

# PTSM 0,5/ 3-P-2,5 - PCB connector



1778845

<https://www.phoenixcontact.com/us/products/1778845>

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: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Socket, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: PTSM 0,5/..-P, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON PTSM, 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
- High current carrying capacity of 6 A in very compact dimensions

## Commercial data

|                                      |               |
|--------------------------------------|---------------|
| Item number                          | 1778845       |
| Packing unit                         | 250 pc        |
| Minimum order quantity               | 250 pc        |
| Sales key                            | AA01          |
| Product key                          | AAAFPB        |
| GTIN                                 | 4046356530057 |
| Weight per piece (including packing) | 0.854 g       |
| Weight per piece (excluding packing) | 0.85 g        |
| Customs tariff number                | 85366990      |
| Country of origin                    | IN            |

# PTSM 0,5/ 3-P-2,5 - PCB connector



1778845

<https://www.phoenixcontact.com/us/products/1778845>

## Technical data

### Product properties

|                       |                        |
|-----------------------|------------------------|
| Product type          | PCB connector          |
| Product family        | PTSM 0,5/...-P         |
| Product line          | COMBICON Connectors XS |
| Type                  | Standard               |
| Number of positions   | 3                      |
| Pitch                 | 2.5 mm                 |
| Number of connections | 3                      |
| Number of rows        | 1                      |
| Number of potentials  | 3                      |
| Mounting type         | without                |

### Electrical properties

#### Properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 6 A    |
| Nominal voltage $U_N$       | 160 V  |
| Contact resistance          | 3 mΩ   |
| Rated voltage (III/3)       | 100 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

|                         |                     |
|-------------------------|---------------------|
| Type                    | Standard            |
| Connector system        | COMBICON PTSM       |
| Nominal cross section   | 0.5 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 | 0 °                                                                                                                                                                   |
| Conductor cross-section rigid      | 0.14 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>                                                                                                                          |
| Conductor cross-section flexible   | 0.2 mm <sup>2</sup> ... 0.5 mm <sup>2</sup> (up to 0.75 mm <sup>2</sup> supported, with a stripping length of 7.5 mm and a rated insulation voltage of 32 V at III/2) |
| Conductor cross-section AWG        | 24 ... 20                                                                                                                                                             |

# PTSM 0,5/ 3-P-2,5 - PCB connector



1778845

<https://www.phoenixcontact.com/us/products/1778845>

|                                                                       |                                                                                                                                                                          |
|-----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conductor cross-section flexible, with ferrule without plastic sleeve | 0.25 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>                                                                                                                             |
| Conductor cross-section, flexible, with ferrule, with plastic sleeve  | 0.25 mm <sup>2</sup> ... 0.34 mm <sup>2</sup> (possible from 0.14 mm <sup>2</sup> , when using ferrule AI 0.14- 6 GY in combination with crimping pliers CRIMPFOX 10T-F) |
| Cylindrical gauge a x b / diameter                                    | - / 1.2 mm                                                                                                                                                               |
| Stripping length                                                      | 6 mm                                                                                                                                                                     |

## Specifications for ferrules with insulating collar

|                           |                        |
|---------------------------|------------------------|
| recommended crimping tool | 1134913 CRIMPFOX 10T-F |
|                           | 1212034 CRIMPFOX 6     |

## Material specifications

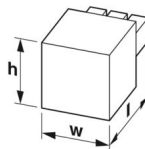
### Material data - contact

|                                          |                                                                                  |
|------------------------------------------|----------------------------------------------------------------------------------|
| 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 - 8 µm Sn)                                                                |
| Metal surface contact area (top layer)   | Tin (4 - 8 µm Sn)                                                                |

### Material data - housing

|                                                                   |              |
|-------------------------------------------------------------------|--------------|
| Color (Housing)                                                   | black (9005) |
| 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               | 2.5 mm                                                                               |
| Width [w]           | 8.6 mm                                                                               |
| Height [h]          | 5 mm                                                                                 |
| Length [l]          | 15 mm                                                                                |

## Mechanical tests

# PTSM 0,5/ 3-P-2,5 - PCB connector



1778845

<https://www.phoenixcontact.com/us/products/1778845>

## Conductor connection

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

## Test for conductor damage and slackening

|               |                     |
|---------------|---------------------|
| 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 | 0.14 mm <sup>2</sup> / solid / > 10 N    |
|                                                                             | 0.2 mm <sup>2</sup> / flexible / > 10 N  |
|                                                                             | 0.5 mm <sup>2</sup> / solid / > 20 N     |
|                                                                             | 0.75 mm <sup>2</sup> / flexible / > 30 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.  | 4 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          |

# PTSM 0,5/ 3-P-2,5 - PCB connector



1778845

<https://www.phoenixcontact.com/us/products/1778845>

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

## Durability test

|                                        |                       |
|----------------------------------------|-----------------------|
| Specification                          | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level | 2.95 kV               |
| Contact resistance R <sub>1</sub>      | 3 mΩ                  |
| Contact resistance R <sub>2</sub>      | 4 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 | 1.39 kV                                                                   |

## Ambient conditions

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (operation)         | -40 °C ... 100 °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 | 8                     |

### Insulation resistance

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

### 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)                       | 100 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)                      | 1.8 mm              |
| Rated insulation voltage (III/2)                       | 160 V               |

# PTSM 0,5/ 3-P-2,5 - PCB connector



1778845

<https://www.phoenixcontact.com/us/products/1778845>

|                                                        |        |
|--------------------------------------------------------|--------|
| 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)                       | 1.6 mm |

## Packaging specifications

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

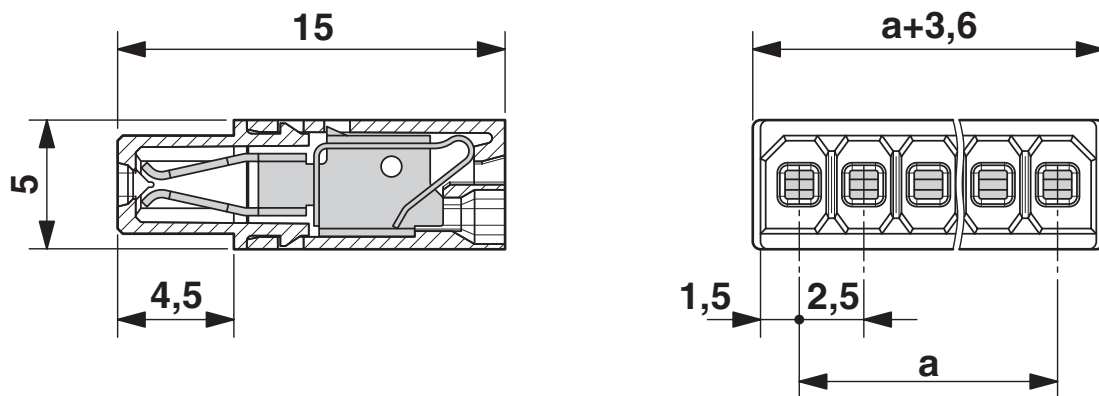
# PTSM 0,5/ 3-P-2,5 - PCB connector

1778845

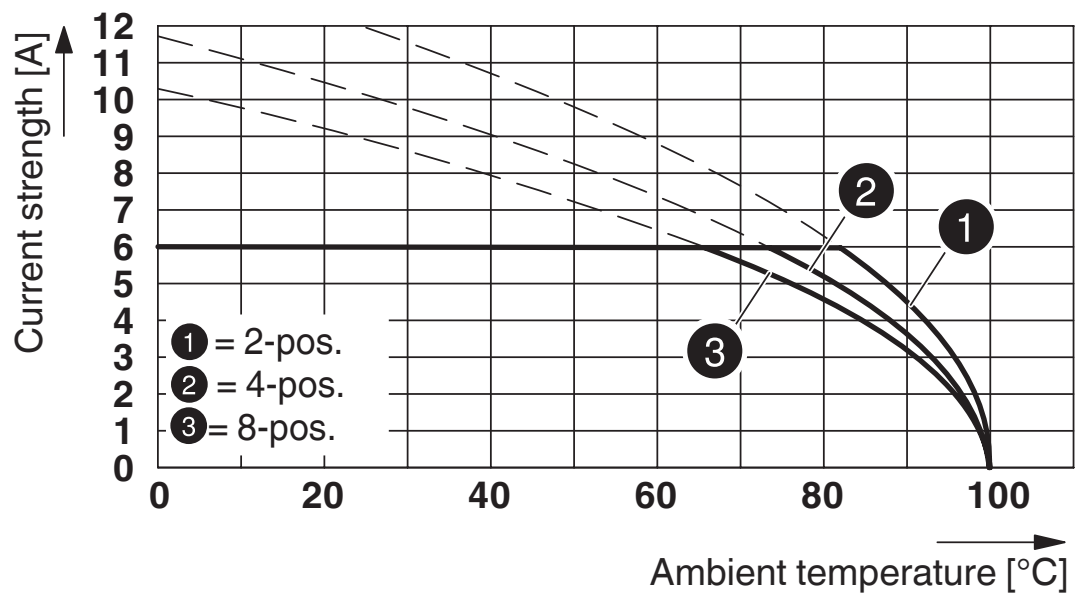
<https://www.phoenixcontact.com/us/products/1778845>

## Drawings

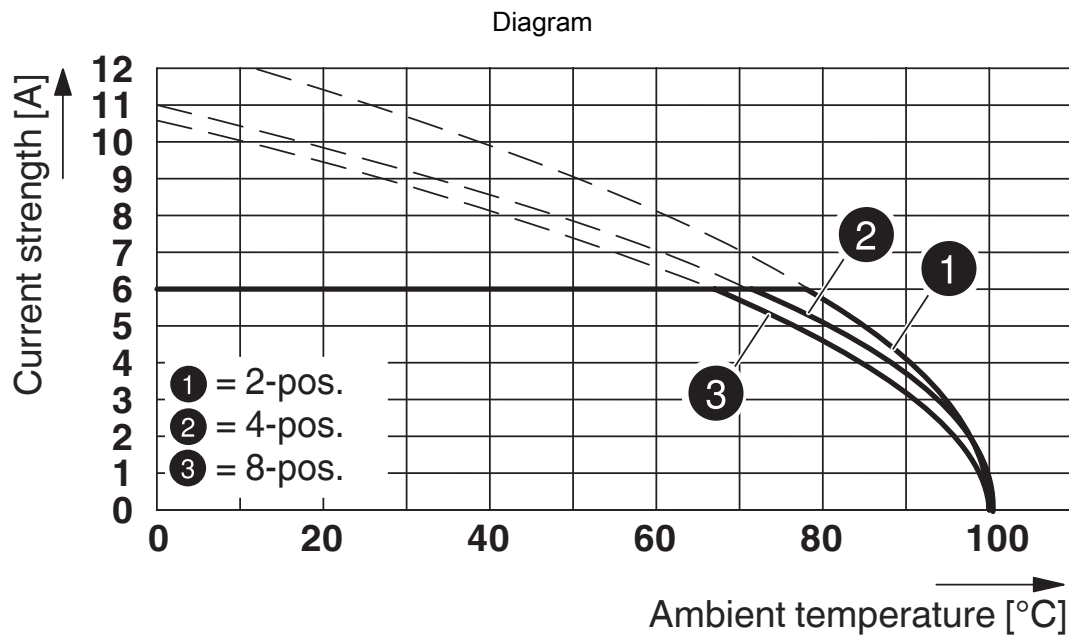
Dimensional drawing



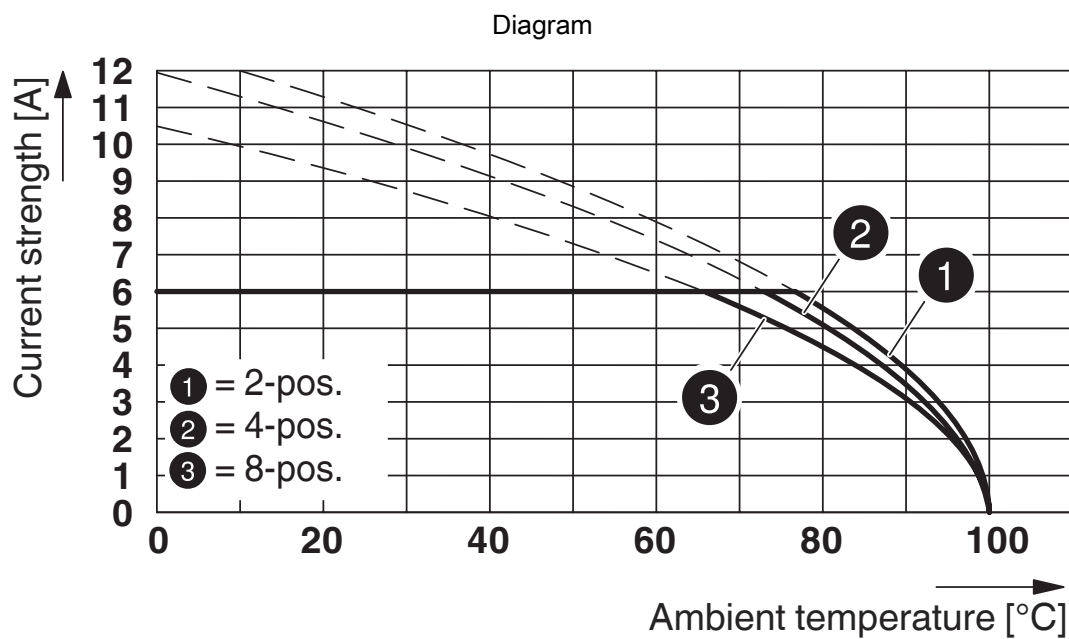
Diagram



Derating curve for: PTSM 0,5/...-P-2,5 with PTSM 0,5/...-HV-2,5-THR R...



Derating curve for: PTSM 0,5/..-P-2,5 with PTSM 0,5/..-HH-2,5-THR R..



Derating curve for: PTSM 0,5/..-P-2,5 with PTSM 0,5/..-HH-2,5-SMD R..



# PTSM 0,5/ 3-P-2,5 - PCB connector



1778845

<https://www.phoenixcontact.com/us/products/1778845>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1778845>

|  <b>UL Recognized</b><br>Approval ID: E118976-20130619 |                       |                       |                   |                             |
|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                         | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                                       |                       |                       |                   |                             |
|                                                                                                                                         | 150 V                 | 5 A                   | 26 - 18           | -                           |

|  <b>cULus Recognized</b><br>Approval ID: E60425-20101209 |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| B                                                                                                                                         |                       |                       |                   |                             |
|                                                                                                                                           | 150 V                 | 5 A                   | 26 - 20           | -                           |

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40048497 |                       |                       |                   |                             |
|--------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                            | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| keine                                                                                                                                      |                       |                       |                   |                             |
|                                                                                                                                            | 160 V                 | 6 A                   | -                 | 0.14 - 0.5                  |

# PTSM 0,5/ 3-P-2,5 - PCB connector



1778845

<https://www.phoenixcontact.com/us/products/1778845>

## Classifications

### ECLASS

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

### ETIM

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

### UNSPSC

|             |          |
|-------------|----------|
| UNSPSC 21.0 | 39121400 |
|-------------|----------|

# PTSM 0,5/ 3-P-2,5 - PCB connector



1778845

<https://www.phoenixcontact.com/us/products/1778845>

## 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)