

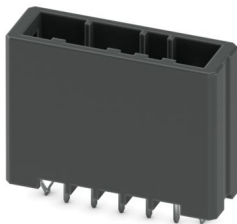
# D31H 2,2/ 5-V-3,81-X - PCB header



1339718

<https://www.phoenixcontact.com/gb/products/1339718>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



PCB headers, color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Pin, number of rows: 1, number of positions: 5, product range: D31H 2,2/..-V, pitch: 3.81 mm, mounting: Wave soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm, number of solder pins per potential: 1, plug-in system: CONNEXIS D, Pin connector pattern alignment: Standard, locking: Snap-in locking, mounting method: Engagement nose, type of packaging: packed in cardboard

## Your advantages

- Well-known mounting principle allows worldwide use
- Vertical connection enables multi-row arrangement on the PCB
- Easy PCB replacement thanks to plug-in modules
- Intuitive locking mechanism prevents accidental disconnection

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1339718       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | AABSUA        |
| Product key                          | AABSUA        |
| GTIN                                 | 4063151644864 |
| Weight per piece (including packing) | 10.76 g       |
| Weight per piece (excluding packing) | 6.85 g        |
| Customs tariff number                | 85366990      |
| Country of origin                    | CN            |

# D31H 2,2/ 5-V-3,81-X - PCB header



1339718

<https://www.phoenixcontact.com/gb/products/1339718>

## Technical data

### Product properties

|                           |                       |
|---------------------------|-----------------------|
| Product type              | PCB headers           |
| Product family            | D31H 2,2/...-V        |
| Product line              | CONNEXIS Connectors S |
| Number of positions       | 5                     |
| Pitch                     | 3.81 mm               |
| Number of rows            | 1                     |
| Pin layout                | Linear pinning        |
| Solder pins per potential | 1                     |

### Electrical properties

#### Properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 8 A    |
| Nominal voltage $U_N$       | 160 V  |
| Contact resistance          | 5 mΩ   |
| Rated voltage (III/3)       | 160 V  |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated voltage (III/2)       | 160 V  |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated voltage (II/2)        | 320 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 contact area (top layer)      | Tin (3 - 5 μm Sn)                                                                |
| Metal surface contact area (middle layer)   | Nickel (1.3 - 3 μm Ni)                                                           |
| Metal surface soldering area (top layer)    | Tin (3 - 5 μm Sn)                                                                |
| Metal surface soldering area (middle layer) | Nickel (1.3 - 3 μm Ni)                                                           |

#### Material data - housing

|                           |              |
|---------------------------|--------------|
| Color (Housing)           | black (9005) |
| Insulating material       | PBT          |
| Insulating material group | II           |

# D31H 2,2/ 5-V-3,81-X - PCB header



1339718

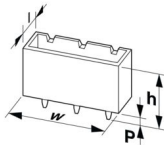
<https://www.phoenixcontact.com/gb/products/1339718>

|                                        |                             |
|----------------------------------------|-----------------------------|
| CTI according to IEC 60112             | $400 \leq \text{CTI} < 600$ |
| Flammability rating according to UL 94 | V0                          |

## Notes

|                     |                                                                                                                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Note on the contact | These connectors conform to DIN EN 61984, connectors without switching capacity (COC). When used for their intended purpose, they must not be plugged in or disconnected live or under load. |
| Note on application | The current depends on the crimp contact and conductor cross section used.                                                                                                                   |

## Dimensions

|                       |                                                                                    |
|-----------------------|------------------------------------------------------------------------------------|
| Dimensional drawing   |  |
| Pitch                 | 3.81 mm                                                                            |
| Width [w]             | 29.24 mm                                                                           |
| Height [h]            | 25.4 mm                                                                            |
| Length [l]            | 9.35 mm                                                                            |
| Installed height      | 21.6 mm                                                                            |
| Solder pin length [P] | 3.8 mm                                                                             |
| Pin dimensions        | 0.65 x 0.64 mm                                                                     |

## PCB design

|               |        |
|---------------|--------|
| Hole diameter | 2 mm   |
|               | 1.1 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 |
| Result        | Test passed            |

### Contact holder in insert

# D31H 2,2/ 5-V-3,81-X - PCB header



1339718

<https://www.phoenixcontact.com/gb/products/1339718>

|                                                |                        |
|------------------------------------------------|------------------------|
| 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                       | 25          |
| Insertion strength per pos. approx. | 6 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 | 10                    |

### 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                              | II                  |
| Comparative tracking index (IEC 60112)                 | CTI ≥400 to <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)                      | 2.2 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)                       | 2.2 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)              |
| Acceleration           | 50 m/s <sup>2</sup> (60.1 Hz ... 150 Hz) |
| Test duration per axis | 2.5 h                                    |
| Test directions        | X-, Y- and Z-axis                        |

# D31H 2,2/ 5-V-3,81-X - PCB header



1339718

<https://www.phoenixcontact.com/gb/products/1339718>

## Durability test

|                                        |                       |
|----------------------------------------|-----------------------|
| Specification                          | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 2.95 kV               |
| Contact resistance R <sub>1</sub>      | 5 mΩ                  |
| Contact resistance R <sub>2</sub>      | 5 mΩ                  |
| Insertion/withdrawal cycles            | 25                    |

## 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 | 1.39 kV                                                                   |

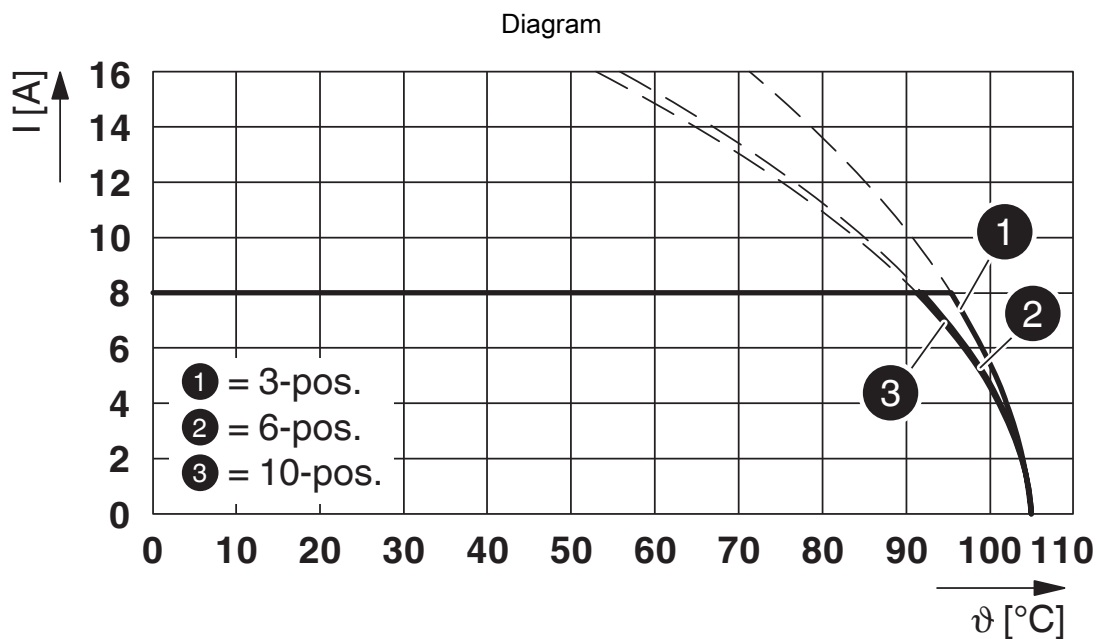
## Ambient conditions

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (operation)         | -55 °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



Type: D31PC 2,2/...-3,81-X with D31H 2,2/...-V-3,81-X

# D31H 2,2/ 5-V-3,81-X - PCB header



1339718

<https://www.phoenixcontact.com/gb/products/1339718>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/1339718>

|                                                                                   |                                |                                |                   |                               |
|-----------------------------------------------------------------------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
|  | <b>UL Recognized</b>           |                                |                   |                               |
|                                                                                   | Approval ID: E118976-20240617  |                                |                   |                               |
|                                                                                   | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
|                                                                                   | 250 V                          | 10.5 A                         | -                 | -                             |

# D31H 2,2/ 5-V-3,81-X - PCB header



1339718

<https://www.phoenixcontact.com/gb/products/1339718>

## Classifications

### ECLASS

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

### ETIM

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



# D31H 2,2/ 5-V-3,81-X - PCB header



1339718

<https://www.phoenixcontact.com/gb/products/1339718>

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

Phoenix Contact 2025 © - all rights reserved  
<https://www.phoenixcontact.com>

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