

# Plug - PTDA 1,5/ 3-PH-3,5 - 1725120

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PCB connector, nominal current: 8 A, rated voltage (III/2): 240 V, nominal cross section: 1.5 mm<sup>2</sup>, number of positions: 3, pitch: 3.5 mm, connection method: Push-in spring connection, color: green, contact surface: Tin, pin layout: Linear double pinning


The figure shows a 10-position version of the product

## 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



## Key Commercial Data

|              |   |
|--------------|---|
| Packing unit | 250 pc  |
| GTIN         | <br>4 046356 129114 |
| GTIN         | 4046356129114   |

## Technical data

### Item properties

|                           |                           |
|---------------------------|---------------------------|
| Brief article description | PCB connector             |
| Plug-in system            | COMBICON COMPACT PST 1    |
| Type of contact           | Female connector          |
| Range of articles         | PTDA 1,5/...-PH           |
| Pitch                     | 3.5 mm                    |
|                           | 3.5 mm                    |
| Number of positions       | 3                         |
| Connection method         | Push-in spring connection |
| Pin layout                | Linear double pinning     |
| Locking                   | without                   |

# Plug - PTDA 1,5/ 3-PH-3,5 - 1725120

## Technical data

### Item properties

|                       |   |
|-----------------------|---|
| Number of levels      | 1 |
| Number of connections | 6 |
| Number of potentials  | 3 |

### Electrical parameters

|                             |        |
|-----------------------------|--------|
| Nominal current             | 8 A    |
| Nom. voltage                | 240 V  |
| Rated voltage               | 160 V  |
| Rated voltage (III/2)       | 240 V  |
| Rated voltage (II/2)        | 400 V  |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated surge voltage (II/2)  | 2.5 kV |

### Connection capacity

|   |   |
|---|---|
| Connection method   | Push-in spring connection                   |
| pluggable   | Yes   |
| Conductor cross section solid   | 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 / kcmil   | 24 ... 16                                   |
| Conductor cross section flexible, with ferrule without plastic sleeve                     | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| Conductor cross section, flexible, with ferrule, with plastic sleeve                      | 0.5 mm <sup>2</sup> ... 0.5 mm <sup>2</sup> |
| 2 conductors with same cross section, solid   | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| 2 conductors with same cross section, flexible  | 0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| 2 conductors with same cross section, flexible, with ferrule without plastic sleeve       | 0.5 mm <sup>2</sup> ... 1.5 mm <sup>2</sup> |
| 2 conductors with the same cross section, flexible, with TWIN ferrule with plastic sleeve | 0.5 mm <sup>2</sup> ... 0.5 mm <sup>2</sup> |
| Stripping length  | 10 mm                                       |

### 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

|  |              |
|--|--------------|
| Housing color                          | green (6021) |
| Insulating material                    | PA           |
| Insulating material group              | I            |
| CTI according to IEC 60112             | 600          |
| Flammability rating according to UL 94 | V0           |

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## Technical data

### Material data - housing

|   |        |
|---|--------|
| 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 for the product

|                             |         |
|-----------------------------|---------|
| Length [ l ]                | 20 mm   |
| Width [ w ]                 | 11.9 mm |
| Height [ h ]                | 16 mm   |
| Pitch                       | 3.5 mm  |
| Height (without solder pin) | 16 mm   |

### Packaging information

|                            |                     |
|----------------------------|---------------------|
| Type of packaging          | packed in cardboard |
| Pieces per package         | 250                 |
| Denomination packing units | Pcs.                |

### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C                                    |
| Ambient temperature (assembly)          | -5 °C ... 100 °C                                    |
| Ambient temperature (operation)         | -40 °C ... 100 °C (dependent on the derating curve) |

### Termination and connection method

|  |   |
|--|---|
| Conductor connection test                | The stripped-off ends of the largest conductor can be completely inserted in the opening of the terminal point without using excessive force. |
| Test result                              | Test passed   |
| Test – repeated connection and release   | IEC 60999-1:1999-11   |
|  | Test passed   |
| Test for conductor damage and slackening | IEC 60999-1:1999-11   |
|  | Test passed   |

### Pull-out test

|  |   |
|--|---|
| Pull-out test  | IEC 60999-1:1999-11                     |
|  | Test passed                             |
| Conductor cross section / conductor type / tensile force | 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 |

### Mechanical tests according to standard

|                                |                        |
|--------------------------------|------------------------|
| Test specification             | IEC 61984              |
| Visual inspection              | IEC 60512-1-1:2002-02  |
| Dimension check                | IEC 60512-1-2:2002-02  |
| Resistance of inscriptions     | IEC 60068-2-70:1995-12 |
| Insertion and withdrawal force | IEC 60512-13-2:2006-02 |

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## Technical data

### Mechanical tests according to standard

|                                     |                     |
|-------------------------------------|---------------------|
| No. of cycles                       | 10                  |
| Insertion strength per pos. approx. | 6 N                 |
| Withdraw strength per pos. approx.  | 5 N                 |
| Contact holder in insert            | IEC 60512-8:1993-01 |
| Test force per pos.                 | 19 N                |

### Air clearances and creepage distances

|   |                     |
|---|---------------------|
| Clearances and creepage distances               | IEC 60664-1:2007-04 |
| Specification                                   | IEC 60664-1:2007-04 |
| Minimum clearance - inhomogeneous field (III/3) | 1.5 mm              |
| Minimum clearance - inhomogeneous field (III/2) | 1.5 mm              |
| Minimum clearance - inhomogeneous field (II/2)  | 1.5 mm              |
| Minimum creepage distance value (III/3)         | 2 mm                |
| Minimum creepage distance value (III/2)         | 1.5 mm              |
| Minimum creepage distance value (II/2)          | 2 mm                |

### Electrical tests - Function

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

### Temperature cycles

|                                      |                     |
|--------------------------------------|---------------------|
| Specification                        | IEC 60999-1:1999-11 |
| Test current (minimum cross section) | 4 A DC              |
| Test current (maximum cross section) | 8 A DC              |
| Temperature cycles                   | 192                 |

### Current carrying capacity / derating curves

|                  |  |
|------------------|--|
| Caption          | Derating curve for: PTDA 1,5/...-PH-3,5 with PST 1,0/...-3,5 |
| Reduction factor | 0.8  |
| Note             | Representation based on IEC 60512-5-2:2002-02                |
|                  | For number of positions, see diagram                         |

### Mechanical tests (A)

|   |             |
|---|-------------|
| Test specification                          | IEC 61984   |
| Insertion strength per pos. approx.         | 6 N         |
| Withdraw strength per pos. approx.          | 5 N         |
| Contact holder in insert requirements >20 N | Test passed |

### Durability tests (B)

|  |                     |
|--|---------------------|
| Specification                          | IEC 60512-5:1992-08 |
| Contact resistance R <sub>1</sub>      | 1.8 mΩ              |
| Insertion/withdrawal cycles            | 10                  |
| Contact resistance R <sub>2</sub>      | 1.9 mΩ              |
| Impulse withstand voltage at sea level | 2.95 kV             |
| Power-frequency withstand voltage      | 1.39 kV             |

## Plug - PTDA 1,5/ 3-PH-3,5 - 1725120

### Technical data

#### Durability tests (B)

|  |         |
|--|---------|
| Insulation resistance, neighboring positions | > 10 TΩ |
|--|---------|

#### Thermal tests (C)

|   |                       |
|---|-----------------------|
| Specification                                   | IEC 60512-5-1:2002-02 |
| Number of positions                             | 16                    |
| Conductor cross section                         | 1.5 mm <sup>2</sup>   |
| Test current                                    | 8 A                   |
| Upper limiting temperature requirements <100 °C | Test passed           |

#### Climatic tests (D)

|  |   |
|--|---|
| Specification                          | ISO 6988:1985-02  |
| Cold stress                            | -40 °C/2 h  |
| Thermal stress                         | 100 °C/168 h  |
| Corrosive stress                       | 0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle |
| Impulse withstand voltage at sea level | 2.95 kV   |
| Power-frequency withstand voltage      | 1.39 kV   |

#### Environmental and durability tests (E)

|                                       |                                     |
|---------------------------------------|-------------------------------------|
| Result, degree of protection, IP code | Finger safety with IP20 test finger |
|---------------------------------------|-------------------------------------|

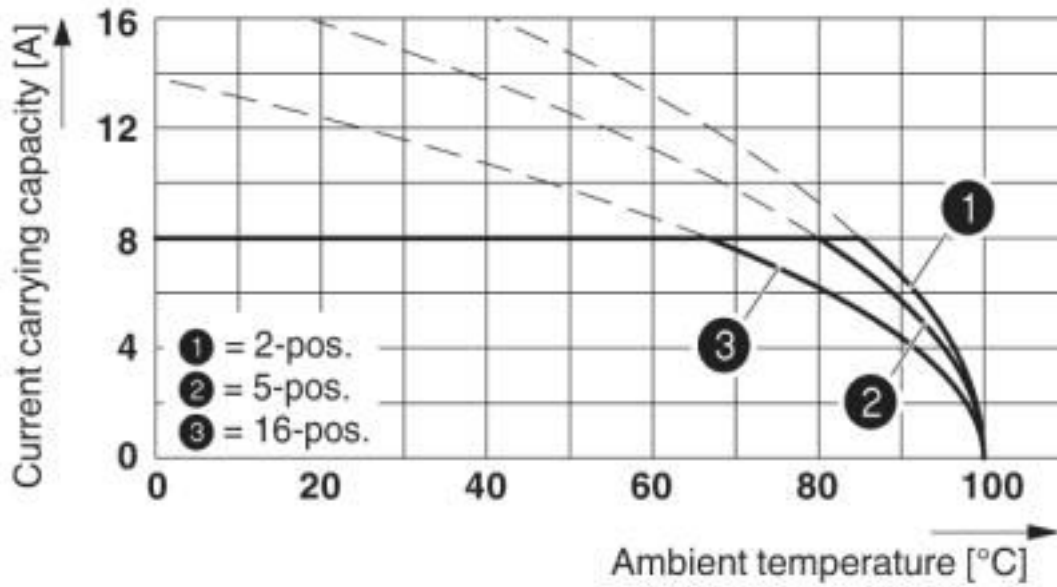
#### Environmental Product Compliance

|            |   |
|------------|---|
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

### Drawings

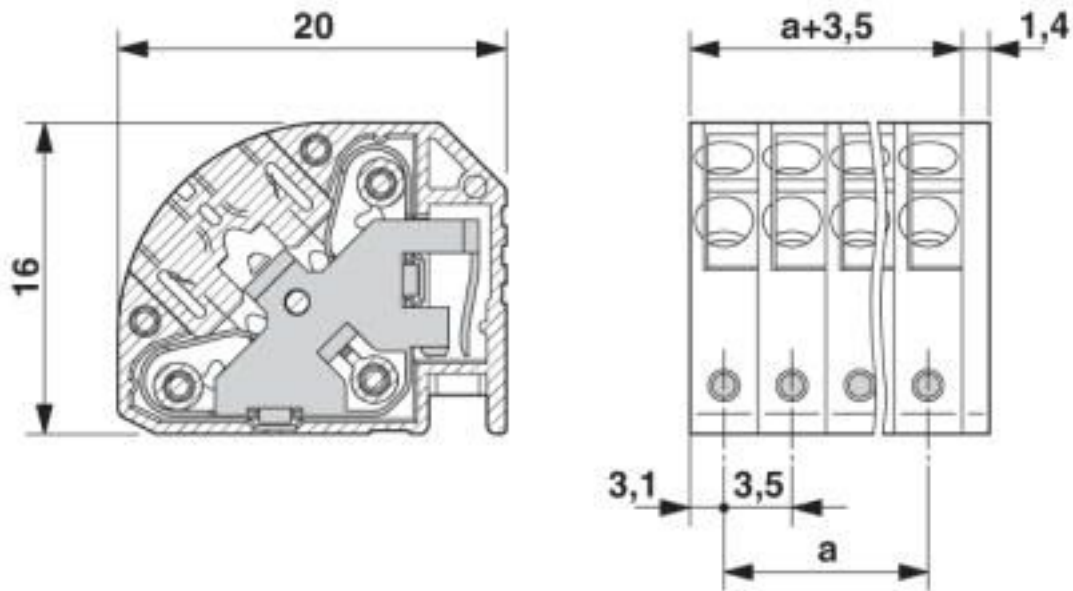
# Plug - PTDA 1,5/ 3-PH-3,5 - 1725120

Diagram



Derating curve for: PTDA 1,5/...-PH-3,5 with PST 1,0/...-3,5

Dimensional drawing



## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440309 |
| eCl@ss 4.0    | 27260700 |
| eCl@ss 4.1    | 27260700 |

# Plug - PTDA 1,5/ 3-PH-3,5 - 1725120

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 5.0 | 27260700 |
| eCl@ss 5.1 | 27260700 |
| eCl@ss 6.0 | 27260700 |
| eCl@ss 7.0 | 27440309 |
| eCl@ss 8.0 | 27440309 |
| eCl@ss 9.0 | 27440309 |

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002638 |
| ETIM 5.0 | EC002638 |
| ETIM 6.0 | EC002638 |
| ETIM 7.0 | EC002638 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211801 |
| UNSPSC 7.0901 | 39121432 |
| UNSPSC 11     | 34131203 |
| UNSPSC 12.01  | 39121432 |
| UNSPSC 13.2   | 39121409 |
| UNSPSC 18.0   | 39121409 |
| UNSPSC 19.0   | 39121409 |
| UNSPSC 20.0   | 39121409 |
| UNSPSC 21.0   | 39121409 |

## Approvals

### Approvals

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Approvals

EAC / cULus Recognized

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Ex Approvals

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### Approval details

|     |   |         |
|-----|---|---------|
| EAC |  | B.01687 |
|-----|---|---------|

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## Approvals

|                            |       |   |                 |
|----------------------------|-------|---|-----------------|
| cULus Recognized           |       | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | E60425-20030211 |
|                            | B     | D   |                 |
| Nominal voltage UN         | 150 V | 300 V   |                 |
| Nominal current IN         | 10 A  | 10 A  |                 |
| mm <sup>2</sup> /AWG/kcmil | 24-16 | 24-16   |                 |

## Accessories

### Additional products

Pin strip - PST 1,0/ 3-3,5 R24 - 1720246



Pin strip, nominal current: 8 A, rated voltage (III/2): 250 V, nominal cross section: 0.5 mm<sup>2</sup>, number of positions: 3, pitch: 3.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm, The maximum current depends on the plug used. The lower of the two current values apply for plug and pin strip. The pin strip is made of highly temperature resistant plastic and is thus suitable for the reflow process.

Pin strip - PST 1,0/ 3-3,5 - 1945106



Pin strip, nominal current: 8 A, rated voltage (III/2): 250 V, nominal cross section: 0.5 mm<sup>2</sup>, number of positions: 3, pitch: 3.5 mm, color: black, contact surface: Tin, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 3.8 mm, The maximum current depends on the plug used. The lower of the two current values apply for plug and pin strip. The pin strip is made of highly temperature resistant plastic and is thus suitable for the reflow process.

Screwdriver - SZF 0-0,4X2,5 - 1204504



Actuation tool, for ST terminal blocks, also suitable for use as a bladed screwdriver, size: 0.4 x 2.5 x 75 mm, 2-component grip, with non-slip grip

Coding profile - CP-PTDA - 1731361



Coding profile, inserted into the groove on the plug, made from red insulating material, diameter: 1.35 mm



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