

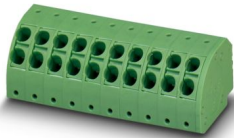
# PTDA 2,5/ 3-PH-5,0 RTGY38BD-69 - PCB connector



1706548

<https://www.phoenixcontact.com/us/products/1706548>

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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: 3, 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	1706548
Packing unit	250 pc
Minimum order quantity	250 pc
Sales key	AA03
Product key	AACFPA
GTIN	4046356867054
Weight per piece (including packing)	6.257 g
Weight per piece (excluding packing)	5.878 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	3
Pitch	5 mm
Number of rows	1

### Electrical properties

#### Properties

Nominal current $I_N$	13.5 A
Nominal voltage $U_N$	400 V
Contact resistance	1.5 mΩ
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 ferrule with plastic sleeve	0.5 mm <sup>2</sup> ... 1 mm <sup>2</sup>

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Stripping length	10 mm
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## Material specifications

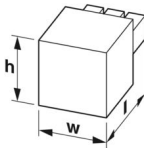
### Material data - contact

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]	16.4 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
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## 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
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Result	Test passed
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## 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

### Vibration test

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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

## Packaging specifications

# PTDA 2,5/ 3-PH-5,0 RTGY38BD-69 - PCB connector



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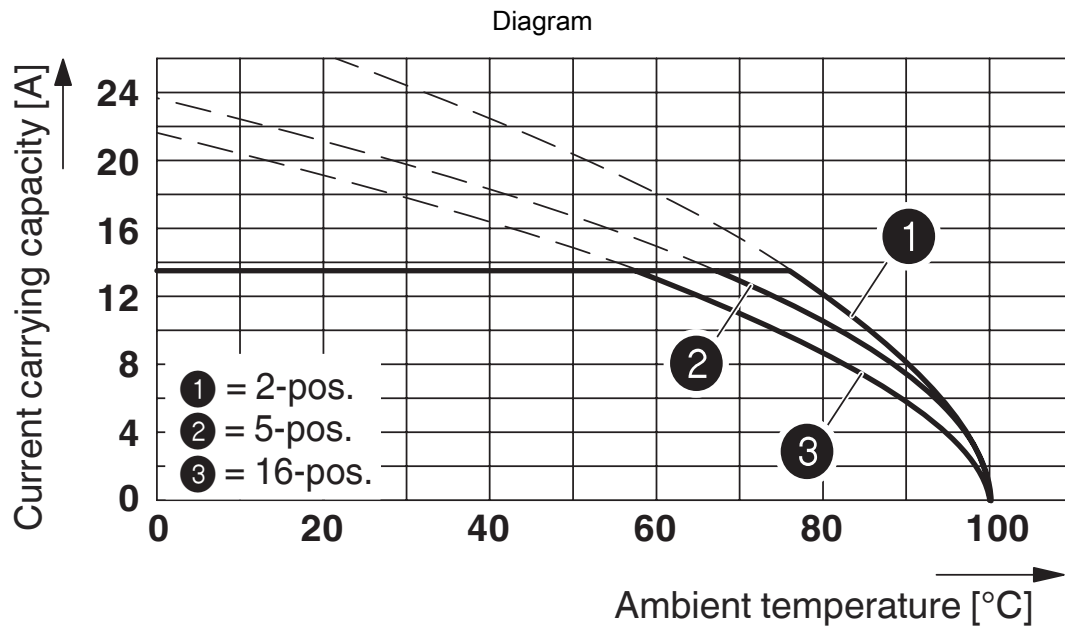
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Type of packaging	packed in cardboard
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### Drawings



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

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## Approvals

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 <b>cULus Recognized</b> Approval ID: E60425-20030211		Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $\text{mm}^2$
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
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes, No exemptions
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### 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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### EF3.1 Climate Change

CO2e kg	0.041 kg CO2e
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