

# PTSM 0,5/ 3-HH-2,5-THR WH R32 - PCB header



1814854

<https://www.phoenixcontact.com/de/produkte/1814854>

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 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, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: PTSM 0,5/...-HH-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: 32 mm wide tape

## 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

## Commercial Data

Item number	1814854
Packing unit	500 pc
Minimum order quantity	500 pc
Sales Key	E1 - Leiterplattenanschl.
Product Key	AAATPA
Catalog Page	Page 397 (C-1-2013)
GTIN	4046356760607
Weight per Piece (including packing)	1,322 g
Weight per Piece (excluding packing)	1,322 g
Customs tariff number	85366930
Country of origin	CN

1814854

<https://www.phoenixcontact.com/de/produkte/1814854>

## Technical Data

### Product properties

Type	Component suitable for through hole reflow
Product line	COMBICON Connectors XS
Product type	PCB headers
Product family	PTSM 0,5/...-HH-THR WH
Number of positions	3
Pitch	2.5 mm
Number of connections	3
Number of rows	1
Mounting flange	without
Number of potentials	3
Pin layout	Linear pinning
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
	320 V
Rated surge voltage (II/2)	2.5 kV

### Mounting

Mounting type	THR soldering
Pin layout	Linear pinning

### Processing notes

Process	Reflow/wave 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

# PTSM 0,5/ 3-HH-2,5-THR WH R32 - PCB header

1814854

<https://www.phoenixcontact.com/de/produkte/1814854>

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)

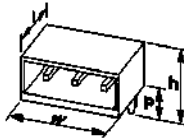
## Material data - housing

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

## Material data – actuating element

Color ( )	( )
-----------	-----

## Dimensions

Dimensional drawing	
Pitch	2.5 mm
Width [w]	9.2 mm
Height [h]	7 mm
Length [l]	7.5 mm
Installed height	5 mm
Solder pin length [P]	2.1 mm

## PCB design

Pin spacing	2.50 mm
-------------	---------

## Mechanical tests

### 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

# PTSM 0,5/ 3-HH-2,5-THR WH R32 - PCB header



1814854

<https://www.phoenixcontact.com/de/produkte/1814854>

	0.75 mm <sup>2</sup> / flexible / > 30 N
--	------------------------------------------

## 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

## Contact holder in insert

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

## 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)	125 V
Rated surge voltage (III/3)	2.5 kV

1814854

<https://www.phoenixcontact.com/de/produkte/1814854>

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)
Sweep speed	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 <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

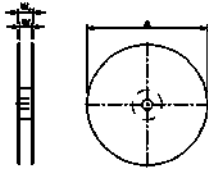
### Packaging specifications

# PTSM 0,5/ 3-HH-2,5-THR WH R32 - PCB header



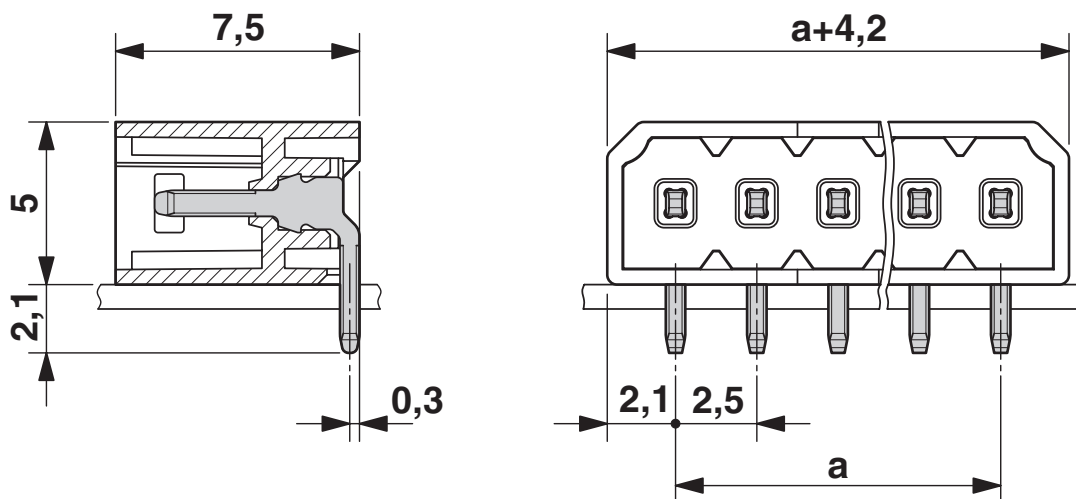
1814854

<https://www.phoenixcontact.com/de/produkte/1814854>

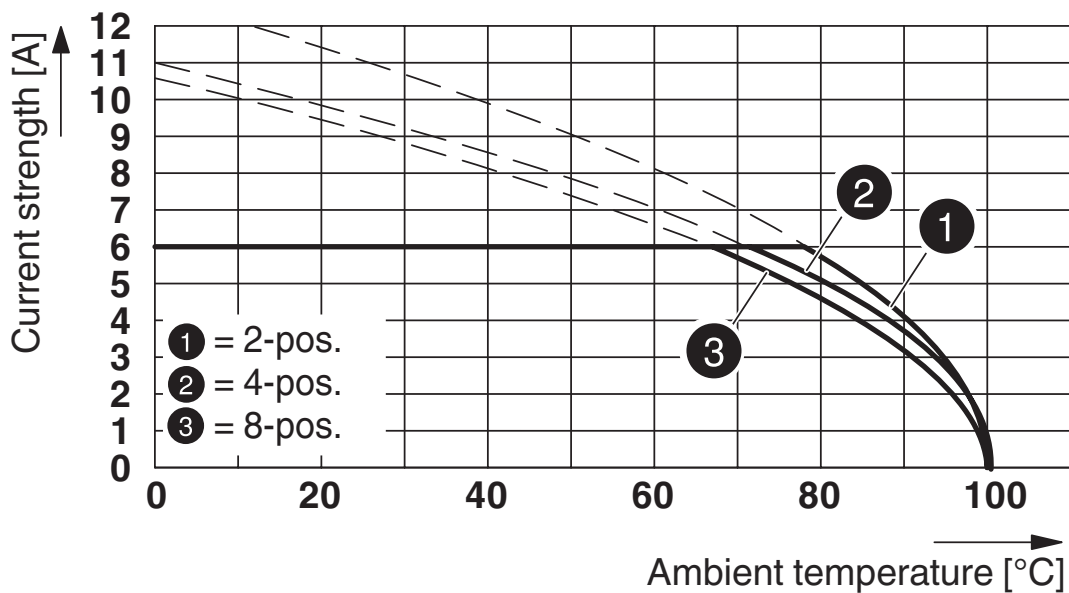
Dimensional drawing	
Type of packaging	32 mm wide tape
[W] tape width	32 mm
[W2] coil overall dimension	38.4 mm
[A] coil diameter	330 mm
Outer packaging type	Transparent-Bag
ESD level	(D) electrostatically conductive
Specification	DIN EN 61340-5-1 (VDE 0300-5-1): 2008-07

Drawings

Dimensional drawing

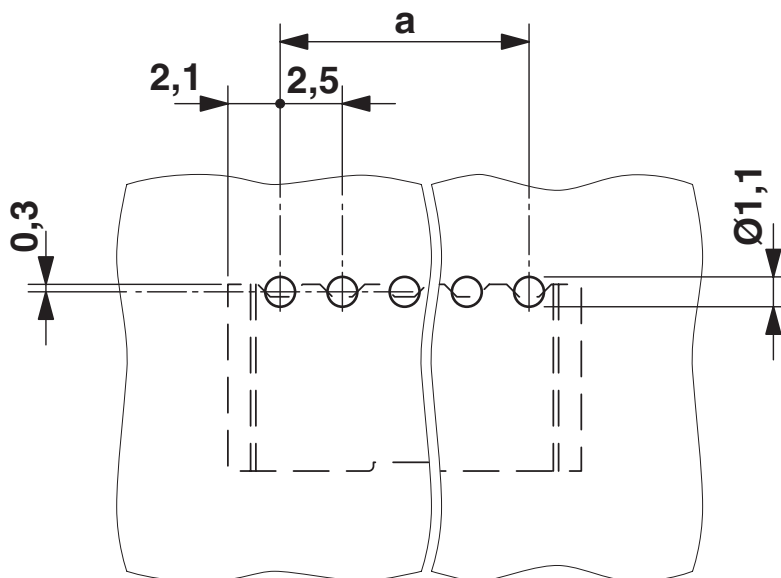


Diagram

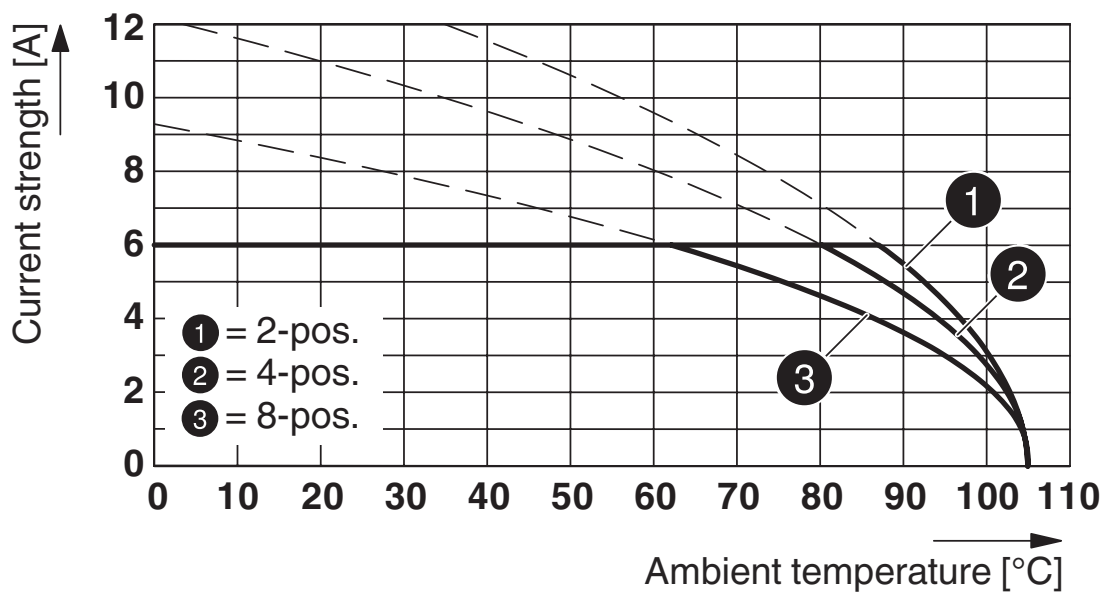


Type: PTSM 0,5/...-P-2,5 WH... with PTSM 0,5/...-HH-2,5-THR WH R...

Drilling plan/solder pad geometry



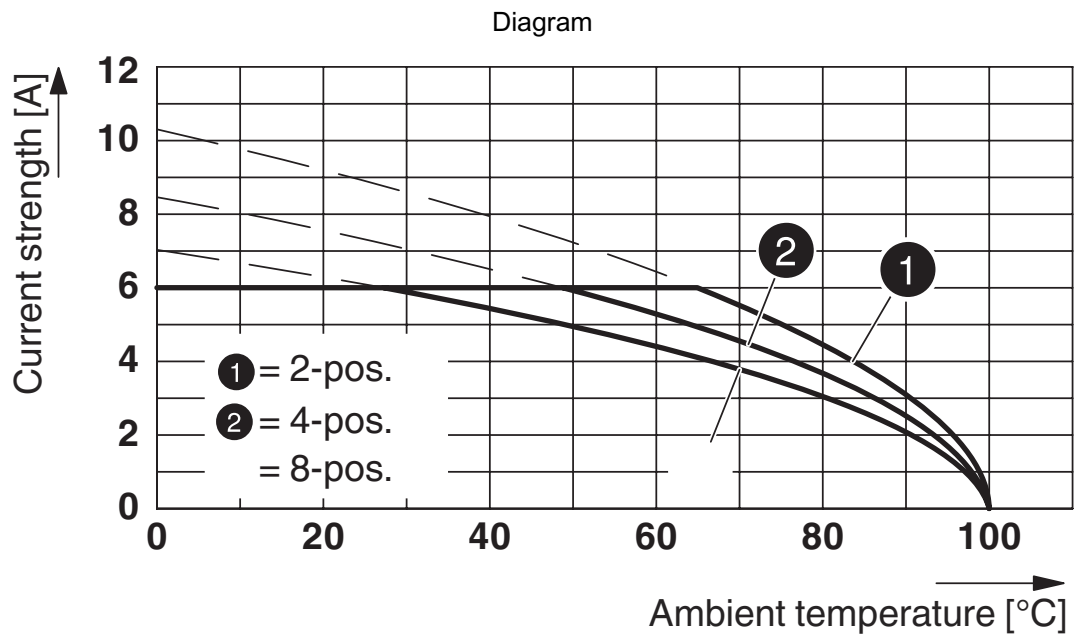
Diagram



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

1814854

<https://www.phoenixcontact.com/de/produkte/1814854>



Type: PTSM 0,5/...-HHI-2,5-THR WH R... with PTSM 0,5/...-HH-2,5-THR WH R...


# PTSM 0,5/ 3-HH-2,5-THR WH R32 - PCB header





1814854

<https://www.phoenixcontact.com/de/produkte/1814854>

## Approvals

 <b>UL Recognized</b> Approval ID: E118976-20130619				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
Use group B				
	150 V	5 A	-	-

 <b>EAC</b> Approval ID: B.01687				
----------------------------------------------------------------------------------------------------------------------	--	--	--	--

 <b>cULus Recognized</b> Approval ID: E60425-20110108				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
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 $\text{mm}^2$
	160 V	6 A	-	0.14 - 0.5

1814854

<https://www.phoenixcontact.com/de/produkte/1814854>

## Classifications

### ECLASS

ECLASS-9.0	27440402
ECLASS-10.0.1	27440402
ECLASS-11.0	27460201

### ETIM

ETIM 8.0	EC002637
----------	----------

### UNSPSC

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

# PTSM 0,5/ 3-HH-2,5-THR WH R32 - PCB header



1814854

<https://www.phoenixcontact.com/de/produkte/1814854>

## Environmental Product Compliance

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

# PTSM 0,5/ 3-HH-2,5-THR WH R32 - PCB header



1814854

<https://www.phoenixcontact.com/de/produkte/1814854>

## Accessories

### SAMPLE PTSM 0,5/ 3-HH-2,5-THR - PCB header

1785980

<https://www.phoenixcontact.com/de/produkte/1785980>



PCB headers, nominal cross section:  $0.5 \text{ mm}^2$ , color: black, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Male connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: PTSM 0,5/..-HH-THR, 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: packed in cardboard

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

1704854

<https://www.phoenixcontact.com/de/produkte/1704854>



PCB connector, nominal cross section:  $0.5 \text{ mm}^2$ , color: white, nominal current: 6 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: PTSM 0,5/..-P WH, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction:  $0^\circ$ , plug-in system: COMBICON PTSM, locking: without, mounting: without, type of packaging: packed in cardboard

# PTSM 0,5/ 3-HH-2,5-THR WH R32 - PCB header

1814854

<https://www.phoenixcontact.com/de/produkte/1814854>

## PTSM 0,5/ 3-HHI-2,5-SMD WHR44 - PCB header

1707992

<https://www.phoenixcontact.com/de/produkte/1707992>



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, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, 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/ 3-HHI0-2,5-SMD WHR44 - PCB header

1815206

<https://www.phoenixcontact.com/de/produkte/1815206>



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, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, product range: PTSM 0,5/...-HHI-SMD WH, pitch: 2.5 mm, mounting: SMD soldering, pin layout: Linear pinning, 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/ 3-HH-2,5-THR WH R32 - PCB header



1814854

<https://www.phoenixcontact.com/de/produkte/1814854>

## PTSM 0,5/ 3-HHI-2,5-THR WH R32 - PCB header

1814993

<https://www.phoenixcontact.com/de/produkte/1814993>



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, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, 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: 32 mm wide tape

## PTSM 0,5/ 3-PL-2,5 WH - Printed-circuit board connector

1709459

<https://www.phoenixcontact.com/de/produkte/1709459>



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, type of contact: Female connector, number of potentials: 3, number of rows: 1, number of positions: 3, number of connections: 3, 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

Phoenix Contact 2023 © - all rights reserved  
<https://www.phoenixcontact.com>

PHOENIX CONTACT Deutschland GmbH  
Flachsmarktstraße 8  
D-32825 Blomberg  
+49 52 35/3-1 20 00  
[info@phoenixcontact.de](mailto:info@phoenixcontact.de)