

# PTSM 0,5/ 7-PL-2,5 WH - PCB connector



1709464

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PCB connector, nominal cross section: 0.5 mm<sup>2</sup>, color: white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Sn, contact connection type: Socket, number of potentials: 7, number of rows: 1, number of positions: 7, number of connections: 7, product range: PTSM 0,5/..-PL WH, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON PTSM, locking: Snap-in locking, mounting method: Latching flange, type of packaging: packed in cardboard

## Your advantages

- White design: Stable color when welding and during use
- 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
- Intuitive locking mechanism prevents accidental disconnection

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1709464                        |
| Packing unit                         | 100 pc                         |
| Minimum order quantity               | 100 pc                         |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AAAFPE                         |
| Product key                          | AAAFPE                         |
| GTIN                                 | 4055626130552                  |
| Weight per piece (including packing) | 2.23 g                         |
| Weight per piece (excluding packing) | 2 g                            |
| Customs tariff number                | 85366990                       |
| Country of origin                    | GR                             |

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## Technical data

### Product properties

|                       |                        |
|-----------------------|------------------------|
| Product type          | PCB connector          |
| Product family        | PTSM 0,5/...-PL WH     |
| Product line          | COMBICON Connectors XS |
| Type                  | Standard               |
| Number of positions   | 7                      |
| Pitch                 | 2.5 mm                 |
| Number of connections | 7                      |
| Number of rows        | 1                      |
| Number of potentials  | 7                      |

### Electrical properties

#### Properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 6 A    |
| Nominal voltage $U_N$       | 160 V  |
| Contact resistance          | 2.7 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    | Snap-in locking |
| Mounting flange | Latching flange |

#### 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                                                                                                                                                             |
| Conductor cross section flexible, with ferrule without plastic | 0.25 mm <sup>2</sup> ... 0.5 mm <sup>2</sup>                                                                                                                          |

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|                                                                      |                                                                                                                                                                          |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sleeve                                                               |                                                                                                                                                                          |
| 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)                                                   | white (9010) |
| 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]           | 23.96 mm                                                                             |
| Height [h]          | 15 mm                                                                                |
| Length [l]          | 5.2 mm                                                                               |

## Mechanical tests

### Conductor connection

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|               |                     |
|---------------|---------------------|
| 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. | 4 N                    |
| Withdraw strength per pos. approx.  | 2 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                |
| Amplitude     | 0.35 mm (10 Hz ... 60.1 Hz) |

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|                        |                                          |
|------------------------|------------------------------------------|
| Acceleration           | 50 m/s <sup>2</sup> (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>            | 2.7 mΩ                |
| Contact resistance R <sub>2</sub>            | 2.6 mΩ                |
| Insertion/withdrawal cycles                  | 10                    |
| Insulation resistance, neighboring positions | > 5 MΩ                |

## Climatic test

|                                   |                                                                           |
|-----------------------------------|---------------------------------------------------------------------------|
| Specification                     | EN ISO 22479:2022-06                                                      |
| Corrosive stress                  | 0.2 dm <sup>3</sup> SO <sub>2</sub> on 300 dm <sup>3</sup> /40 °C/1 cycle |
| Thermal stress                    | 105 °C/168 h                                                              |
| Power-frequency withstand voltage | 1.39 kV                                                                   |

## Ambient conditions

|                                         |                                                     |
|-----------------------------------------|-----------------------------------------------------|
| Ambient temperature (operation)         | -40 °C ... 105 °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                |

### 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               |
| 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               |

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|                                                       |        |
|-------------------------------------------------------|--------|
| 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 |
| Outer packaging type | Carton              |

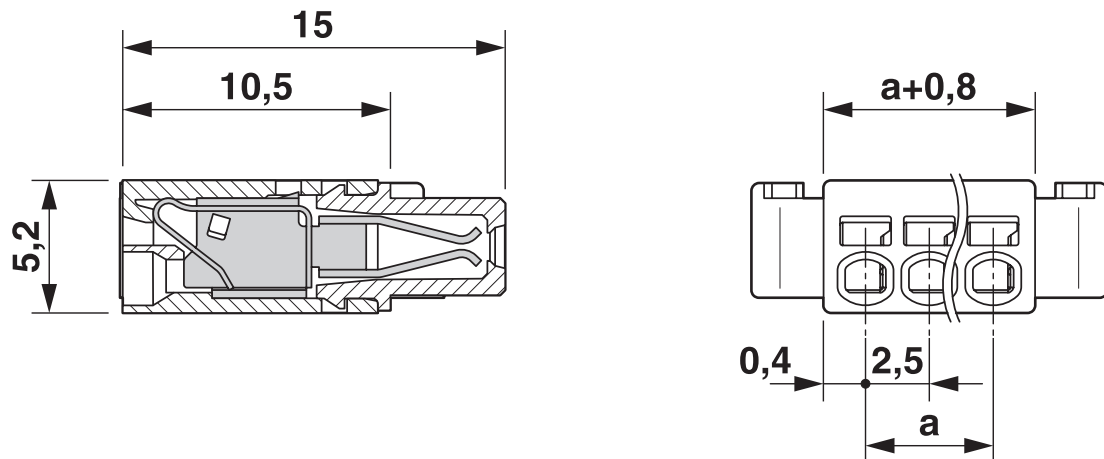
# PTSM 0,5/ 7-PL-2,5 WH - PCB connector

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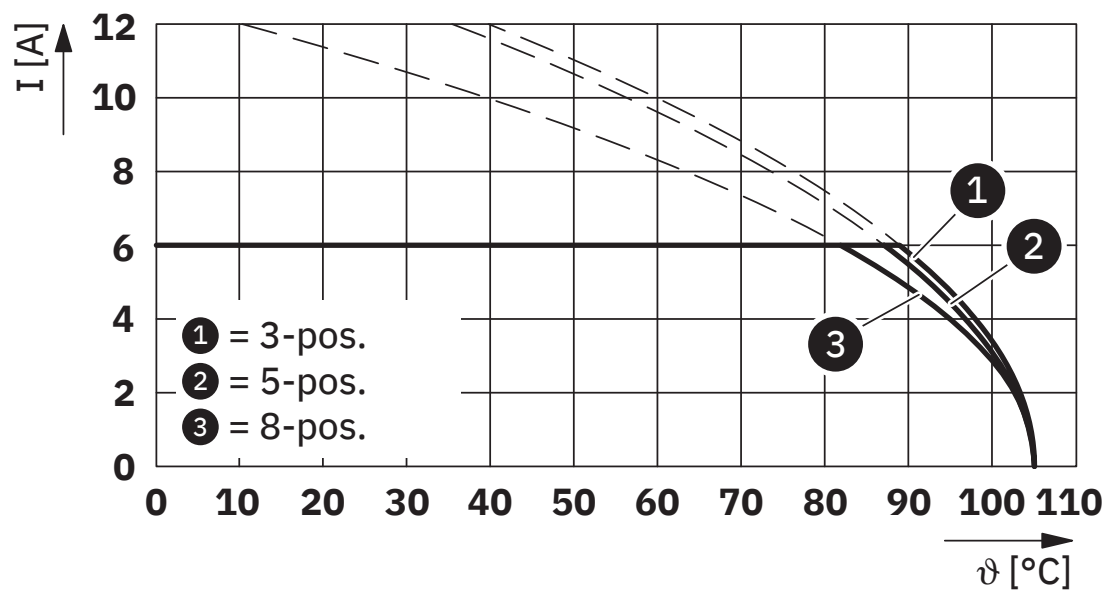
<https://www.phoenixcontact.com/gb/products/1709464>

## Drawings

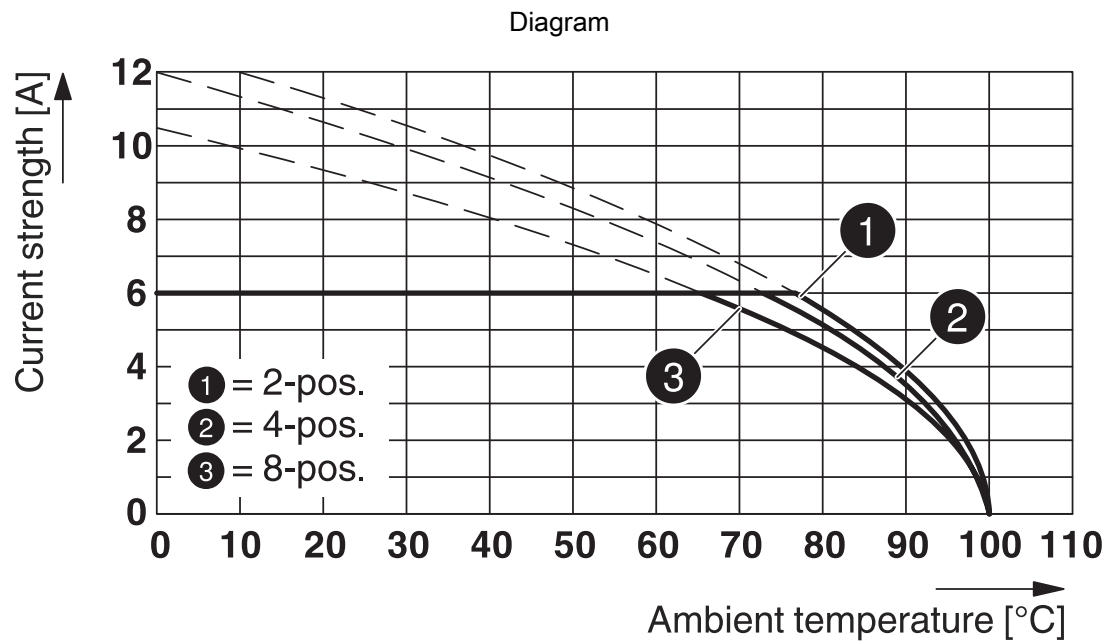
Dimensional drawing



Diagram



Type: PTSM 0,5/...-PL-2,5 WH with PTSM 0,5/...-PI-2,5 WH



Type: PTSM 0,5/...-PL-2,5 ... with PTSM 0,5/...-HH-2,5-SMD... R...

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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/gb/products/1709464>

| UL Recognized                 |                                |                                |                   |                               |
|-------------------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
| Approval ID: E118976-20130619 |                                |                                |                   |                               |
|                               | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
| Use group B                   |                                |                                |                   |                               |
|                               | 150 V                          | 5 A                            | 26 - 18           | -                             |

| cULus Recognized             |                                |                                |                   |                               |
|------------------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
| Approval ID: E60425-20101209 |                                |                                |                   |                               |
|                              | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
| Use group B                  |                                |                                |                   |                               |
|                              | 150 V                          | 5 A                            | 26 - 20           | -                             |

| VDE approval of drawings |                                |                                |                   |                               |
|--------------------------|--------------------------------|--------------------------------|-------------------|-------------------------------|
| Approval ID: 40048497    |                                |                                |                   |                               |
|                          | Nominal voltage U <sub>N</sub> | Nominal current I <sub>N</sub> | Cross section AWG | Cross section mm <sup>2</sup> |
|                          | 160 V                          | 6 A                            | -                 | 0.14 - 0.5                    |

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## Classifications

### ECLASS

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

### ETIM

|          |          |
|----------|----------|
| ETIM 9.0 | 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% |
|-------------------------------------|----------------------------|

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