

# IPC 35 HC/ 2-GF-15,00 - PCB header



1784910  
<https://www.phoenixcontact.com/us/products/1784910>

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PCB headers, nominal cross section: 35 mm<sup>2</sup>, color: green, nominal current: 125 A, rated voltage (III/2): 1000 V, contact surface: Ag, contact connection type: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: IPC 35 HC/..-GF, pitch: 15 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 4.6 mm, number of solder pins per potential: 3, plug-in system: COMBICON PC 35, 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
- Inverted header with socket contacts for touch-proof device outputs or PCB/PCB connections
- Double flange for space-optimized screw connection on the housing panel and with the connector
- Integrated double steel spring provides additional safety in the event of temperature and power fluctuations

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1784910                        |
| Packing unit                         | 25 pc                          |
| Minimum order quantity               | 25 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA05                           |
| Product key                          | AAESFB                         |
| Catalog page                         | Page 592 (C-1-2013)            |
| GTIN                                 | 4046356561228                  |
| Weight per piece (including packing) | 61.29 g                        |
| Weight per piece (excluding packing) | 60 g                           |
| Customs tariff number                | 85366930                       |
| Country of origin                    | PL                             |

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## Technical data

### Product properties

|                           |                        |
|---------------------------|------------------------|
| Product type              | PCB headers            |
| Product family            | IPC 35 HC/...GF        |
| Product line              | COMBICON Connectors XL |
| Type                      | Headers                |
| Number of positions       | 2                      |
| Pitch                     | 15 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                      |

### Data management status

|                  |    |
|------------------|----|
| Article revision | 01 |
|------------------|----|

### Electrical properties

|                             |         |
|-----------------------------|---------|
| Nominal current $I_N$       | 125 A   |
| Nominal voltage $U_N$       | 1000 V  |
| Contact resistance          | 0.15 mΩ |
| Rated voltage (III/3)       | 1000 V  |
| Rated surge voltage (III/3) | 8 kV    |
| Rated voltage (III/2)       | 1000 V  |
| Rated surge voltage (III/2) | 8 kV    |
| Rated voltage (II/2)        | 1000 V  |
| Rated surge voltage (II/2)  | 8 kV    |

### Mounting

|               |                |
|---------------|----------------|
| Mounting type | Wave soldering |
| Pin layout    | Linear pinning |

### Flange

|                   |        |
|-------------------|--------|
| Tightening torque | 0.8 Nm |
|-------------------|--------|

### Attachment to feed-through panel

|                   |                      |
|-------------------|----------------------|
| Tightening torque | 1 Nm                 |
| Screw             | 1700368 DFK-PC 35 SS |

### Attachment on the PCB

|                   |                      |
|-------------------|----------------------|
| Tightening torque | 1 Nm                 |
| Screw             | 1700368 DFK-PC 35 SS |

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## 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                                                                         |
| Metal surface contact area (top layer)   | Silver (4 - 8 µm Ag)                                                             |
| Metal surface soldering area (top layer) | Silver (4 - 8 µm Ag)                                                             |

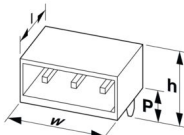
### Material data - housing

|                                        |              |
|----------------------------------------|--------------|
| 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                 | 15 mm                                                                                |
| Width [w]             | 54.4 mm                                                                              |
| Height [h]            | 33.1 mm                                                                              |
| Length [l]            | 44.9 mm                                                                              |
| Installed height      | 28.5 mm                                                                              |
| Solder pin length [P] | 4.6 mm                                                                               |
| Pin dimensions        | 2.4 x 2.5 mm                                                                         |

### PCB design

|               |        |
|---------------|--------|
| Hole diameter | 3.6 mm |
|---------------|--------|

## Mechanical tests

### Visual inspection

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

### Dimension check

|               |                       |
|---------------|-----------------------|
| Specification | IEC 60512-1-2:2002-02 |
|---------------|-----------------------|

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|                                                |                        |
|------------------------------------------------|------------------------|
| 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 |
| 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.            | 15 N                   |
| Withdraw strength per pos. approx.             | 8 N                    |

## Electrical tests

### Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 6                     |

### 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)                       | 1000 V              |
| Rated surge voltage (III/3)                            | 8 kV                |
| minimum clearance value - non-homogenous field (III/3) | 8 mm                |
| minimum creepage distance (III/3)                      | 16 mm               |
| Rated insulation voltage (III/2)                       | 1000 V              |
| Rated surge voltage (III/2)                            | 8 kV                |
| minimum clearance value - non-homogenous field (III/2) | 8 mm                |
| minimum creepage distance (III/2)                      | 10 mm               |
| Rated insulation voltage (II/2)                        | 1000 V              |
| Rated surge voltage (II/2)                             | 8 kV                |
| minimum clearance value - non-homogenous field (II/2)  | 8 mm                |
| minimum creepage distance (II/2)                       | 10 mm               |

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## 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                       |
| Test directions        | X-, Y- and Z-axis           |

### Durability test

|                                        |                     |
|----------------------------------------|---------------------|
| Specification                          | IEC 60512-5:1992-08 |
| Impulse withstand voltage at sea level | 9.8 kV              |
| Contact resistance R <sub>1</sub>      | 0.15 mΩ             |
| Contact resistance R <sub>2</sub>      | 0.18 mΩ             |
| 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 | 4.26 kV                                                                   |

### Shocks

|                 |                                   |
|-----------------|-----------------------------------|
| Specification   | IEC 61373:1999-01                 |
| Pulse shape     | Semi-sinusoidal                   |
| Acceleration    | 30g                               |
| Shock duration  | 18 ms                             |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |

### Ambient conditions

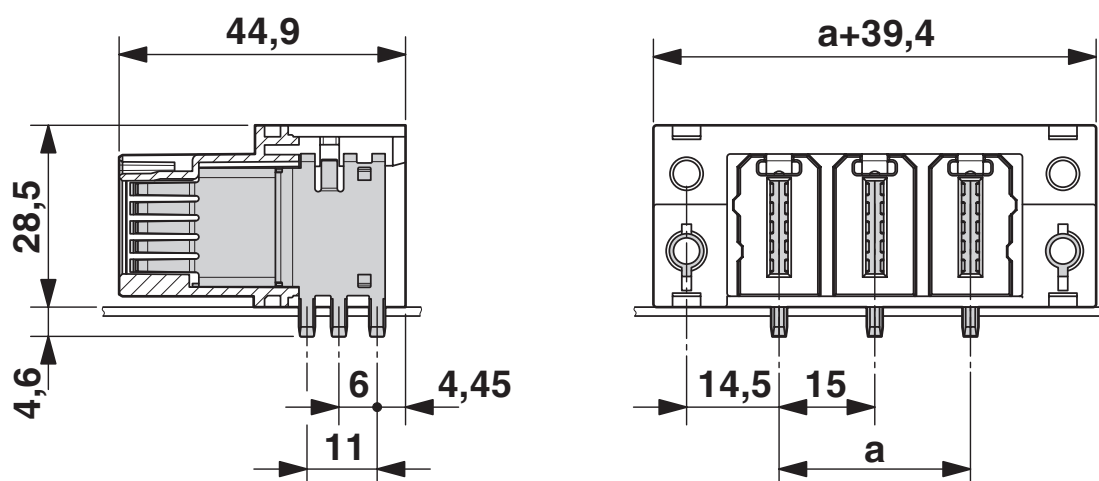
|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (operation)         | -40 °C ... 100 °C (dependent on the derating curve) |
| Ambient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

## Packaging specifications

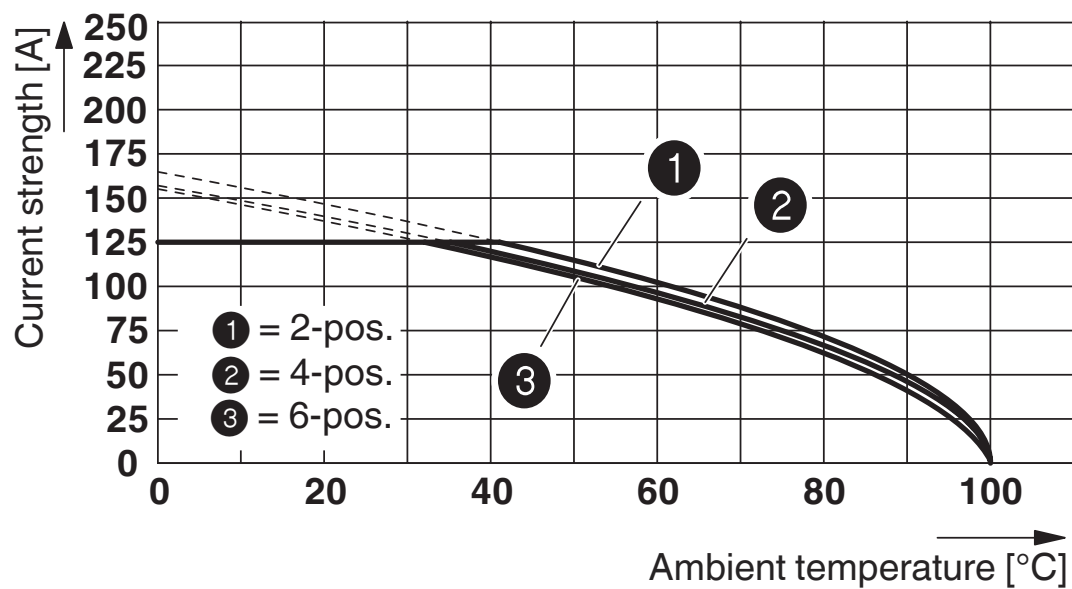
|                   |                     |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

## Drawings

Dimensional drawing



Diagram



Derating curve for: IPC 35 HC/...-STF-15,0 with IPC 35 HC/...-GF-15,0

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1784910>

|                                                                                                                                                    |                       |                       |                   |                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| <div> <b>UL Recognized</b><br/>Approval ID: E60425-20101007</div> |                       |                       |                   |                             |
|                                                                                                                                                    | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                                                                                                                        |                       |                       |                   |                             |
|                                                                                                                                                    | 600 V                 | 115 A                 | -                 | -                           |
| Use group C                                                                                                                                        |                       |                       |                   |                             |
|                                                                                                                                                    | 600 V                 | 115 A                 | -                 | -                           |

|                                                                                                                                                                       |                       |                       |                   |                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| <div> <b>VDE Gutachten mit Fertigungsüberwachung</b><br/>Approval ID: 40039053</div> |                       |                       |                   |                             |
|                                                                                                                                                                       | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                                                       | 1000 V                | 125 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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