

# DD31PS 1,5/ 8-3,81-X - PCB connector



1500433

<https://www.phoenixcontact.com/us/products/1500433>

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, nominal cross section: 1.5 mm<sup>2</sup>, color: black, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Socket, number of rows: 2, number of positions: 8, product range: DD31PS 1,5/..., pitch: 3.81 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, locking clip: - without locking clip, plug-in system: CONNEXIS DD, locking: Snap-in locking, mounting method: Latching flange, type of packaging: packed in cardboard

## Your advantages

- Time saving push-in connection, tools not required
- Intuitive operation due to color-coded actuating push button
- Operation and conductor connection from one direction enable integration into front of device
- Contacts arranged in a double row enable high packing density in a compact area
- Intuitive locking mechanism prevents accidental disconnection

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1500433       |
| Packing unit                         | 50 pc         |
| Minimum order quantity               | 50 pc         |
| Sales key                            | AA02          |
| Product key                          | AABFUF        |
| GTIN                                 | 4063151956967 |
| Weight per piece (including packing) | 9.53 g        |
| Weight per piece (excluding packing) | 8 g           |
| Customs tariff number                | 85366990      |
| Country of origin                    | CN            |

# DD31PS 1,5/ 8-3,81-X - PCB connector



1500433

<https://www.phoenixcontact.com/us/products/1500433>

## Technical data

### Product properties

|                     |                       |
|---------------------|-----------------------|
| Product type        | PCB connector         |
| Product family      | DD31PS 1,5/..         |
| Product line        | CONNEXIS Connectors S |
| Number of positions | 8                     |
| Pitch               | 3.81 mm               |
| Number of rows      | 2                     |

### Electrical properties

#### Properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 8 A    |
| Nominal voltage $U_N$       | 160 V  |
| Contact resistance          | 1.8 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

#### Connection technology

|                         |                     |
|-------------------------|---------------------|
| Connector system        | CONNEXIS DD         |
| Nominal cross section   | 1.5 mm <sup>2</sup> |
| Contact connection type | Socket              |

#### Interlock

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

#### Conductor connection

|                                                                       |                                               |
|-----------------------------------------------------------------------|-----------------------------------------------|
| Connection method                                                     | Push-in spring connection                     |
| Conductor/PCB connection direction                                    | 0 °                                           |
| Conductor cross-section rigid                                         | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>   |
| Conductor cross-section flexible                                      | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>   |
| Conductor cross-section AWG                                           | 24 ... 16                                     |
| Conductor cross-section flexible, with ferrule without plastic sleeve | 0.25 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>  |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve  | 0.25 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> |
| Stripping length                                                      | 10 mm                                         |

### Material specifications

# DD31PS 1,5/ 8-3,81-X - PCB connector



1500433

<https://www.phoenixcontact.com/us/products/1500433>

## 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                  | hot-dip tin-plated                                                               |
| Metal surface terminal point (top layer) | Tin (4 - 8 µm Sn)                                                                |
| Metal surface contact area (top layer)   | Tin (4 - 8 µm Sn)                                                                |

## Material data - housing

|                                        |                             |
|----------------------------------------|-----------------------------|
| Color (Housing)                        | black (9005)                |
| Insulating material                    | PBT                         |
| Insulating material group              | II                          |
| CTI according to IEC 60112             | $400 \leq \text{CTI} < 600$ |
| Flammability rating according to UL 94 | V0                          |

## Material data – actuating element

|                                        |               |
|----------------------------------------|---------------|
| Color (Actuating element)              | orange (2003) |
| Insulating material                    | PBT           |
| Insulating material group              | IIIa          |
| CTI according to IEC 60112             | 275           |
| Flammability rating according to UL 94 | V0            |

## Dimensions

|                     |                                                                                      |
|---------------------|--------------------------------------------------------------------------------------|
| Dimensional drawing |  |
| Pitch               | 3.81 mm                                                                              |
| Width [w]           | 29.2 mm                                                                              |
| Height [h]          | 15.2 mm                                                                              |
| Length [l]          | 28.85 mm                                                                             |

## 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. |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Mechanical tests

### Conductor connection

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

### Test for conductor damage and slackening

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
|---------------|---------------------|

# DD31PS 1,5/ 8-3,81-X - PCB connector



1500433

<https://www.phoenixcontact.com/us/products/1500433>

|        |             |
|--------|-------------|
| Result | Test passed |
|--------|-------------|

## Repeated connection and disconnection

|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| Result        | Test passed         |

## Pull-out test

|                                                                             |                                         |
|-----------------------------------------------------------------------------|-----------------------------------------|
| Specification                                                               | IEC 60999-1:1999-11                     |
| Conductor cross-section/conductor type/tractive force setpoint/actual value | 0.2 mm <sup>2</sup> / solid / > 10 N    |
|                                                                             | 0.2 mm <sup>2</sup> / flexible / > 10 N |
|                                                                             | 1.5 mm <sup>2</sup> / solid / > 40 N    |
|                                                                             | 1.5 mm <sup>2</sup> / flexible / > 40 N |

## Insertion and withdrawal forces

|                                     |                        |
|-------------------------------------|------------------------|
| Specification                       | IEC 60512-13-2:2006-02 |
| Result                              | Test passed            |
| No. of cycles                       | 25                     |
| Insertion strength per pos. approx. | 5 N                    |
| Withdraw strength per pos. approx.  | 3 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           |

## 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

# DD31PS 1,5/ 8-3,81-X - PCB connector



1500433

<https://www.phoenixcontact.com/us/products/1500433>

|                                        |                       |
|----------------------------------------|-----------------------|
| Specification                          | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 2.95 kV               |
| Contact resistance R <sub>1</sub>      | 1.8 mΩ                |
| Contact resistance R <sub>2</sub>      | 1.9 mΩ                |
| Insertion/withdrawal cycles            | 25                    |

## Climatic test

|                                   |                                                                           |
|-----------------------------------|---------------------------------------------------------------------------|
| Specification                     | EN ISO 22479:2022-06                                                      |
| 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                                                                   |

## Shocks

|                 |                                   |
|-----------------|-----------------------------------|
| Specification   | IEC 60068-2-27:2008-02            |
| Pulse shape     | Semi-sinusoidal                   |
| Acceleration    | 5g                                |
| Shock duration  | 11 ms                             |
| Test directions | X-, Y- and Z-axis (pos. and neg.) |

## Ambient conditions

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (operation)         | -40 °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 | 20                    |

### Insulation resistance

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | > 5 MΩ                |

### Air clearances and creepage distances |

|                                                        |                     |
|--------------------------------------------------------|---------------------|
| Specification                                          | IEC 60664-1:2020-05 |
| 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              |

# DD31PS 1,5/ 8-3,81-X - PCB connector



1500433

<https://www.phoenixcontact.com/us/products/1500433>

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

# DD31PS 1,5/ 8-3,81-X - PCB connector



1500433

<https://www.phoenixcontact.com/us/products/1500433>

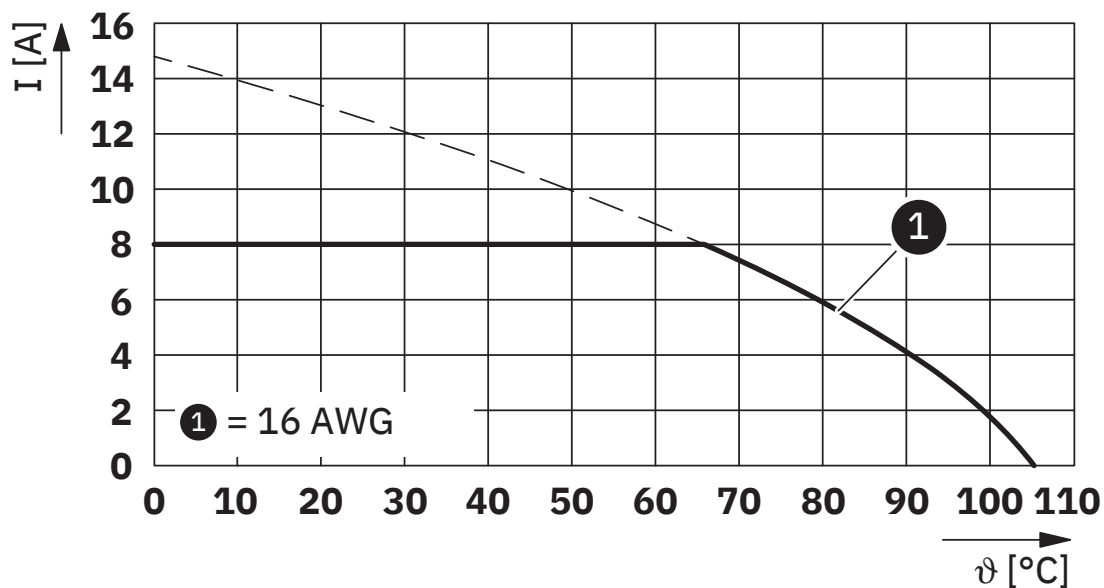
## Drawings

Diagram



Type: DD31PS 1,5/...-3,81-X with DD31H 2,2/...-H-3,81-X

Diagram



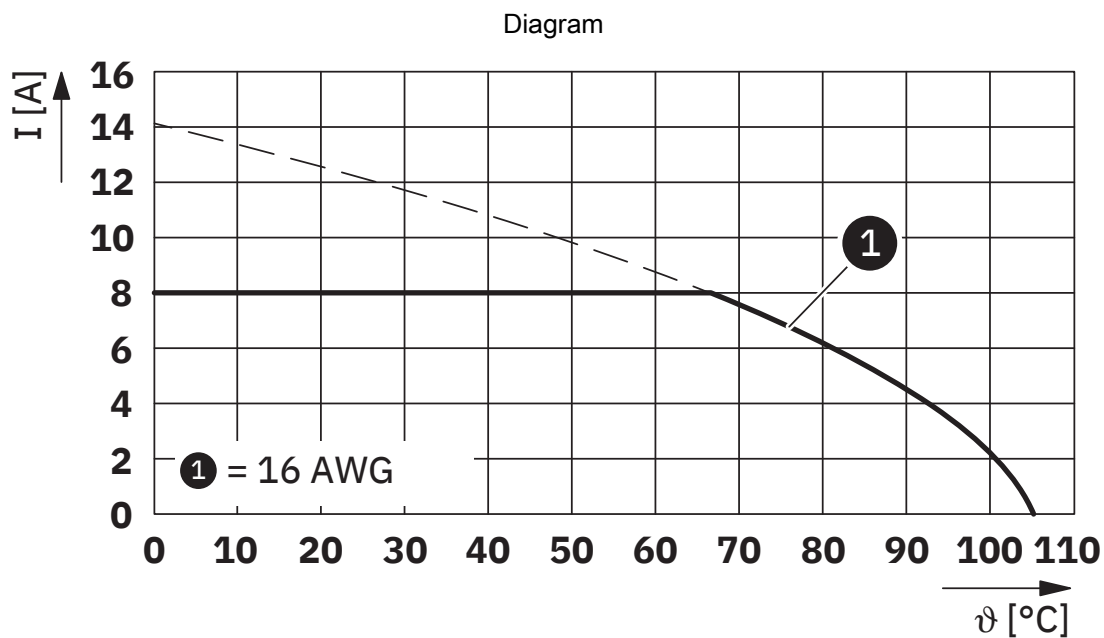
Type: DD31PS 1,5/...-3,81-X with DD31H 2,2/...-V-3,81-X

# DD31PS 1,5/ 8-3,81-X - PCB connector



1500433

<https://www.phoenixcontact.com/us/products/1500433>



Type: DD31PS 1,5/...-3,81-X with DD31H 2,2/...-FH-3,81-X

# DD31PS 1,5/ 8-3,81-X - PCB connector



1500433

<https://www.phoenixcontact.com/us/products/1500433>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1500433>

|                                                                                                                                                       |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
| <div> <b>cULus Recognized</b><br/>Approval ID: E60425-20240617</div> |                       |                       |                   |                             |
|                                                                                                                                                       | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                                                     |                       |                       |                   |                             |
| Standard                                                                                                                                              | 150 V                 | 8 A                   | 24 - 16           | -                           |
| C                                                                                                                                                     |                       |                       |                   |                             |
| Standard                                                                                                                                              | 150 V                 | 8 A                   | 24 - 16           | -                           |
| D                                                                                                                                                     |                       |                       |                   |                             |
| Standard                                                                                                                                              | 150 V                 | 15 A                  | 24 - 16           | -                           |
| Alternative 1                                                                                                                                         | 300 V                 | 10 A                  | 24 - 16           | -                           |

# DD31PS 1,5/ 8-3,81-X - PCB connector



1500433

<https://www.phoenixcontact.com/us/products/1500433>

## Classifications

### ECLASS

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

### ETIM

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

# DD31PS 1,5/ 8-3,81-X - PCB connector



1500433

<https://www.phoenixcontact.com/us/products/1500433>

## 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 USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)