

DD31H 2,2/20-H-3,81-Y - PCB header



1341395

<https://www.phoenixcontact.com/us/products/1341395>

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PCB headers, 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: 20, product range: DD31H 2,2/..-H, 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 DD, 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
- Plug-in direction parallel to the PCB
- Easy PCB replacement thanks to plug-in modules
- Contacts arranged in a double row enable high packing density in a compact area
- Intuitive locking mechanism prevents accidental disconnection

Commercial data

| | |
|--------------------------------------|--------------------------------|
| Item number | 1341395 |
| Packing unit | 50 pc |
| Minimum order quantity | 50 pc |
| Note | Made to order (non-returnable) |
| Sales key | AA02 |
| Product key | AABSUD |
| GTIN | 4063151649838 |
| Weight per piece (including packing) | 21.244 g |
| Weight per piece (excluding packing) | 13.6 g |
| Customs tariff number | 85366990 |
| Country of origin | CN |

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Technical data

Product properties

| | |
|---------------------------|-----------------------|
| Product type | PCB headers |
| Product family | DD31H 2,2/...-H |
| Product line | CONNEXIS Connectors S |
| Number of positions | 20 |
| Pitch | 3.81 mm |
| Number of rows | 2 |
| 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 μm - 5 μm Sn) |
| Metal surface contact area (middle layer) | Nickel (1.3 μm - 3 μm Ni) |
| Metal surface soldering area (top layer) | Tin (3 μm - 5 μm Sn) |
| Metal surface soldering area (middle layer) | Nickel (1.3 μm - 3 μm Ni) |

Material data - housing

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

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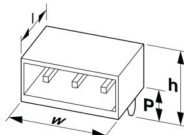
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| | |
|--|----------------------|
| CTI according to IEC 60112 | $400 \leq CTI < 600$ |
| Flammability rating according to UL 94 | V0 |

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 | The current depends on the crimp contact and conductor cross-section used. |

Dimensions

| | |
|-----------------------|--|
| Dimensional drawing |  |
| Pitch | 3.81 mm |
| Width [w] | 48.29 mm |
| Height [h] | 18.23 mm |
| Length [l] | 25.91 mm |
| Installed height | 14.43 mm |
| Solder pin length [P] | 3.8 mm |
| Pin dimensions | 0.65 x 0.64 mm |

PCB design

| | |
|---------------|--------|
| Hole diameter | 3 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

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| | |
|---|------------------------|
| Specification | IEC 60512-15-1:2008-05 |
| Contact holder in insert Requirements >20 N | Test passed |

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 |

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 ₁ | 5 mΩ |
| Contact resistance R ₂ | 5 mΩ |
| Contact resistance R ₂ 2nd level | 5 mΩ |
| Insertion/withdrawal cycles | 25 |

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Climatic test

| | |
|-----------------------------------|---|
| Specification | ISO 6988:1985-02 |
| Corrosive stress | 0.2 dm ³ SO ₂ on 300 dm ³ /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 ² (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) |

Packaging specifications

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

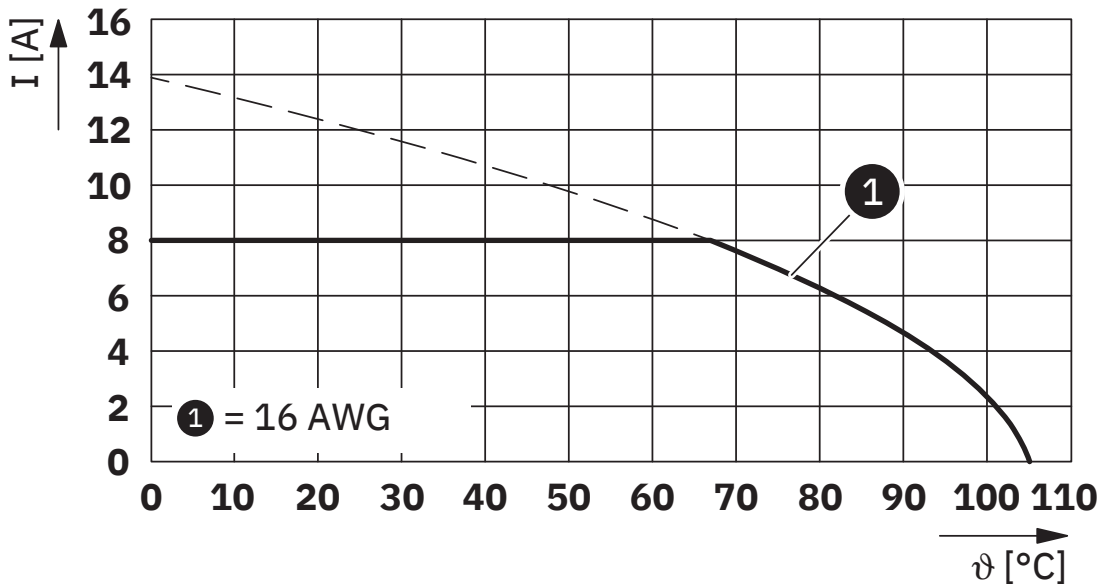
Drawings

Diagram



Type: DD31PC 2,2/...-3,81-Y with DD31H 2,2/...-H-3,81-Y

Diagram



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

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Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1341395>

|  cULus Recognized Approval ID: E60425-20240617 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| B | | | | |
| | 150 V | 8 A | - | - |

|  UL Recognized Approval ID: E118976-20240617 | | | | |
|---|-----------------------|-----------------------|-------------------|-----------------------------|
| | Nominal voltage U_N | Nominal current I_N | Cross section AWG | Cross section mm^2 |
| keine | | | | |
| | 250 V | 8 A | - | - |

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Classifications

ECLASS

| | |
|-------------|----------|
| ECLASS-13.0 | 27460201 |
| ECLASS-15.0 | 27460201 |

ETIM

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