

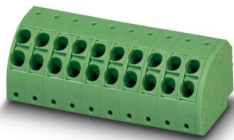
# PTDA 2,5/10-PH-5,0RTGY7038BD12 - PCB connector



1831329

<https://www.phoenixcontact.com/us/products/1831329>

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The figure shows a 10-position version of the product

PCB connector, nominal cross section: 2.5 mm<sup>2</sup>, color: agate gray, nominal current: 13.5 A, rated voltage (III/2): 400 V, contact surface: Sn, contact connection type: Socket, number of rows: 1, number of positions: 10, product range: PTDA 2,5/..-PH, pitch: 5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 45 °, plug-in system: COMBICON PST 1,3, locking: without, mounting method: without, type of packaging: packed in cardboard

## Your advantages

- Time saving push-in connection, tools not required
- Defined contact force ensures that contact remains stable over the long term
- Potentials can be easily looped through – ideal for BUS applications
- Quick and convenient testing using integrated test option
- Rounded type for individual device design

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1831329                        |
| Packing unit                         | 100 pc                         |
| Minimum order quantity               | 100 pc                         |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA33                           |
| Product key                          | AACFPA                         |
| GTIN                                 | 4046356892391                  |
| Weight per piece (including packing) | 18.09 g                        |
| Weight per piece (excluding packing) | 18.08 g                        |
| Customs tariff number                | 85366990                       |
| Country of origin                    | PL                             |

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## Technical data

### Product properties

|                     |                       |
|---------------------|-----------------------|
| Product type        | PCB connector         |
| Product family      | PTDA 2,5/..-PH        |
| Product line        | COMBICON Connectors M |
| Number of positions | 10                    |
| Pitch               | 5 mm                  |
| Number of rows      | 1                     |
| Mounting type       | without               |

### Electrical properties

#### Properties

|                             |                |
|-----------------------------|----------------|
| Nominal current $I_N$       | 13.5 A         |
| Nominal voltage $U_N$       | 400 V          |
| Contact resistance          | 1.5 m $\Omega$ |
| Rated voltage (III/3)       | 320 V          |
| Rated surge voltage (III/3) | 4 kV           |
| Rated voltage (III/2)       | 400 V          |
| Rated surge voltage (III/2) | 4 kV           |
| Rated voltage (II/2)        | 630 V          |
| Rated surge voltage (II/2)  | 4 kV           |

### Connection data

#### Connection technology

|                         |                     |
|-------------------------|---------------------|
| Type                    | Plug for pin strip  |
| Connector system        | COMBICON PST 1,3    |
| Nominal cross section   | 2.5 mm <sup>2</sup> |
| Contact connection type | Socket              |

#### Interlock

|               |         |
|---------------|---------|
| Locking type  | without |
| Mounting type | without |

#### Conductor connection

|   |  |
|---|--|
| Connection method   | Push-in spring connection                    |
| Conductor/PCB connection direction                                      | 45 °   |
| Conductor cross-section rigid   | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| Conductor cross-section flexible  | 0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>  |
| Conductor cross-section AWG   | 24 ... 12                                    |
| Conductor cross-section, flexible, with ferrule, without plastic sleeve | 0.25 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve    | 0.25 mm <sup>2</sup> ... 1 mm <sup>2</sup>   |
| 2 conductors with the same cross section, flexible, with TWIN           | 0.5 mm <sup>2</sup> ... 1 mm <sup>2</sup>    |

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|                             |       |
|-----------------------------|-------|
| ferrule with plastic sleeve |       |
| Stripping length            | 10 mm |

## Material specifications

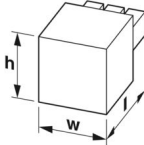
### Material data - contact

|  |  |
|--|--|
| Note                                     | WEEE/RoHS-compliant, free of whiskers according to IEC 60068-2-82/JEDEC JESD 201 |
| Contact material                         | Cu alloy   |
| Surface characteristics                  | hot-dip tin-plated   |
| Metal surface terminal point (top layer) | Tin (4 $\mu\text{m}$ - 8 $\mu\text{m}$ Sn)                                       |
| Metal surface contact area (top layer)   | Tin (4 $\mu\text{m}$ - 8 $\mu\text{m}$ Sn)                                       |

### Material data - housing

|   |                   |
|---|-------------------|
| Color (Housing)   | agate gray (7038) |
| Insulating material   | PA                |
| Insulating material group   | I                 |
| CTI according to IEC 60112  | 600               |
| Flammability rating according to UL 94                            | V0                |
| Glow wire flammability index GWFI according to EN 60695-2-12      | 850               |
| Glow wire ignition temperature GWIT according to EN 60695-2-13    | 775               |
| Temperature for the ball pressure test according to EN 60695-10-2 | 125 °C            |

## Dimensions

|                     |  |
|---------------------|--|
| Dimensional drawing |  |
| Pitch               | 5 mm   |
| Width [w]           | 26.4 mm  |
| Height [h]          | 16 mm  |
| Length [l]          | 20 mm  |

## Notes

|                     |   |
|---------------------|---|
| Note on application | Maximum permissible outside diameter of the wire insulation $\leq 3.5$ mm |
|---------------------|---|

## Mechanical tests

### Conductor connection

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

### Test for conductor damage and slackening

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|               |                     |
|---------------|---------------------|
| Specification | IEC 60999-1:1999-11 |
| 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 |
|   | 2.5 mm <sup>2</sup> / solid / > 50 N    |
|   | 2.5 mm <sup>2</sup> / flexible / > 50 N |

## Insertion and withdrawal forces

|                                     |                        |
|-------------------------------------|------------------------|
| Specification                       | IEC 60512-13-2:2006-02 |
| Result                              | Test passed            |
| No. of cycles                       | 10                     |
| 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            |

## 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

## Durability test

|  |                     |
|--|---------------------|
| Specification                          | IEC 60512-5:1992-08 |
| Impulse withstand voltage at sea level | 4.8 kV              |
| Contact resistance R <sub>1</sub>      | 1.5 mΩ              |
| Contact resistance R <sub>2</sub>      | 1.6 mΩ              |
| Insertion/withdrawal cycles            | 10                  |

## 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                    | 100 °C/168 h  |
| Power-frequency withstand voltage | 2.21 kV   |

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## Vibration test

|                        |                             |
|------------------------|-----------------------------|
| Specification          | IEC 60068-2-6:1995-03       |
| Frequency              | 10 - 150 - 10 Hz            |
| Sweep speed            | 1 octave/min                |
| Amplitude              | 0.35 mm (10 Hz ... 60.1 Hz) |
| Acceleration           | 5g (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)         | -40 °C ... 100 °C (dependent on the derating curve) |

## Electrical tests

## Thermal test | Test group C

|                            |                       |
|----------------------------|-----------------------|
| Specification              | IEC 60512-5-1:2002-02 |
| Tested number of positions | 16                    |

## Insulation resistance

|  |                       |
|--|-----------------------|
| Specification                                | IEC 60512-3-1:2002-02 |
| Insulation resistance, neighboring positions | $10^{12} \Omega$      |

## Temperature cycles

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

## Air clearances and creepage distances |

|  |                     |
|--|---------------------|
| Specification  | IEC 60664-1:2007-04 |
| Insulating material group                              | I                   |
| Comparative tracking index (IEC 60112)                 | CTI 600             |
| Rated insulation voltage (III/3)                       | 320 V               |
| Rated surge voltage (III/3)                            | 4 kV                |
| minimum clearance value - non-homogenous field (III/3) | 3 mm                |
| minimum creepage distance (III/3)                      | 4 mm                |
| Rated insulation voltage (III/2)                       | 400 V               |
| Rated surge voltage (III/2)                            | 4 kV                |
| minimum clearance value - non-homogenous field (III/2) | 3 mm                |
| minimum creepage distance (III/2)                      | 3 mm                |
| Rated insulation voltage (II/2)                        | 630 V               |
| Rated surge voltage (II/2)                             | 4 kV                |
| minimum clearance value - non-homogenous field (II/2)  | 3 mm                |
| minimum creepage distance (II/2)                       | 3.2 mm              |

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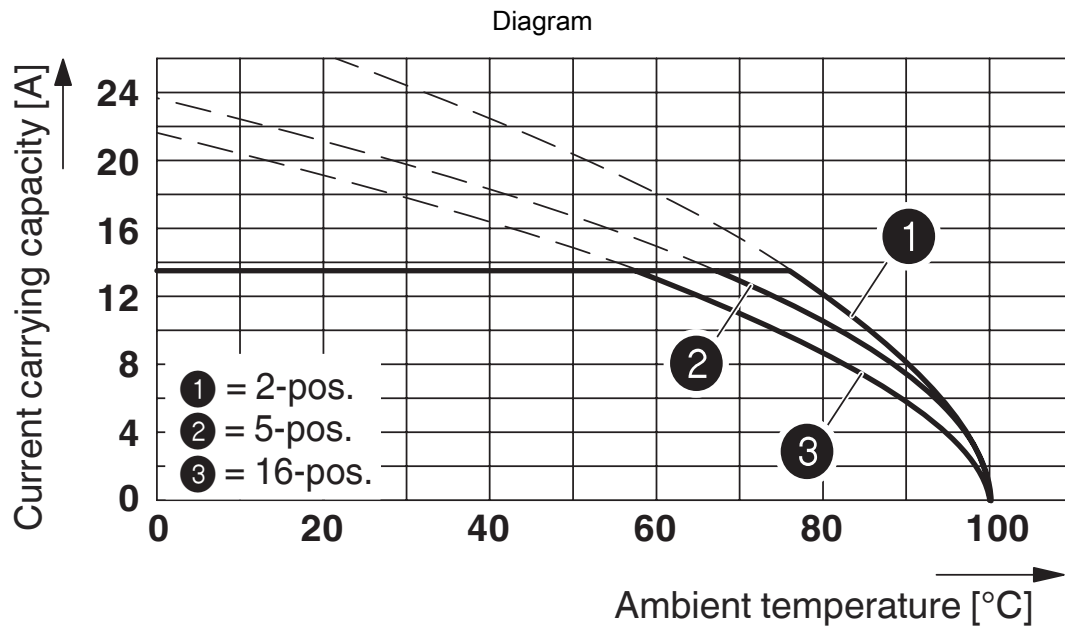
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## Packaging specifications

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

Drawings




Type: PTDA 2,5/...-PH-5,0 with PST 1,3/...-5,0

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1831329>

|  <b>cULus Recognized</b><br>Approval ID: E60425-20030211 |                       |                       |                   |                      |
|---|-----------------------|-----------------------|-------------------|----------------------|
|   | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $mm^2$ |
| B   | 300 V                 | 13.5 A                | 24 - 14           | -                    |
| C   | 150 V                 | 13.5 A                | 24 - 14           | -                    |
| D   | 300 V                 | 10 A                  | 24 - 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 | 0.125 kg CO2e |
|---------|---------------|

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