, Office printing systems, mounting type: adhesive, for terminal block width: 210 mm, lettering field size: 186 x 3.8 mm, Number of individual labels: 1440

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## SK 3,8 WH:REEL - Marker strip

0805218

<https://www.phoenixcontact.com/ca/products/0805218>



Marker strip, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: adhesive, lettering field size: continuous x 3.8 mm, Number of individual labels: 12

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## ISPC 5/ 2-STF-7,62 - PCB connector

1748972

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PCB connector, nominal cross section: 6 mm<sup>2</sup>, color: green, nominal current: 41 A, rated voltage (III/2): 1000 V, contact surface: Tin, contact connection type: Pin, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: ISPC 5/...-STF, pitch: 7.62 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON PC 5, locking: Screw locking mechanism, mounting: Screw flange, type of packaging: packed in cardboard

## IPC 5/ 2-STF-7,62 - PCB connector

1709157

<https://www.phoenixcontact.com/ca/products/1709157>



PCB connector, nominal cross section: 6 mm<sup>2</sup>, color: green, nominal current: 41 A, rated voltage (III/2): 1000 V, contact surface: Tin, contact connection type: Pin, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: IPC 5/...-STF, pitch: 7.62 mm, connection method: Screw connection with tension sleeve, screw head form: Z1L Slotted Pozidriv, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: COMBICON PC 5, locking: Screw locking mechanism, mounting: Screw flange, type of packaging: packed in cardboard

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