

# PTSM 0,5/ 5-HH-2,5-SMD WH R32 - PCB header



1708008

<https://www.phoenixcontact.com/us/products/1708008>

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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: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: PTSM 0,5/..-HH-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: 32 mm wide tape, Article with anti-rotation pin

## Your advantages

- White design: Stable color when welding and during use
- Designed for integration into the SMT soldering process
- Supplied in tape-on-reel packing according to IEC 60286-3 for automated mounting
- Additional solder anchors reduce the mechanical strain on the soldering spots

## Commercial data

Item number	1708008
Packing unit	600 pc
Minimum order quantity	600 pc
Sales key	AA01
Product key	AAAUPA
GTIN	4046356960625
Weight per piece (including packing)	1.494 g
Weight per piece (excluding packing)	1.445 g
Customs tariff number	85366930
Country of origin	IN

## Technical data

### Product properties

Product type	PCB headers
Product family	PTSM 0,5/..-HH-SMD WH
Product line	COMBICON Connectors XS
Type	Standard
Number of positions	5
Pitch	2.5 mm
Number of connections	5
Number of rows	1
Number of potentials	5
Mounting flange	without
Pin layout	Linear pad geometry
Solder pins per potential	1

### Electrical properties

Nominal current $I_N$	6 A
Nominal voltage $U_N$	160 V
Degree of pollution	3
Contact resistance	3 mΩ
Rated voltage (III/3)	125 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

### Mounting

Mounting type	SMD soldering
Pin layout	Linear pad geometry

### Processing notes

Process	Reflow soldering
Moisture Sensitive Level	MSL 1
Classification temperature $T_c$	260 °C
Solder cycles in the reflow	3

### 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	Tin-plated

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Metal surface contact area (top layer)	Tin (3 - 5 µm Sn)
Metal surface contact area (middle layer)	Nickel (1.3 - 3 µm Ni)
Metal surface soldering area (top layer)	Tin (3 - 5 µm Sn)
Metal surface soldering area (middle layer)	Nickel (1.3 - 3 µm Ni)

## Material data - housing

Color (Housing)	signal white (9003)
Insulating material	PA
Insulating material group	I
CTI according to IEC 60112	600
Flammability rating according to UL 94	V0

## Dimensions

Dimensional drawing	
Pitch	2.5 mm
Width [w]	16.3 mm
Height [h]	7 mm
Length [l]	9.5 mm
Installed height	5 mm
Solder pin length [P]	2 mm

## PCB design

Pad geometry	1.2 x 3.2 mm
Pin spacing	2.50 mm
Hole diameter	1.1 mm

## Mechanical tests

Visual inspection	
Specification	IEC 60512-1-1:2002-02
Result	Test passed
Dimension check	
Specification	IEC 60512-1-2:2002-02
Result	Test passed
Resistance of inscriptions	
Specification	IEC 60068-2-70:1995-12
Result	Test passed
Polarization and coding	
Specification	IEC 60512-13-5:2006-02

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Result	Test passed
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## Contact holder in insert

Specification	IEC 60512-15-1:2008-05
Contact holder in insert Requirements >20 N	Test passed

## Insertion and withdrawal forces

Result	Test passed
No. of cycles	10
Insertion strength per pos. approx.	5 N
Withdraw strength per pos. approx.	4 N

## 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)	125 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)	1.9 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

## 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	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 mΩ
Contact resistance $R_2$	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

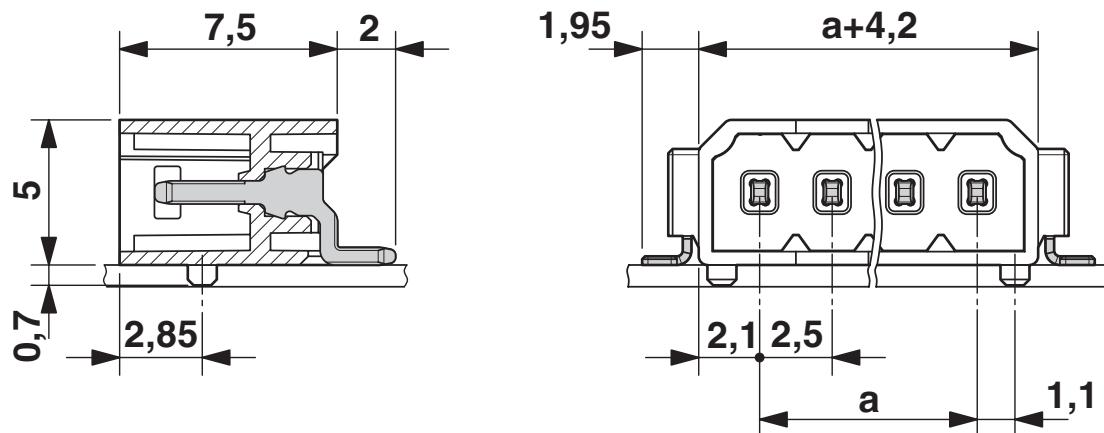
Ambient temperature (operation)	-40 °C ... 100 °C (dependent on the derating curve)
Ambient temperature (storage/transport)	-40 °C ... 70 °C
Relative humidity (storage/transport)	30 % ... 70 %
Ambient temperature (assembly)	-5 °C ... 100 °C

## Packaging specifications

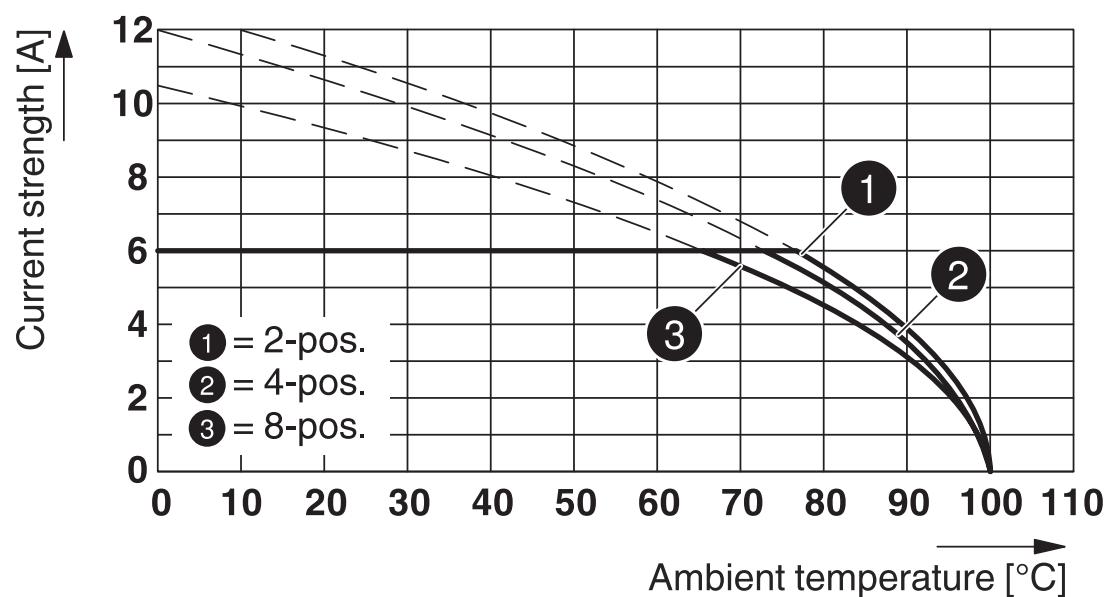
Dimensional drawing	
Type of packaging	32 mm wide tape
[W] tape width	32 mm
[W2] coil overall dimension	38.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07

## Drawings

Dimensional drawing

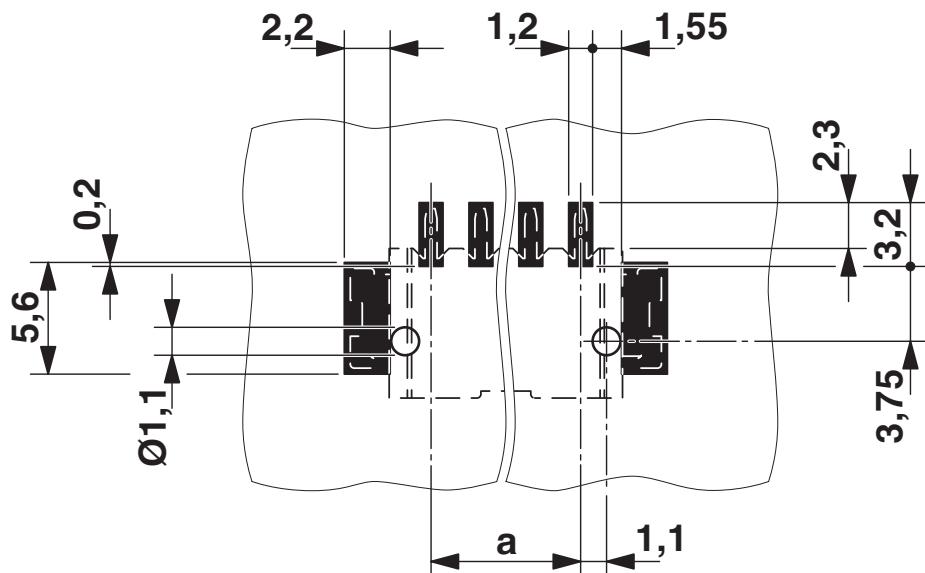


Diagram

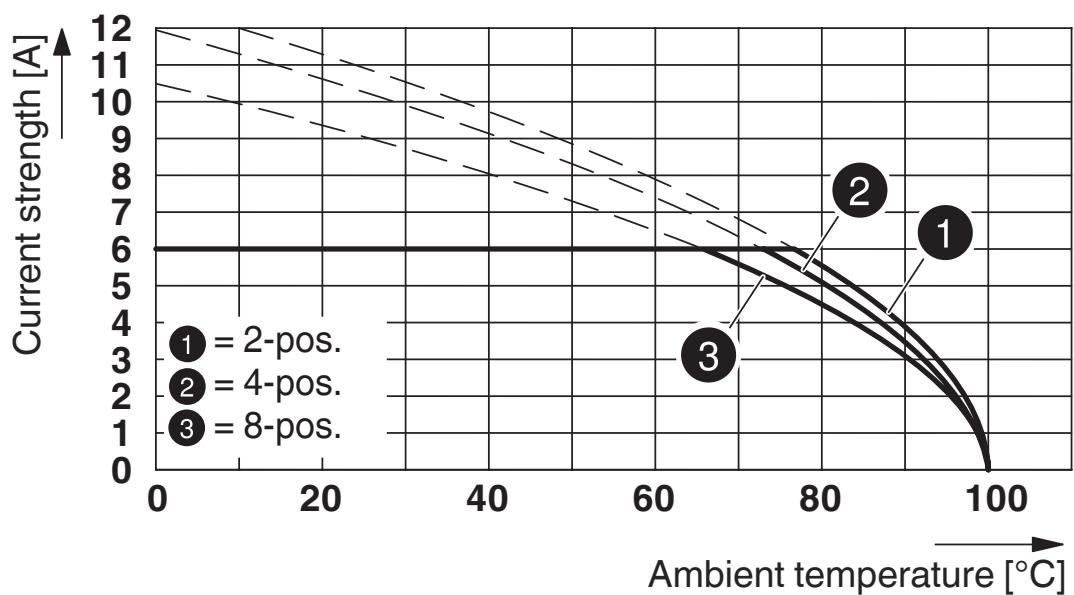


Type: PTSM 0,5/...-PL-2,5 ... with PTSM 0,5/...-HH-2,5-SMD... R...

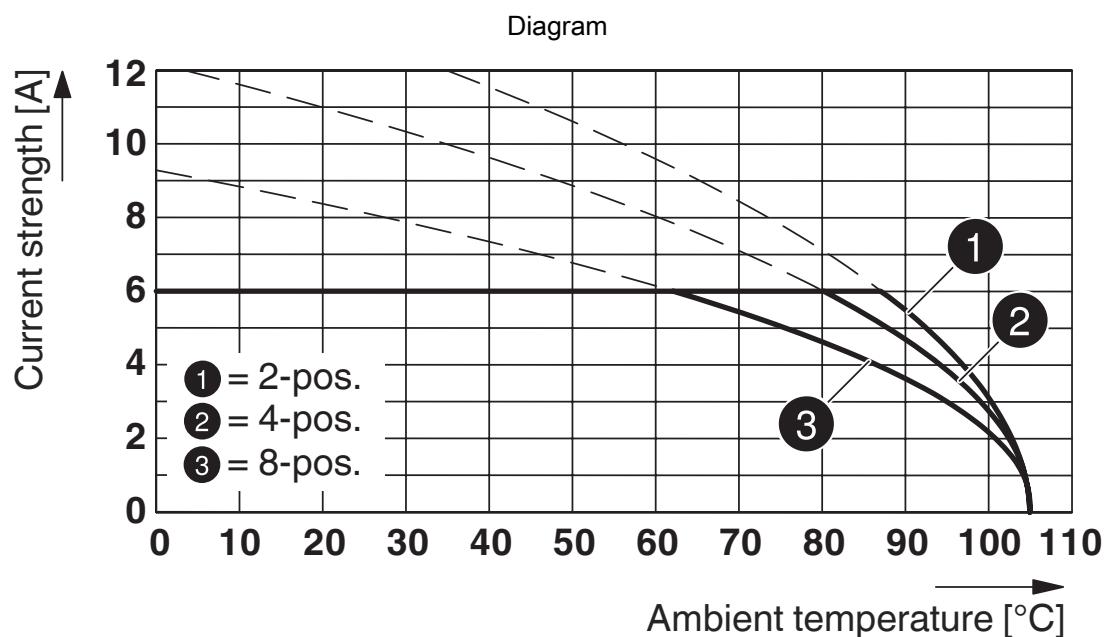
Drilling plan/solder pad geometry



Diagram



Type: PTSM 0,5/...-P-2,5 WH... with PTSM 0,5/...-HH0-2,5-SMD WH R...



Type: PTCM 0,5/...-PL-2,5 WH with PTSM 0,5/...-HH(0)-2,5-SMD WH R...

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## Approvals

ⓘ To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/1708008>

 <b>UL Recognized</b> Approval ID: E118976-20130619				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
Use group B	150 V	5 A	-	-

 <b>cULus Recognized</b> Approval ID: E60425-20110108				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
Use group B	150 V	6 A	-	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40048497				
	Nominal voltage $U_N$	Nominal current $I_N$	Cross section AWG	Cross section $mm^2$
	160 V	6 A	-	-

## Classifications

### ECLASS

ECLASS-11.0	27460201
ECLASS-12.0	27460201
ECLASS-13.0	27460201

### ETIM

ETIM 8.0	EC002637
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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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## Accessories

### SAMPLE PTSM 0,5/ 5-HH-2,5-SMD - PCB header

1786073

<https://www.phoenixcontact.com/us/products/1786073>



PCB headers, nominal cross section: 0.5 mm<sup>2</sup>, color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, contact connection type: Pin, number of potentials: 5, number of rows: 1, number of positions: 5, number of connections: 5, product range: PTSM 0,5/..-HH-SMD, 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: packed in cardboard, Article with anti-rotation pin

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

1704858

<https://www.phoenixcontact.com/us/products/1704858>



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: 5, number of rows: 1, number of positions: 5, number of connections: 5, 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

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## PTSM 0,5/ 5-HHI-2,5-SMD WHR44 - PCB header

1707994

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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: 5, number of rows: 1, number of positions: 5, number of connections: 5, 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: 44 mm wide tape, Article with anti-rotation pin

## PTSM 0,5/ 5-HHI0-2,5-SMD WHR44 - PCB header

1815222

<https://www.phoenixcontact.com/us/products/1815222>



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: 5, number of rows: 1, number of positions: 5, number of connections: 5, 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: 44 mm wide tape

# PTSM 0,5/ 5-HH-2,5-SMD WH R32 - PCB header



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## CAC-PTCM1015461/D - Cable

1084517

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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: 5-position, pitch: 2.5 mm, Crimp connection, Socket, Color: white, Cable type:Individual litz wire, PVC, 22 AWG, white, Head 2: 5-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

## CAC-PTCM1015461/1015245 - Assembled PCB connectors

1084544

<https://www.phoenixcontact.com/us/products/1084544>



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: 5-position, pitch: 2.5 mm, Crimp connection, Socket, Color: white, Cable type:Individual litz wire, PVC, 22 AWG, white, Head 2: 5-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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