

# PTCM 0,5/ 2-PI-2,5 WH - PCB connectors



1015242  
<https://www.phoenixcontact.com/us/products/1015242>

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PCB connector, nominal cross section: 0.75 mm<sup>2</sup>, color: white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: PTCM 0,5/..-PI, pitch: 2.5 mm, connection method: Crimp connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON PTSM, locking: Snap-in locking, mounting: Engagement nose, type of packaging: packed in cardboard

## Your advantages

- White design: Stable color when welding and during use
- High current carrying capacity of 6 A in very compact dimensions
- Inverted connector with pin contacts for touch-proof device outputs or free-hanging cable/cable connections
- Cost-effective connection of crimped conductors in large quantities
- Tools for manual and automatic crimping available as an option

## Commercial data

|                                      |                                |
|--------------------------------------|--------------------------------|
| Item number                          | 1015242                        |
| Packing unit                         | 250 pc                         |
| Minimum order quantity               | 250 pc                         |
| Note                                 | Made to order (non-returnable) |
| Sales key                            | AA01                           |
| Product key                          | AAACPB                         |
| GTIN                                 | 4055626495644                  |
| Weight per piece (including packing) | 0.38 g                         |
| Weight per piece (excluding packing) | 0.376 g                        |
| Customs tariff number                | 85389099                       |
| Country of origin                    | DE                             |

# PTCM 0,5/ 2-PI-2,5 WH - PCB connectors



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## Technical data

### Product properties

|                       |                        |
|-----------------------|------------------------|
| Product type          | PCB connector          |
| Product family        | PTCM 0,5/...-PI        |
| Product line          | COMBICON Connectors XS |
| Number of positions   | 2                      |
| Pitch                 | 2.5 mm                 |
| Number of connections | 2                      |
| Number of rows        | 1                      |
| Number of potentials  | 2                      |

### Electrical properties

|                             |        |
|-----------------------------|--------|
| Nominal current $I_N$       | 6 A    |
| Nominal voltage $U_N$       | 160 V  |
| Contact resistance          | 3.2 mΩ |
| Rated voltage (III/3)       | 160 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                    | Inverted             |
| Connector system        | COMBICON PTSM        |
| Nominal cross section   | 0.75 mm <sup>2</sup> |
| Contact connection type | Pin                  |

#### Interlock

|                 |                 |
|-----------------|-----------------|
| Locking type    | Snap-in locking |
| Mounting flange | Engagement nose |

#### Conductor connection

|                                    |                                                                                                    |
|------------------------------------|----------------------------------------------------------------------------------------------------|
| Connection method                  | Crimp connection                                                                                   |
| Conductor/PCB connection direction | 0 °                                                                                                |
| Conductor cross section flexible   | 0.14 mm <sup>2</sup> ... 0.75 mm <sup>2</sup> (Maximum external diameter of the insulation 1.9 mm) |
| Conductor cross section AWG        | 26 ... 18 (Maximum external diameter of the insulation 1.9 mm)                                     |
| Stripping length                   | 4.1 mm ... 4.5 mm                                                                                  |

## Material specifications

#### Material data - housing

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|                                                                   |              |
|-------------------------------------------------------------------|--------------|
| 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]           | 6.7 mm                                                                             |
| Height [h]          | 5 mm                                                                               |
| Length [l]          | 18.3 mm                                                                            |

## Mechanical tests

### Tensile strength of crimp connections

|                                                                             |                                          |
|-----------------------------------------------------------------------------|------------------------------------------|
| Result                                                                      | Test passed                              |
| Conductor cross section/conductor type/tractive force setpoint/actual value | 0.14 mm <sup>2</sup> / flexible / > 18 N |

### Insertion and withdrawal forces

|                                     |             |
|-------------------------------------|-------------|
| Result                              | Test passed |
| No. of cycles                       | 25          |
| Insertion strength per pos. approx. | 3 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           |

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## 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) |
| Acceleration           | 5g (60.1 Hz ... 150 Hz)     |
| Test duration per axis | 2.5 h                       |

### Durability test

|                                              |                       |
|----------------------------------------------|-----------------------|
| Specification                                | IEC 60512-9-1:2010-03 |
| Impulse withstand voltage at sea level       | 2.95 kV               |
| Contact resistance $R_1$                     | 3.2 mΩ                |
| Contact resistance $R_2$                     | 3.4 mΩ                |
| Insertion/withdrawal cycles                  | 25                    |
| Insulation resistance, neighboring positions | > 5 MΩ                |

### 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                    | 105 °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                |

### Air clearances and creepage distances |

|                           |                     |
|---------------------------|---------------------|
| Specification             | IEC 60664-1:2007-04 |
| Insulating material group | I                   |

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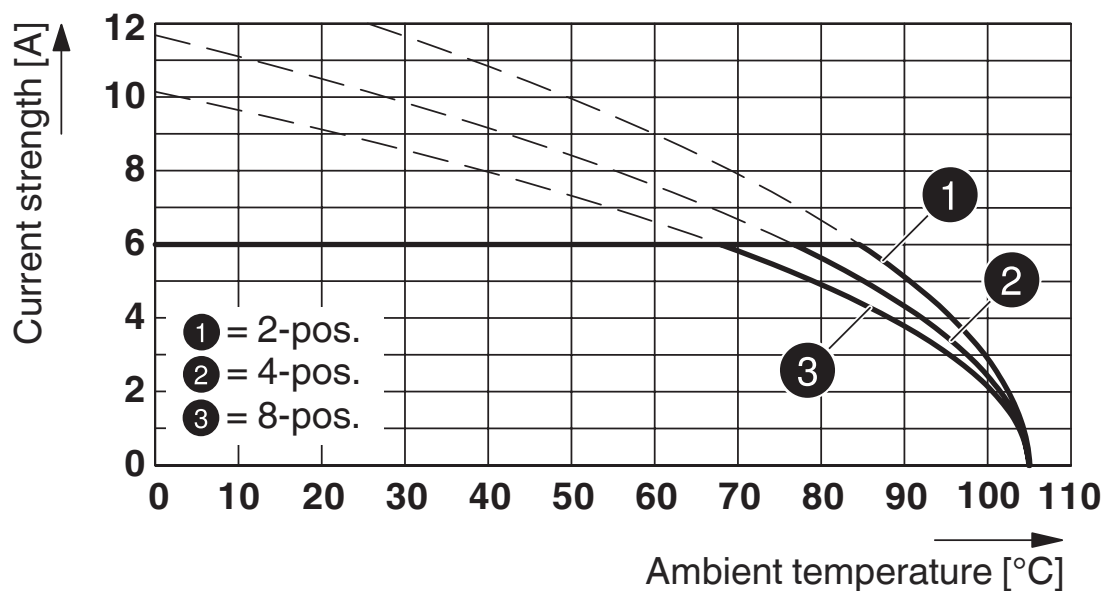
|                                                        |         |
|--------------------------------------------------------|---------|
| Comparative tracking index (IEC 60112)                 | CTI 600 |
| Rated insulation voltage (III/3)                       | 160 V   |
| Rated surge voltage (III/3)                            | 2.5 kV  |
| minimum clearance value - non-homogenous field (III/3) | 1.5 mm  |
| minimum creepage distance (III/3)                      | 2 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   |
| 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 |
|-------------------|---------------------|

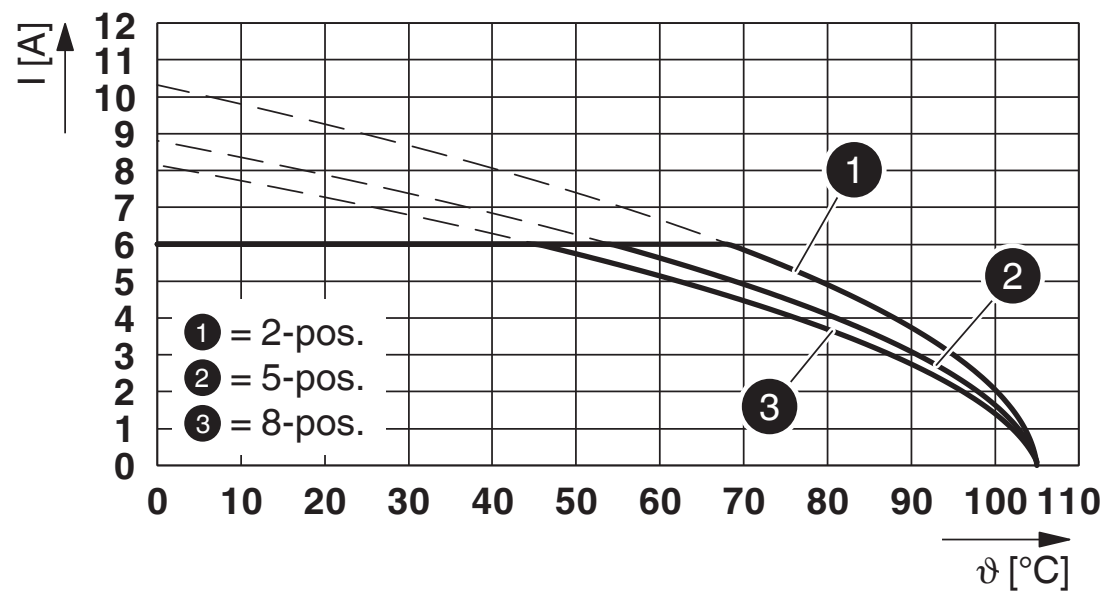
## Drawings

Diagram



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

Diagram



Type: PTCM 0,5/...-PI-2,5 WH with PTSM 0,5/...-HHI0-2,5-SMD WHR...

# PTCM 0,5/ 2-PI-2,5 WH - PCB connectors



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## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1015242>

|  <b>cULus Recognized</b><br>Approval ID: E60425-20101209 |                       |                       |                   |                             |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                           | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
| Use group B                                                                                                                               | 150 V                 | 5 A                   | 22 - 18           | -                           |
| Use group D                                                                                                                               | 150 V                 | 5 A                   | 22 - 18           | -                           |

|  <b>VDE Zeichengenehmigung</b><br>Approval ID: 40048497 |                       |                       |                   |                             |
|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-------------------|-----------------------------|
|                                                                                                                                          | Nominal voltage $U_N$ | Nominal current $I_N$ | Cross section AWG | Cross section $\text{mm}^2$ |
|                                                                                                                                          | 160 V                 | 6 A                   | -                 | 0.14 - 0.75                 |

# PTCM 0,5/ 2-PI-2,5 WH - PCB connectors



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## Classifications

### ECLASS

|             |          |
|-------------|----------|
| ECLASS-11.0 | 27460202 |
| ECLASS-12.0 | 27460202 |
| ECLASS-13.0 | 27460202 |

### ETIM

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

### UNSPSC

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

# PTCM 0,5/ 2-PI-2,5 WH - PCB connectors



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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%               |

# PTCM 0,5/ 2-PI-2,5 WH - PCB connectors



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## Accessories

### PTCM-MP-PI 0,34-0,75 R - Crimp contact

1013987

<https://www.phoenixcontact.com/us/products/1013987>



Crimp contact, nominal current: 6 A, contact connection type: Pin, connection method: Crimp connection, contact surface: Tin, type of packaging: Belt

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### PTCM-MP-PI 0,14-0,5 R - Crimp contact

1013988

<https://www.phoenixcontact.com/us/products/1013988>



Crimp contact, nominal current: 6 A, contact connection type: Pin, connection method: Crimp connection, contact surface: Tin, type of packaging: Belt

# PTCM 0,5/ 2-PI-2,5 WH - PCB connectors



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## PTCM-MP-PI 0,34-0,75 - Crimp contact

1013989

<https://www.phoenixcontact.com/us/products/1013989>



Crimp contact, nominal current: 6 A, contact connection type: Pin, connection method: Crimp connection, contact surface: Tin, type of packaging: Bulk goods

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## PTCM-MP-PI 0,14-0,5 - Crimp contact

1013990

<https://www.phoenixcontact.com/us/products/1013990>



Crimp contact, nominal current: 6 A, contact connection type: Pin, connection method: Crimp connection, contact surface: Tin, type of packaging: Bulk goods

## PTCM 0,5/ 2-PI-2,5 WH - PCB connectors

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## CRIMPFOX-P CC 0.75 L - Crimping pliers

1064998

<https://www.phoenixcontact.com/us/products/1064998>



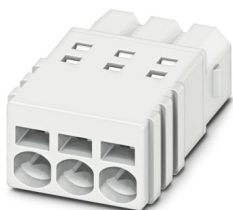
Crimping pliers, for COMBICON crimp connectors with cross section: 0.14 ... 0.75 mm<sup>2</sup>. Unlockable pressure lock, precise parallel crimping, front entry, B crimp, incl. 2 positioning aids

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

1704853

<https://www.phoenixcontact.com/us/products/1704853>



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: Tin, contact connection type: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: PTSM 0,5/...-P WH, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: COMBICON PTSM, locking: without, mounting: without, type of packaging: packed in cardboard

# PTCM 0,5/ 2-PI-2,5 WH - PCB connectors



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## PTSM 0,5/ 2-HHI-2,5-SMD WHR24 - PCB header

1707990

<https://www.phoenixcontact.com/us/products/1707990>



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: signal white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: PTSM 0,5/...-HHI-SMD WH, pitch: 2.5 mm, mounting: SMD soldering, pin layout: Linear pad geometry, solder pin [P]: 2 mm, number of solder pins per potential: 1, plug-in system: COMBICON PTSM, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 24 mm wide tape, Article with anti-rotation pin

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## PTSM 0,5/ 2-HHI0-2,5-SMD WHR24 - PCB header

1815196

<https://www.phoenixcontact.com/us/products/1815196>



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: signal white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: PTSM 0,5/...-HHI-SMD WH, pitch: 2.5 mm, mounting: SMD soldering, pin layout: Linear pad geometry, number of solder pins per potential: 1, plug-in system: COMBICON PTSM, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 24 mm wide tape

## PTCM 0,5/ 2-PI-2,5 WH - PCB connectors



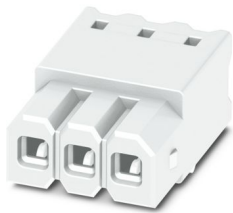
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### PTSM 0,5/ 2-HHI-2,5-THR WH R24 - PCB header

1814980

<https://www.phoenixcontact.com/us/products/1814980>



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: signal white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: PTSM 0,5/...-HHI-THR WH, pitch: 2.5 mm, mounting: THR soldering, pin layout: Linear pinning, solder pin [P]: 2.1 mm, number of solder pins per potential: 1, plug-in system: COMBICON PTSM, Pin connector pattern alignment: Standard, locking: without, mounting: without, type of packaging: 24 mm wide tape

### PTSM 0,5/ 2-PL-2,5 WH - PCB connectors

1709457

<https://www.phoenixcontact.com/us/products/1709457>



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: Tin, contact connection type: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, 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: Self-locking flange, type of packaging: packed in cardboard

# PTCM 0,5/ 2-PI-2,5 WH - PCB connectors



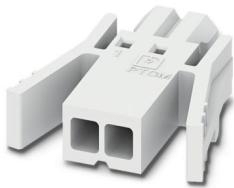
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## PTCM 0,5/ 2-PL-2,5 WH - PCB connectors

1015464

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PCB connector, nominal cross section:  $0.75 \text{ mm}^2$ , color: white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Socket, number of potentials: 2, number of rows: 1, number of positions: 2, number of connections: 2, product range: PTCM 0,5/...-PL, pitch: 2.5 mm, connection method: Crimp connection, conductor/PCB connection direction:  $0^\circ$ , plug-in system: COMBICON PTSM, locking: Snap-in locking, mounting: Self-locking flange, type of packaging: packed in cardboard

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## CAC-PTCM1015464/D - Cable

1084514

<https://www.phoenixcontact.com/us/products/1084514>



Assembled PCB connector / Connecting cable with 2 printed circuit board connectors, rated current: 6 A, cable length: Free input (0.1 ... 3.0 m), Head 1: 2-position, pitch: 2.5 mm, Crimp connection, Socket, Color: white, Cable type: Individual litz wire, PVC, 22 AWG, white, Head 2: 2-position, pitch: 2.5 mm, Crimp connection, Socket, Color: white, Cable type: Individual litz wire, PVC, 20 AWG, white, Individual litz wire, PVC, 22 AWG, white

# PTCM 0,5/ 2-PI-2,5 WH - PCB connectors



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## CAC-PTCM1015464/1015242 - Assembled PCB connectors

1084533

<https://www.phoenixcontact.com/us/products/1084533>



Assembled PCB connector / Connecting cable with 2 printed circuit board connectors, rated current: 6 A, cable length: Free input (0.1 ... 3.0 m), Head 1: 2-position , pitch: 2.5 mm , Crimp connection , Socket, Color: white, Cable type:Individual litz wire, PVC, 22 AWG, white, Head 2: 2-position, pitch: 2.5 mm , Crimp connection , Pin, Color: white, Cable type:Individual litz wire, PVC, 20 AWG, white, Individual litz wire, PVC, 22 AWG, white

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