

# ICC20-H/4L3,5-7035 - PCB header



1084014

<https://www.phoenixcontact.com/us/products/1084014>

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PCB headers, color: light grey, nominal current: 8 A, rated voltage (III/2): 150 V, contact surface: Tin, contact connection type: Pin, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: ICC...H/..L3,5, pitch: 3.5 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.65 mm, number of solder pins per potential: 1, Pin connector pattern alignment: Standard, locking: Snap-in locking, mounting: without, type of packaging: Box packaging, Product with pin output on left side

## Your advantages

- Variable coding, for reliable protection against incorrect connection
- Designed for integration into the wave soldering process
- Easy and fast push-in mounting of assembled printed-circuit boards, thanks to stable guide rails
- Quick and easily coded when initially connecting the connector and header

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1084014       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | AC09          |
| Product key                          | ACHAFB        |
| GTIN                                 | 4055626820910 |
| Weight per piece (including packing) | 3.9 g         |
| Weight per piece (excluding packing) | 2.55 g        |
| Customs tariff number                | 85366930      |
| Country of origin                    | PL            |

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## Technical data

### Product properties

|                           |                                 |
|---------------------------|---------------------------------|
| Product type              | PCB headers                     |
| Product family            | ICC...-H/..L3,5                 |
| Type                      | Header perpendicular to the PCB |
| Number of positions       | 4                               |
| Pitch                     | 3.5 mm                          |
| Number of connections     | 4                               |
| Number of rows            | 1                               |
| Number of potentials      | 4                               |
| Pin layout                | Linear pinning                  |
| Solder pins per potential | 1                               |

### Electrical properties

|                             |         |
|-----------------------------|---------|
| Nominal current $I_N$       | 8 A     |
| Degree of pollution         | 3       |
| Contact resistance          | 1.76 mΩ |
| Rated voltage (III/3)       | 150 V   |
| Rated surge voltage (III/3) | 2.5 kV  |
| Rated voltage (III/2)       | 150 V   |
| Rated surge voltage (III/2) | 2.5 kV  |
| Rated voltage (II/2)        | 250 V   |
| Rated surge voltage (II/2)  | 2.5 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 terminal point (top layer)    | Tin (2 - 4 μm Sn)  |
| Metal surface terminal point (middle layer) | Nickel (1.3 - 3 μm Ni)   |
| 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) | light grey (7035) |
|-----------------|-------------------|

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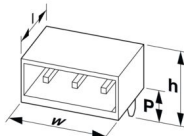
<https://www.phoenixcontact.com/us/products/1084014>

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

|                       |   |
|-----------------------|---|
| Assembly instruction: | Refer to the data sheet for the range in the download area.                     |
| General               | Further information and detailed dimensions are available in the download area. |

## Dimensions

|                       |   |
|-----------------------|---|
| Dimensional drawing   |  |
| Pitch                 | 3.5 mm  |
| Width [w]             | 20 mm   |
| Height [h]            | 22.4 mm   |
| Length [l]            | 20.22 mm  |
| Solder pin length [P] | 3.65 mm   |
| Pin dimensions        | 0.8 x 0.8 mm  |

## PCB design

|               |        |
|---------------|--------|
| Hole diameter | 1.2 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 Requirements >20 N | Test passed            |
| Insertion and withdrawal forces             |                        |
| Result                                      | Test passed            |
| No. of cycles                               | 25                     |
| Insertion strength per pos. approx.         | 7.2 N                  |
| Withdraw strength per pos. approx.          | 5.4 N                  |

## Electrical tests

### Thermal test | Test group C

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

### Insulation resistance

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

### Air clearances and creepage distances |

|                                  |        |
|----------------------------------|--------|
| Insulating material group        | I      |
| Rated insulation voltage (III/3) | 150 V  |
| Rated surge voltage (III/3)      | 2.5 kV |
| Rated insulation voltage (III/2) | 150 V  |
| Rated surge voltage (III/2)      | 2.5 kV |
| Rated insulation voltage (II/2)  | 250 V  |
| Rated surge voltage (II/2)       | 2.5 kV |

## 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) |
| 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 | 2.95 kV               |
| Contact resistance R <sub>1</sub>      | 1.76 mΩ               |
| Contact resistance R <sub>2</sub>      | 1.82 mΩ               |
| Insertion/withdrawal cycles            | 25                    |

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|  |        |
|--|--------|
| Insulation resistance, neighboring positions | > 3 TΩ |
|--|--------|

## 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 | 1.54 kV   |

## Ambient conditions

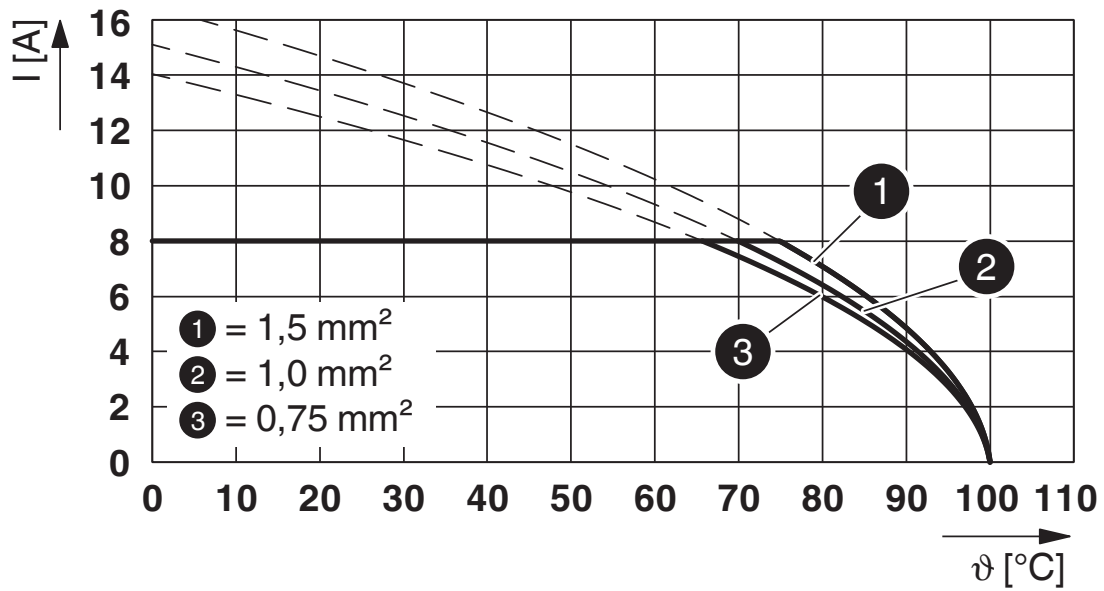
|   |   |
|---|---|
| Ambient temperature (operation)         | -40 °C ... 105 °C (dependent on the derating curve) |
| Ambient temperature (storage/transport) | -40 °C ... 55 °C                                    |
| Relative humidity (storage/transport)   | 30 % ... 70 %                                       |
| Ambient temperature (assembly)          | -5 °C ... 100 °C                                    |

## Packaging specifications

|                      |               |
|----------------------|---------------|
| Type of packaging    | Box packaging |
| Outer packaging type | Carton        |

## Drawings

Diagram



Type: ICC20(25)-PSC1,5/...-3,5-... with ICC20(25)-H/...L(R)3,5-...

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1084014>

|  <b>cULus Recognized</b><br>Approval ID: E60425-20181123 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B   | 300 V                 | 8 A                   | -                 | -                           |
| Use group C   | 50 V                  | 8 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 |
|-------------|----------|



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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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## Accessories

### ICC20-PSC1,5/4-3,5-AA-7035 - PCB connectors

1084020

<https://www.phoenixcontact.com/us/products/1084020>



PCB connector, nominal cross section: 1.5 mm<sup>2</sup>, color: light grey, nominal current: 8 A, rated voltage (III/2): 150 V, contact surface: Tin, contact connection type: Socket, number of potentials: 4, number of rows: 1, number of positions: 4, number of connections: 4, product range: ICC...-PSC1,5/...-3,5, pitch: 3.5 mm, connection method: Screw connection with tension sleeve, screw head form: L Slotted, conductor/PCB connection direction: 0 °, locking clip: - Locking clip, locking: without, mounting: without, type of packaging: packed in cardboard

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