

# D31PC 2,2/ 3-3,81-X - PCB connector



1339690

<https://www.phoenixcontact.com/gb/products/1339690>

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 connector, color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Socket, number of rows: 1, number of positions: 3, product range: D31PC 2,2/..., pitch: 3.81 mm, connection method: Crimp connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: CONNEXIS D, locking: Snap-in locking, mounting method: Latching flange, type of packaging: packed in cardboard

## Your advantages

- Cost-effective connection of crimped conductors in large quantities
- Small component size for applications where space is at a premium
- Intuitive locking mechanism prevents accidental disconnection
- Tools for automatic crimping available as an option

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1339690                        |
| Packing unit                         | 100 pc                         |
| Minimum order quantity               | 100 pc                         |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AABCUE                         |
| Product key                          | AABCUE                         |
| GTIN                                 | 4063151645342                  |
| Weight per piece (including packing) | 2.64 g                         |
| Weight per piece (excluding packing) | 3.276 g                        |
| Customs tariff number                | 85366990                       |
| Country of origin                    | CN                             |

# D31PC 2,2/ 3-3,81-X - PCB connector



1339690

<https://www.phoenixcontact.com/gb/products/1339690>

## Technical data

### Product properties

|                     |                       |
|---------------------|-----------------------|
| Product type        | PCB connector         |
| Product family      | D31PC 2,2/..          |
| Product line        | CONNEXIS Connectors S |
| Number of positions | 3                     |
| Pitch               | 3.81 mm               |
| Number of rows      | 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 |

### Connection data

#### Interlock

|                 |                 |
|-----------------|-----------------|
| Locking type    | Snap-in locking |
| Mounting flange | Latching flange |

#### Conductor connection

|                                    |                  |
|------------------------------------|------------------|
| Connection method                  | Crimp connection |
| Conductor/PCB connection direction | 0 °              |
| Conductor cross section AWG        | 28 ... 14        |
| Stripping length                   | 4.5 mm           |

### Material specifications

#### Material data - contact

|                                        |          |
|----------------------------------------|----------|
| Metal surface contact area (top layer) | Tin (Sn) |
|----------------------------------------|----------|

#### Material data - housing

|                                        |                 |
|----------------------------------------|-----------------|
| Color (Housing)                        | black (9005)    |
| Insulating material                    | PBT             |
| Insulating material group              | II              |
| CTI according to IEC 60112             | 400 ≤ CTI < 600 |
| Flammability rating according to UL 94 | V0              |

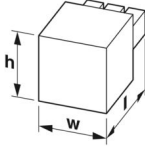
# D31PC 2,2/ 3-3,81-X - PCB connector



1339690

<https://www.phoenixcontact.com/gb/products/1339690>

## Dimensions

|                     |                                                                                    |
|---------------------|------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Pitch               | 3.81 mm                                                                            |
| Width [w]           | 26.76 mm                                                                           |
| Height [h]          | 7.15 mm                                                                            |
| Length [l]          | 22.8 mm                                                                            |

## 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 | All laboratory tests are performed in combination with the crimp contacts specified as accessories.                                                                                          |
| Note on application | The current depends on the crimp contact and conductor cross section used.                                                                                                                   |
| Note on application | The corresponding crimp contacts are to be found in the "Accessories" tab.                                                                                                                   |

## Mechanical tests

### Tensile strength of crimp connections

|                                                                             |                            |
|-----------------------------------------------------------------------------|----------------------------|
| Result                                                                      | Test passed                |
| Conductor cross section/conductor type/tractive force setpoint/actual value | AWG 28 / flexible / > 11 N |

### Insertion and withdrawal forces

|                                     |                        |
|-------------------------------------|------------------------|
| Specification                       | IEC 60512-13-2:2006-02 |
| Result                              | Test passed            |
| No. of cycles                       | 25                     |
| Insertion strength per pos. approx. | 6 N                    |
| Withdraw strength per pos. approx.  | 6 N                    |

### 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           |

# D31PC 2,2/ 3-3,81-X - PCB connector



1339690

<https://www.phoenixcontact.com/gb/products/1339690>

## Dimension check

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

## 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                        |

### 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                                    |

## 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                  |

# D31PC 2,2/ 3-3,81-X - PCB connector



1339690

<https://www.phoenixcontact.com/gb/products/1339690>

|                                                        |                           |
|--------------------------------------------------------|---------------------------|
| Comparative tracking index (IEC 60112)                 | CTI $\geq 400$ 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                    |

## Packaging specifications

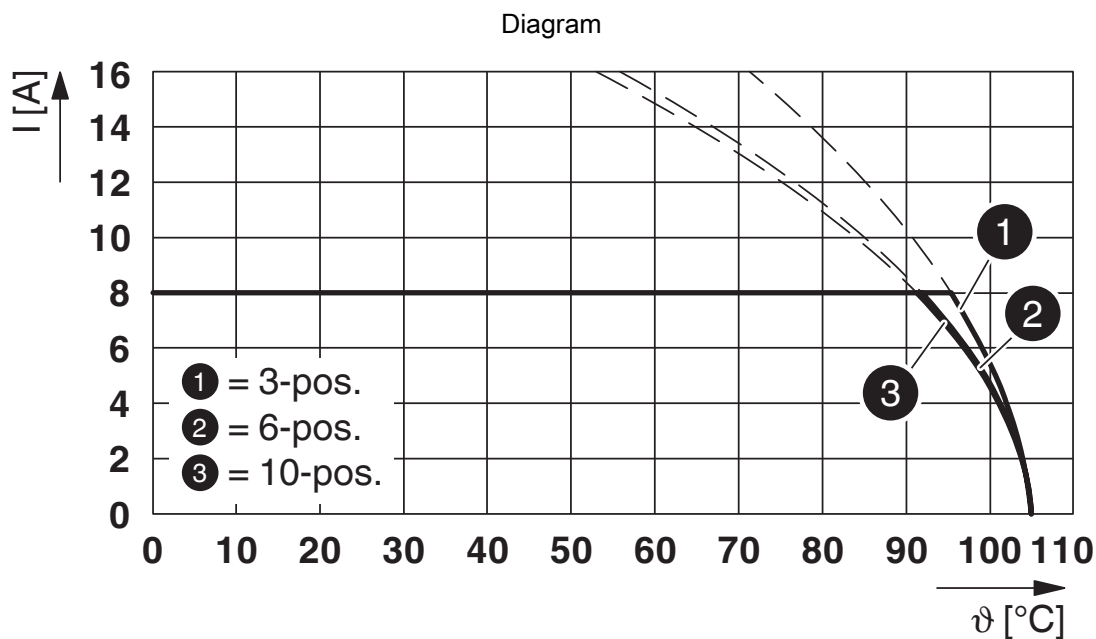
|                   |                     |
|-------------------|---------------------|
| Type of packaging | packed in cardboard |
|-------------------|---------------------|

# D31PC 2,2/ 3-3,81-X - PCB connector

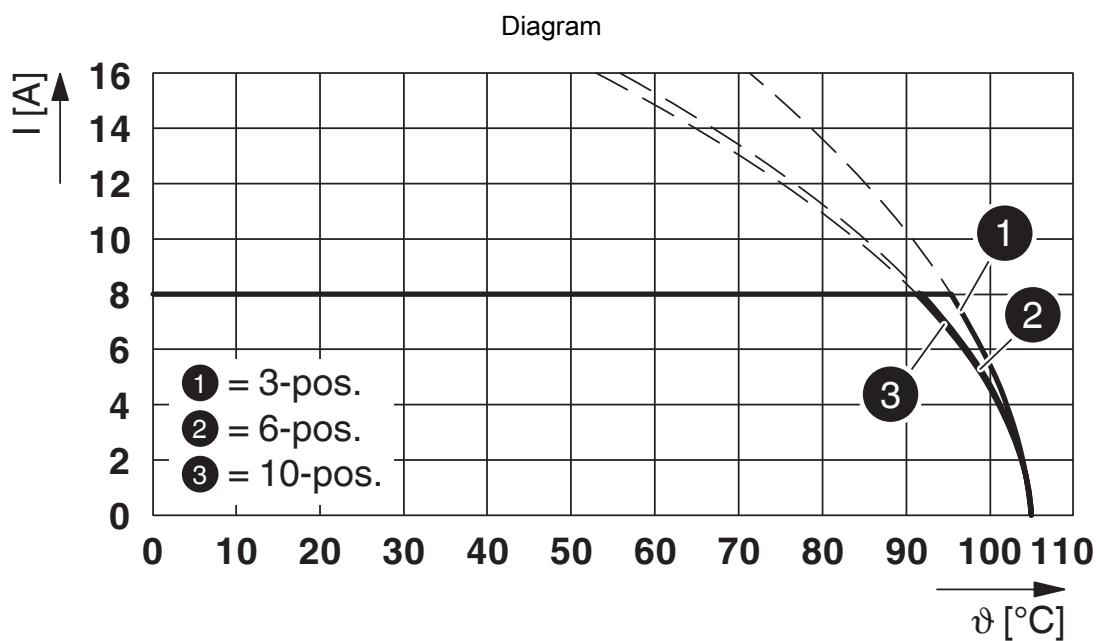
1339690

<https://www.phoenixcontact.com/gb/products/1339690>

## Drawings



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



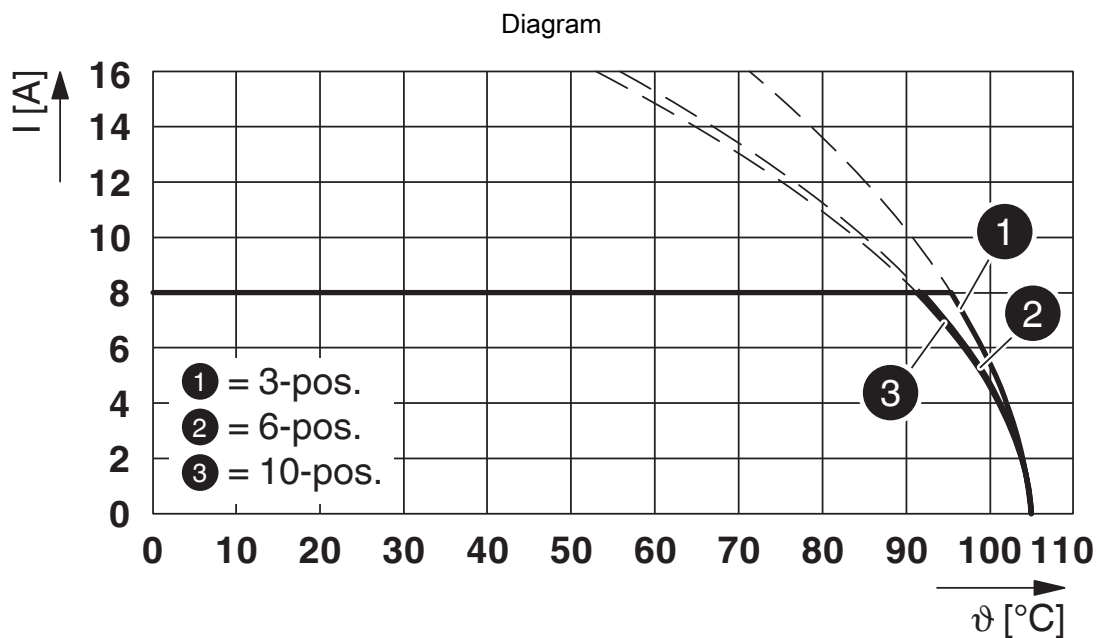
Type: D31PC 2,2/...-3,81-X with D31H 2,2/...-V-3,81-X

# D31PC 2,2/ 3-3,81-X - PCB connector

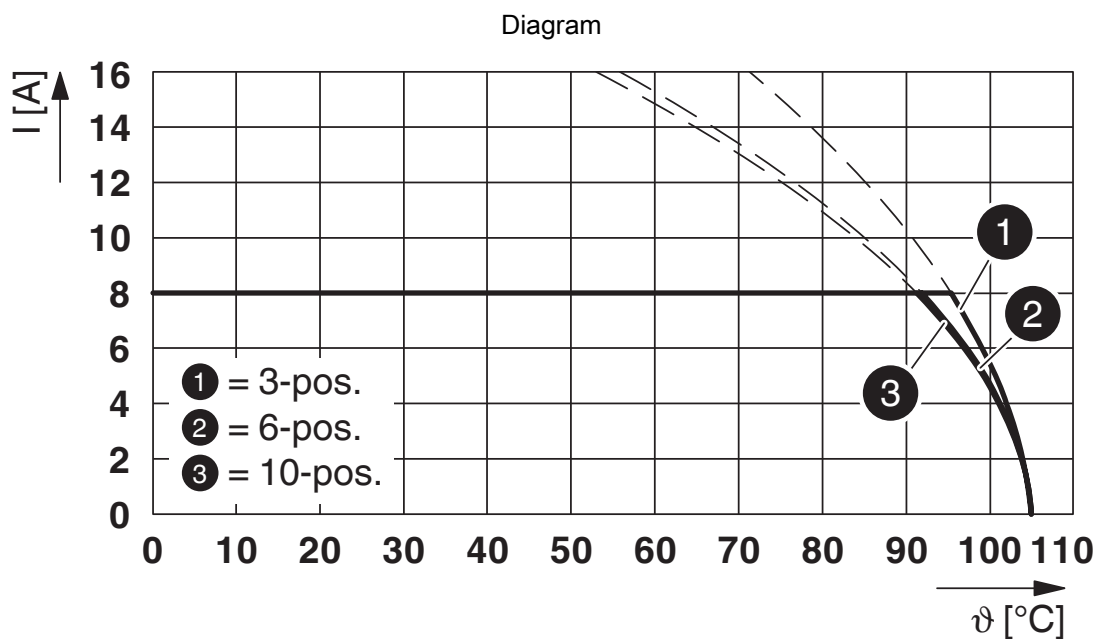


1339690

<https://www.phoenixcontact.com/gb/products/1339690>



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



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

# D31PC 2,2/ 3-3,81-X - PCB connector



1339690

<https://www.phoenixcontact.com/gb/products/1339690>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/1339690>

|                                                                                   |                               |                       |                   |                             |
|-----------------------------------------------------------------------------------|-------------------------------|-----------------------|-------------------|-----------------------------|
|  | <b>UL Recognized</b>          |                       |                   |                             |
|                                                                                   | Approval ID: E118976-20240617 |                       |                   |                             |
|                                                                                   | Nominal voltage $U_N$         | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                   | 250 V                         | 12.25 A               | 14                | -                           |



# D31PC 2,2/ 3-3,81-X - PCB connector



1339690

<https://www.phoenixcontact.com/gb/products/1339690>

## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27460202 |
|-------------|----------|

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | EC002638 |
|----------|----------|

# D31PC 2,2/ 3-3,81-X - PCB connector



1339690

<https://www.phoenixcontact.com/gb/products/1339690>

## 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)