

# PCB terminal block - PTSM 0,5/ 3-2,5-H SMD R44



1771033

<https://www.phoenixcontact.com/us/products/1771033>

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PCB terminal block, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm<sup>2</sup>, number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: PTSM 0,5/..-H-SMD, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, color: black, Pin layout: Linear pad geometry, number of solder pins per potential: 1, type of packaging: 44 mm wide tape

## 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
- Designed for integration into the SMT soldering process
- Additional solder anchors reduce the mechanical strain on the soldering spots

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## Commercial Data

Item number	1771033
Packing unit	1 pc
Minimum order quantity	770 pc
Sales Key	A03
Product Key	AAKDAA
Catalog Page	Page 53 (C-1-2013)
GTIN	4046356459686
Weight per Piece (including packing)	1.576 g
Weight per Piece (excluding packing)	1.576 g
Customs tariff number	85369010
Country of origin	IN

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## Technical Data

### Product properties

Product line	COMBICON Terminals XS
Product type	Printed circuit board terminal
Number of positions	3
Pitch	2.5 mm
Number of connections	3
Number of rows	1
Number of potentials	3
Pin layout	Linear pad geometry

### Electrical properties

Nominal current $I_N$	6 A
Nominal voltage $U_N$	160 V
Pollution degree	3
Rated voltage (III/3)	32 V
Rated surge voltage (III/3)	2.5 kV
Rated voltage (III/2)	160 V
Rated surge voltage (III/2)	2.5 kV

### Connection data

#### Connection technology

Nominal cross section	0.5 mm <sup>2</sup>
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#### Conductor connection

Connection method	Push-in spring connection
Conductor cross section solid	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	26 ... 20
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>
Cylindrical gauge a x b / diameter	- / 1.2 mm
Stripping length	6 mm

### Mounting

Mounting type SMD soldering	SMD soldering
Mounting type	SMD soldering

#### Processing notes

Process	Reflow soldering
Moisture Sensitive Level	MSL 1

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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	hot-dip tin-plated
Metal surface terminal point (top layer)	Tin (4 - 8 $\mu\text{m}$ Sn)
Metal surface soldering area (top layer)	Tin (4 - 8 $\mu\text{m}$ Sn)

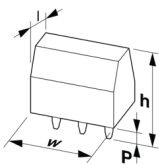
### Material data - housing

Housing color	black (9005)
Insulating material	LCP
Insulating material group	IIIa
CTI according to IEC 60112	175
Flammability rating according to UL 94	V0

### Material data – actuating element

Color of the actuating lever	black (9005)
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## Dimensions

Dimensional drawing	
Pitch	2.5 mm
Width [w]	10.1 mm
Height [h]	5.12 mm
Length [l]	9 mm
Installed height	5.12 mm

### PCB design

Pad geometry	1.4 x 3.4 mm
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## Mechanical tests

### Connection test

Specification	IEC 60998-2-2:2002-12
Result	Test passed

### Test for conductor damage and slackening

Specification	IEC 60998-2-2:2002-12
Result	Test passed

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## Pull-out test

Specification	IEC 60998-2-2:2002-12
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

## Flexion test

Specification	IEC 60998-2-2:2002-12
Result	Test passed

## Electrical tests

### Temperature-rise test

Specification	IEC 60998-2-1:2002-12
Requirement temperature-rise test	Increase in temperature ≤ 45 K

### Insulation resistance

Specification	IEC 60998-1:2002-12
Insulation resistance, neighboring positions	> 5 MΩ

### Air clearances and creepage distances |

Specification	IEC 60664-1:1992-10 + A1:2000-02 + A2:2002-05
Insulating material group	IIIa
Comparative tracking index (IEC 60112)	CTI 175
Rated insulation voltage (III/3)	32 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)	1.3 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)	1.6 mm
Rated insulation voltage (II/2)	160 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 - 60.1 Hz)
Sweep speed	5g (60.1 - 150 Hz)

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Test duration per axis	2.5 h
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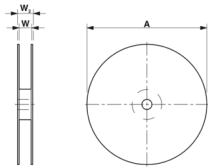
## Glow-wire test

Specification	IEC 60998-1:2002-12
Temperature	850 °C
Time of exposure	5 s

## Ambient conditions

Ambient temperature (operation)	-40 °C ... 100 °C (Depending on the current carrying capacity/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	44 mm wide tape
[W] tape width	44 mm
[W2] coil overall dimension	50.4 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

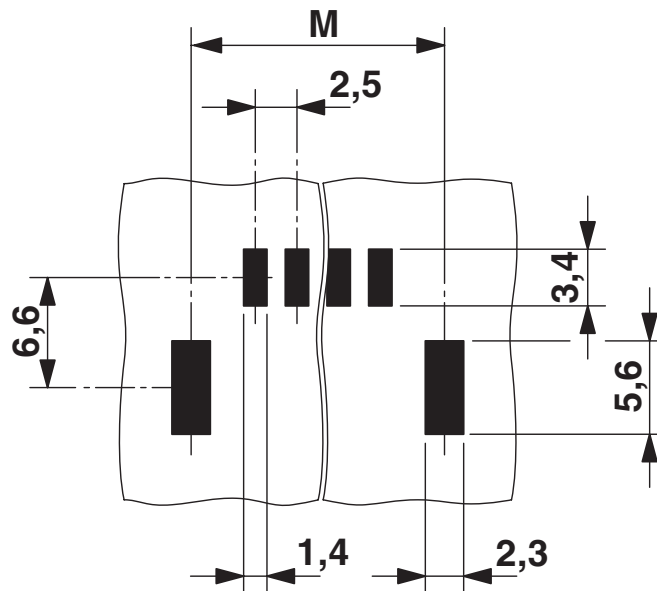
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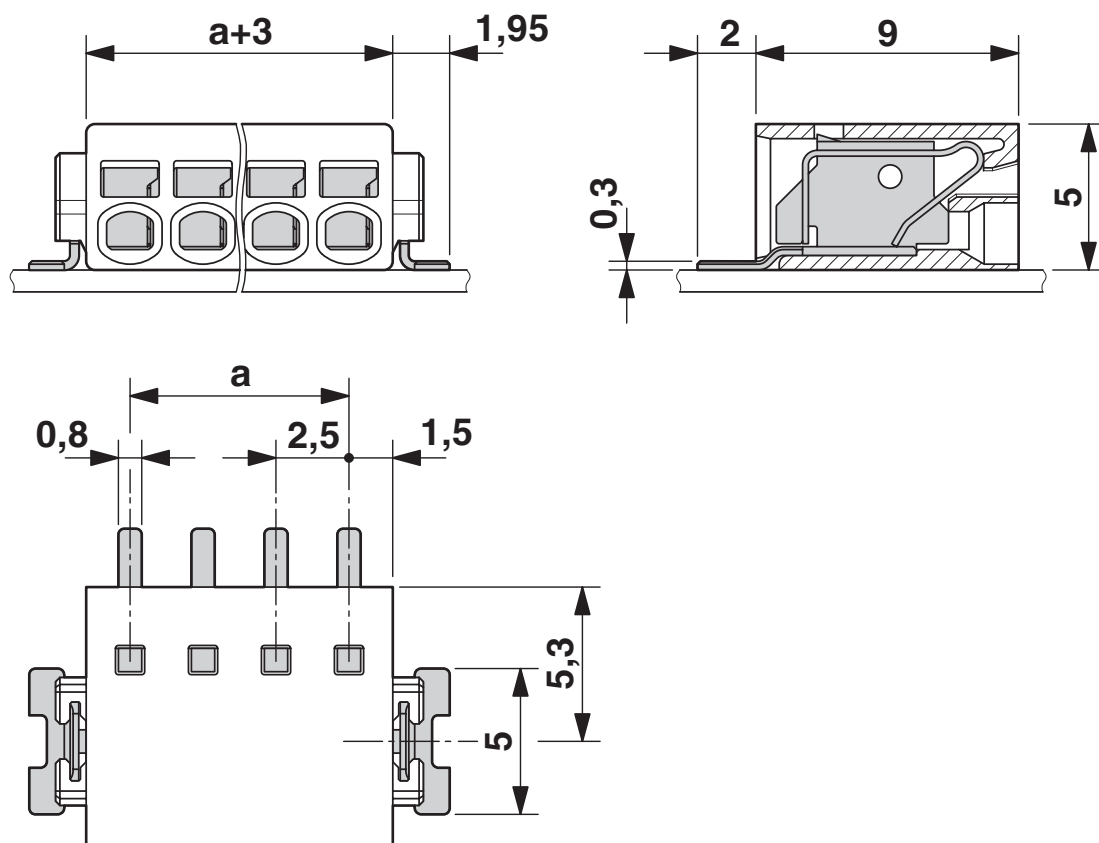
## Drawings

Drilling plan/solder pad geometry



Dimension M: 10.2 mm

Dimensional drawing



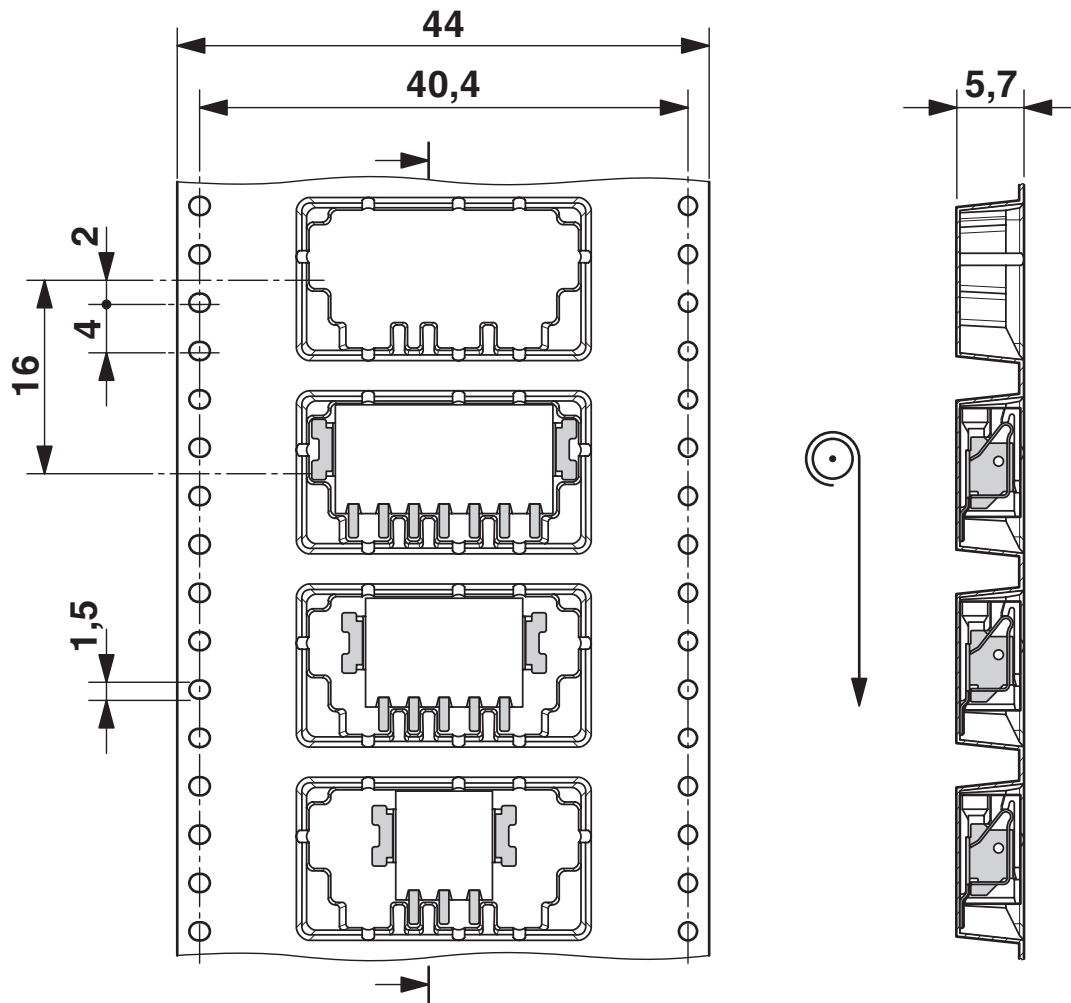
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Dimensional drawing



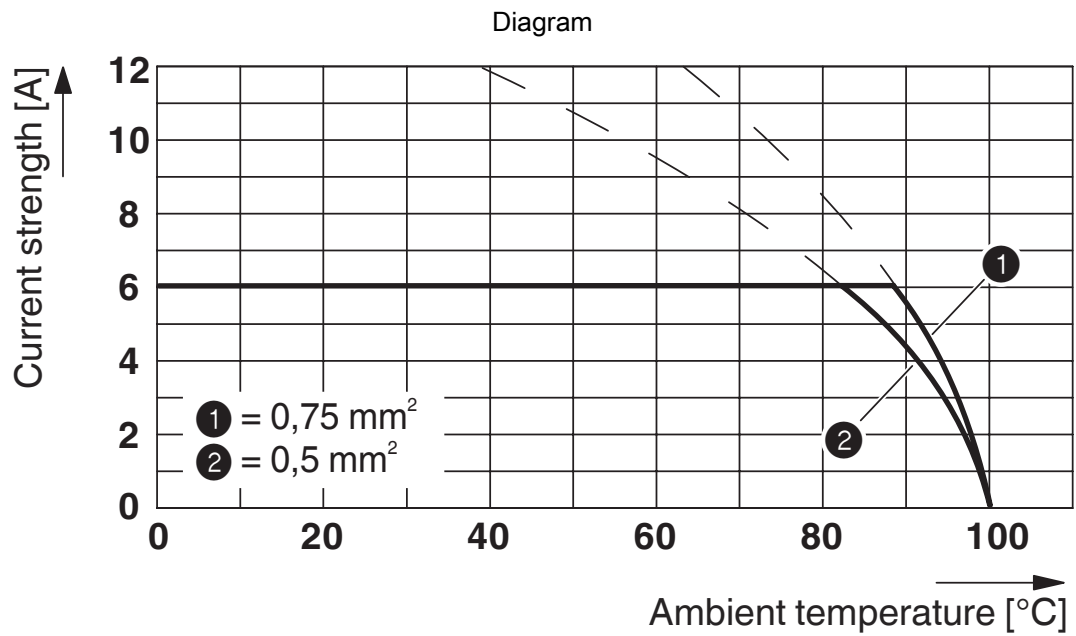


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Type: PTSM 0,5/...-2,5-H- SMD R44

Tested in accordance with DIN EN 60512-5-2:2003-01

Reduction factor = 1

No. of positions: 5


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## 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	26 - 18	-

 <b>EAC</b> Approval ID: B.01687				
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 <b>cULus Recognized</b> Approval ID: E60425-20030527				
	Nominal Voltage $U_N$	Nominal Current $I_N$	Cross Section AWG	Cross Section $\text{mm}^2$
Use group B				
	150 V	5 A	26 - 20	-

 <b>VDE Zeichengenehmigung</b> Approval ID: 40048725				
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## Classifications

### ECLASS

ECLASS-9.0	27440401
ECLASS-10.0.1	27440401
ECLASS-11.0	27460101

### ETIM

ETIM 8.0	EC002643
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental Product Compliance

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

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## Accessories

### Screwdriver

Screwdriver - SZS 0,4X2,0 - 1205202

<https://www.phoenixcontact.com/us/products/1205202>



Micro screwdriver, bladed, size: 0.4 x 2.0 x 60 mm, 2-component grip, with non-slip grip and twist cap

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### Ferrule

Ferrule - AI 0,25- 6 BU - 3203040

<https://www.phoenixcontact.com/us/products/3203040>



Ferrule, sleeve length: 6 mm, length: 10.5 mm, color: blue

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## Ferrule

Ferrule - AI 0,25- 6 YE - 3203024

<https://www.phoenixcontact.com/us/products/3203024>



Ferrule, sleeve length: 6 mm, length: 10.5 mm, color: yellow

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## Ferrule

Ferrule - AI 0,34- 6 TQ - 3203053

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Ferrule, sleeve length: 6 mm, length: 10.5 mm, color: turquoise

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## PCB terminal block

PCB terminal block - SAMPLE PTSM 0,5/ 3-2,5-H-SMD - 1701076

<https://www.phoenixcontact.com/us/products/1701076>



PCB terminal block, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm<sup>2</sup>, number of potentials: 3, number of rows: 1, number of positions per row: 3, product range: PTSM 0,5/..-H-SMD, pitch: 2.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, color: black, Pin layout: Linear pad geometry, Solder pin [P]: 2 mm, number of solder pins per potential: 1, type of packaging: packed in cardboard. SAMPLE set with 5 items in belt section. When used as part of soldering process, please use items without SAMPLE marking

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