

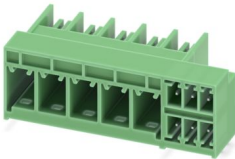
# PCH 6/ 5+6-G-7,62 - PCB hybrid header



1717109

<https://www.phoenixcontact.com/us/products/1717109>

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PCB hybrid header, nominal cross section: 6 mm<sup>2</sup>, color: black, nominal current: 41 A, 8 A, rated voltage (III/2): 630 V, contact surface: Sn, contact connection type: Pin, number of potentials: 11, number of rows: 1, number of positions: 11, number of connections: 11, product range: PCH 6/..+6-G, pitch: 7.62 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 2.6 mm, plug-in system: COMBICON PC 6 hybrid, Pin connector pattern alignment: Standard, locking: without, mounting method: without, type of packaging: packed in cardboard

## Your advantages

- Combining signals and power in a single header saves time and space
- Easy PCB replacement thanks to plug-in modules
- Well-known mounting principle allows worldwide use

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1717109       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | AA04          |
| Product key                          | AADSDD        |
| GTIN                                 | 4055626530567 |
| Weight per piece (including packing) | 16.028 g      |
| Weight per piece (excluding packing) | 16.028 g      |
| Customs tariff number                | 85366930      |
| Country of origin                    | CN            |

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## Technical data

### Product properties

|                       |                       |
|-----------------------|-----------------------|
| Product type          | PCB hybrid header     |
| Product family        | PCH 6/..+6-G          |
| Product line          | COMBICON Connectors L |
| Number of positions   | 11                    |
| Pitch                 | 7.62 mm               |
| Number of connections | 11                    |
| Number of rows        | 1                     |
|                       | 2                     |
| Number of potentials  | 11                    |
| Pin layout            | Linear pinning        |

### Electrical properties

#### Properties

|                             |         |
|-----------------------------|---------|
| Nominal current $I_N$       | 41 A    |
| Nominal voltage $U_N$       | 630 V   |
| Contact resistance          | 0.42 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 |

### 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 (2 - 4 μm Sn)                                                                |
| Metal surface contact area (middle layer)   | Nickel (1.3 - 3 μm Ni)                                                           |
| Metal surface soldering area (top layer)    | Tin (2 - 4 μm Sn)                                                                |
| Metal surface soldering area (middle layer) | Nickel (1.3 - 3 μm Ni)                                                           |

#### Material data - housing

|                 |              |
|-----------------|--------------|
| Color (Housing) | black (9005) |
|-----------------|--------------|

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|                                        |       |
|----------------------------------------|-------|
| Insulating material                    | PA GF |
| Insulating material group              | I     |
| CTI according to IEC 60112             | 600   |
| 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<br>3.81 mm                                                                 |
| Width [w]             | 51.06 mm                                                                           |
| Height [h]            | 19 mm                                                                              |
| Length [l]            | 28.2 mm                                                                            |
| Installed height      | 16.4 mm                                                                            |
| Solder pin length [P] | 2.6 mm<br>2.6 mm                                                                   |
| Pin dimensions        | 1 x 1.2 mm                                                                         |

## PCB design

|               |                  |
|---------------|------------------|
| Hole diameter | 1.7 mm<br>1.4 mm |
|---------------|------------------|

## Mechanical tests

### Conductor connection

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

### Test for conductor damage and slackening

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

### Test for conductor damage and slackening

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

### Repeated connection and disconnection

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
|---------------|---------------------|

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|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

## Pull-out test

|                                                                             |                                          |
|-----------------------------------------------------------------------------|------------------------------------------|
| Specification                                                               | IEC 60999-1:1999-11                      |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.75 mm <sup>2</sup> / solid / > 30 N    |
|                                                                             | 0.75 mm <sup>2</sup> / flexible / > 30 N |
|                                                                             | 10 mm <sup>2</sup> / solid / > 90 N      |
|                                                                             | 6 mm <sup>2</sup> / flexible / > 80 N    |

## Pull-out test

|                                                                             |                                         |
|-----------------------------------------------------------------------------|-----------------------------------------|
| Specification                                                               | IEC 60999-1:1999-11                     |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.2 mm <sup>2</sup> / solid / > 10 N    |
|                                                                             | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|                                                                             | 1.5 mm <sup>2</sup> / solid / > 40 N    |
|                                                                             | 1.5 mm <sup>2</sup> / flexible / > 40 N |

## Insertion and withdrawal forces

|                                     |             |
|-------------------------------------|-------------|
| Result                              | Test passed |
| No. of cycles                       | 25          |
| Insertion strength per pos. approx. | 7 N         |
| Withdraw strength per pos. approx.  | 4 N         |

## Contact holder in insert

|                                             |                        |
|---------------------------------------------|------------------------|
| Specification                               | IEC 60512-15-1:2008-05 |
| Contact holder in insert Requirements >20 N | 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 |
| Result        | Test passed            |

## Visual inspection

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-1:2002-02 |
| Result        | Test passed           |

## Dimension check

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-2:2002-02 |
| Result        | Test passed           |

## Electrical tests

### Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 4                     |

# PCH 6/ 5+6-G-7,62 - PCB hybrid header



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## Insulation resistance

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | > 5 MΩ                |

## Temperature cycles

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

## Air clearances and creepage distances | Power

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

## Air clearances and creepage distances | Signal

|                                                        |                     |
|--------------------------------------------------------|---------------------|
| Specification                                          | IEC 60664-1:2007-04 |
| Insulating material group                              | I                   |
| Comparative tracking index (IEC 60112)                 | CTI 600             |
| Rated insulation voltage (III/3)                       | 160 V               |
| Rated surge voltage (III/3)                            | 2.5 kV              |
| minimum clearance value - non-homogenous field (III/3) | 1.5 mm              |
| minimum creepage distance (III/3)                      | 2 mm                |
| Rated insulation voltage (III/2)                       | 160 V               |
| Rated surge voltage (III/2)                            | 2.5 kV              |
| minimum clearance value - non-homogenous field (III/2) | 1.5 mm              |
| minimum creepage distance (III/2)                      | 1.5 mm              |
| Rated insulation voltage (II/2)                        | 320 V               |
| Rated surge voltage (II/2)                             | 2.5 kV              |
| minimum clearance value - non-homogenous field (II/2)  | 1.5 mm              |
| minimum creepage distance (II/2)                       | 1.6 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                       |
| Test directions        | X-, Y- and Z-axis           |

## Durability test

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level       | 7.3 kV                |
| Contact resistance R <sub>1</sub>            | 0.42 mΩ               |
| Contact resistance R <sub>2</sub>            | 0.46 mΩ               |
| Insertion/withdrawal cycles                  | 25                    |
| 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                    | 100 °C/168 h                                                              |
| Power-frequency withstand voltage | 3.31 kV                                                                   |

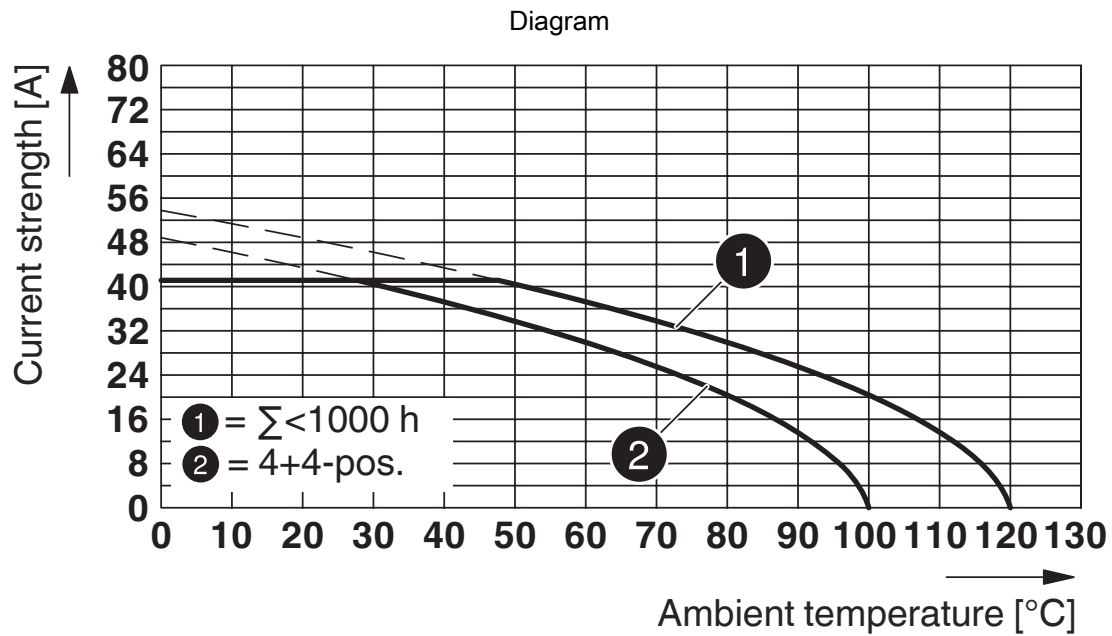
## Ambient conditions

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



Type: LPCH 6/...+...-ST-7,62 with PCH 6/...+...-G-7,62

# PCH 6/ 5+6-G-7,62 - PCB hybrid header



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1717109>

|  <b>cULus Recognized</b><br>Approval ID: E60425-20010727 |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                                         |                       |                       |                   |                             |
| Power                                                                                                                                     | 300 V                 | 35 A                  | -                 | -                           |
| Signal                                                                                                                                    | 300 V                 | 8 A                   | -                 | -                           |
| C                                                                                                                                         |                       |                       |                   |                             |
| Power                                                                                                                                     | 300 V                 | 35 A                  | -                 | -                           |
| F                                                                                                                                         |                       |                       |                   |                             |
| Power                                                                                                                                     | 600 V                 | 35 A                  | -                 | -                           |
| Signal                                                                                                                                    | 160 V                 | 8 A                   | -                 | -                           |

|  <b>VDE approval of drawings</b><br>Approval ID: 40050635 |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                              | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                                        |                       |                       |                   |                             |
| Power                                                                                                                                        | 630 V                 | 41 A                  | -                 | -                           |
| Signal                                                                                                                                       | 160 V                 | 8 A                   | -                 | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27460301 |
| ECLASS-15.0 | 27460301 |

### 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% |
|-------------------------------------|----------------------------|

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