

# DD31H 2,2/ 6-PT-3,81-X - Feed-through plug



1340629

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CRIMP



BOX



Feed-through connector, color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Pin, number of rows: 2, number of positions: 6, product range: DD31H 2,2/..-PT, pitch: 3.81 mm, connection method: Crimp connection, conductor/PCB connection direction: 0 °, pin layout: Linear pinning, locking clip: - without locking clip, plug-in system: CONNEXIS DD, Pin connector pattern alignment: Standard, locking: Snap-in locking, mounting method: Engagement nose, 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
- Contacts arranged in a double row enable high packing density in a compact area
- Intuitive locking mechanism prevents accidental disconnection
- Tools for automatic crimping available as an option

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1340629                        |
| Packing unit                         | 50 pc                          |
| Minimum order quantity               | 50 pc                          |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA02                           |
| Product key                          | AABCUG                         |
| GTIN                                 | 4063151647810                  |
| Weight per piece (including packing) | 7.924 g                        |
| Weight per piece (excluding packing) | 8.021 g                        |
| Customs tariff number                | 85366990                       |
| Country of origin                    | CN                             |

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## Technical data

### Product properties

|                     |                        |
|---------------------|------------------------|
| Product type        | Feed-through connector |
| Product family      | DD31H 2,2/...-PT       |
| Product line        | CONNEXIS Connectors S  |
| Number of positions | 6                      |
| Pitch               | 3.81 mm                |
| Number of rows      | 2                      |
| Pin layout          | Linear pinning         |

### Electrical properties

#### Properties

|                             |              |
|-----------------------------|--------------|
| Nominal current $I_N$       | 8 A          |
| Nominal voltage $U_N$       | 160 V        |
| Contact resistance          | 5 m $\Omega$ |
| 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 type | Engagement nose |

#### Conductor connection

|                             |                  |
|-----------------------------|------------------|
| Connection method           | Crimp connection |
| Conductor cross-section AWG | 28 ... 14        |
| Stripping length            | 4.5 mm           |

### Mounting

|            |                |
|------------|----------------|
| Pin layout | Linear pinning |
|------------|----------------|

### Material specifications

#### Material data - contact

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

#### Material data - housing

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

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1340629

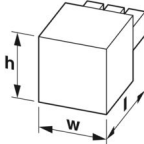
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|  |                             |
|--|-----------------------------|
| Insulating material group              | II                          |
| CTI according to IEC 60112             | $400 \leq \text{CTI} < 600$ |
| Flammability rating according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

## Notes

|                     |   |
|---------------------|---|
| Note on the contact | These connectors conform to DIN EN 61984, connectors without switching power (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.  |

## Dimensions

|                     |   |
|---------------------|---|
| Dimensional drawing |  |
| Pitch               | 3.81 mm   |
| Width [w]           | 40 mm   |
| Height [h]          | 17.78 mm  |
| Length [l]          | 33.6 mm   |

## 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

|                                     |             |
|-------------------------------------|-------------|
| Result                              | Test passed |
| No. of cycles                       | 25          |
| Insertion strength per pos. approx. | 6 N         |
| Withdraw strength per pos. approx.  | 6 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            |

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1340629

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## 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 | 20                    |

### 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

### 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                  |

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|   |      |
|---|------|
| Contact resistance R <sub>2</sub> 2nd level | 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   |

## 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                        |

## Ambient conditions

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

## Ambient conditions

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

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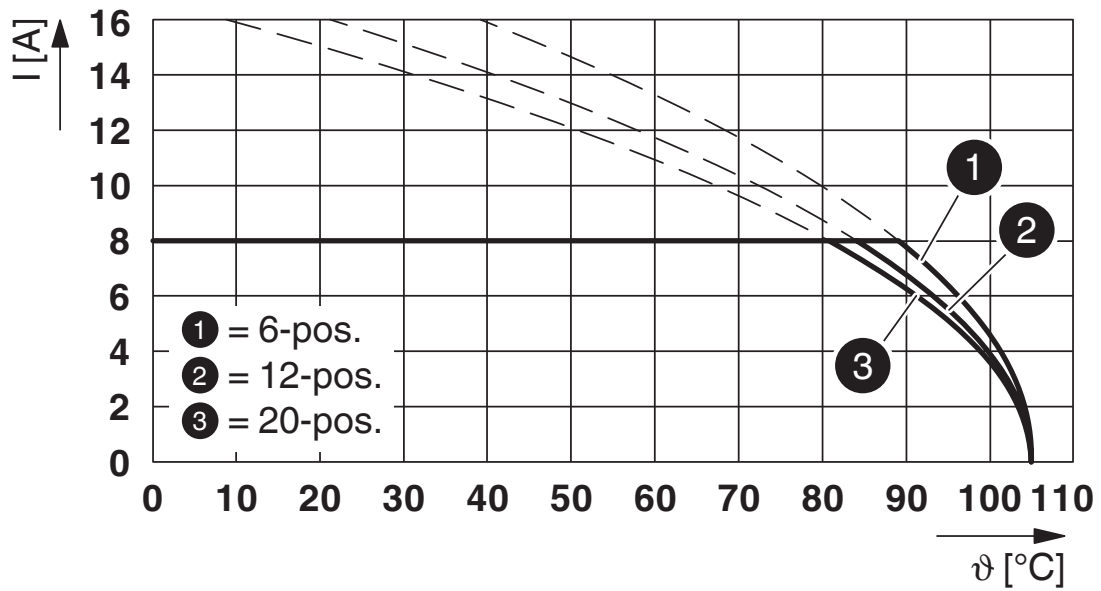


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## Drawings

Diagram



Type: DD31PC 2,2/...-3,81-X with DD31H 2,2/...-PT-3,81-X

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1340629>

|  <b>cULus Recognized</b><br>Approval ID: E60425-20240617 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B   |                       |                       |                   |                             |
| Factory wiring  | 150 V                 | 8 A                   | 24 - 16           | -                           |

|  <b>UL Recognized</b><br>Approval ID: E118976-20240617 |                       |                       |                   |                             |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine   |                       |                       |                   |                             |
|   | 250 V                 | 9.75 A                | 14                | -                           |

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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-13.0 | 27460202 |
| ECLASS-15.0 | 27460202 |

### ETIM

|           |          |
|-----------|----------|
| ETIM 10.0 | EC002638 |
|-----------|----------|

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

### EF3.1 Climate Change

|         |               |
|---------|---------------|
| CO2e kg | 0.108 kg CO2e |
|---------|---------------|

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