

# PCB terminal block - PTSM 0,5/ 4-2,5-H SMD WH R24 - 1814650

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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>, pitch: 2.5 mm, number of positions: 4, connection method: Push-in spring connection, mounting: SMD soldering, conductor/PCB connection direction: 0 °, color: white, Pin layout: Linear pad geometry


The figure shows the 3-pos. version

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



## Key Commercial Data

|                        |   |
|------------------------|---|
| Packing unit           | 770 pc  |
| Minimum order quantity | 770 pc  |
| GTIN                   | <br>4 046356 760409 |
| GTIN                   | 4046356760409   |

## Technical data

### Item properties

|                           |                           |
|---------------------------|---------------------------|
| Brief article description | PCB terminal block        |
| Range of articles         | PTSM 0,5/..-H-SMD WH      |
| Pitch                     | 2.5 mm                    |
| Number of positions       | 4                         |
| Connection method         | Push-in spring connection |
| Mounting type             | SMD soldering             |
| Pin layout                | Linear pad geometry       |
| Number of levels          | 1                         |
| Number of connections     | 4                         |

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## Technical data

### Item properties

|                      |   |
|----------------------|---|
| Number of potentials | 4 |
|----------------------|---|

### Electrical parameters

|                             |        |
|-----------------------------|--------|
| Nominal current             | 6 A    |
| Nom. voltage                | 160 V  |
| Rated voltage               | 63 V   |
| Rated voltage (III/2)       | 160 V  |
| Rated voltage (II/2)        | 320 V  |
| Rated surge voltage (III/3) | 2.5 kV |
| Rated surge voltage (III/2) | 2.5 kV |
| Rated surge voltage (II/2)  | 2.5 kV |

### Connection capacity

|   |  |
|---|--|
| Connection method   | Push-in spring connection  |
| pluggable   | no   |
| 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, at a rated insulation voltage of 32 V at III/2) |
| Conductor cross section AWG / kcmil                                   | 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   |

### 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 soldering area (top layer) | Tin (4 - 8 µm Sn)   |

### Material data - housing

|  |              |
|--|--------------|
| Housing color                          | white (9010) |
| Insulating material                    | PA GF        |
| Insulating material group              | I            |
| CTI according to IEC 60112             | 600          |
| Flammability rating according to UL 94 | V0           |

### Dimensions for the product

|              |         |
|--------------|---------|
| Length [ l ] | 9 mm    |
| Width [ w ]  | 12.6 mm |
| Height [ h ] | 5.12 mm |
| Pitch        | 2.5 mm  |

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## Technical data

### Dimensions for the product

|                             |         |
|-----------------------------|---------|
| Height (without solder pin) | 5.12 mm |
|-----------------------------|---------|

### Packaging information

|                             |                     |
|-----------------------------|---------------------|
| Type of packaging           | packed in cardboard |
| Pieces per package          | 770                 |
| Denomination packing units  | Pcs.                |
| [W] tape width              | 24 mm               |
| [A] coil diameter           | 330 mm              |
| [W2] coil overall dimension | 30.4 mm             |
| Outer packaging type        | Transparent-Bag     |

### Processing notes

|   |  |
|---|--|
| Process                                   | Reflow soldering                         |
| Specification                             | Following IPC/JEDEC J-STD-020D.1:2008-03 |
|   | Following IEC 60068-2-58:2005-02         |
| Moisture Sensitive Level                  | MSL 1                                    |
| Classification temperature T <sub>c</sub> | 260 °C                                   |
| Solder cycles in the reflow               | 3  |

### Ambient conditions

|   |   |
|---|---|
| Ambient temperature (storage/transport) | -40 °C ... 70 °C  |
| Ambient temperature (assembly)          | -5 °C ... 100 °C  |
| Ambient temperature (operation)         | -40 °C ... 100 °C (Depending on the current carrying capacity/derating curve) |

### Termination and connection method

|  |                       |
|--|-----------------------|
| Connection test                          | IEC 60998-2-2:2002-12 |
| Test result                              | Test passed           |
| Test for conductor damage and slackening | IEC 60998-2-2:2002-12 |
|  | Test passed           |

### Pull-out test

|  |  |
|--|--|
| Pull-out test  | IEC 60998-2-2:2002-12                    |
|  | Test passed                              |
| Conductor cross section / conductor type / tensile force | 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 |

### Mechanical tests according to standard

|                    |                          |
|--------------------|--------------------------|
| Test specification | IEC 60998-2-2 (in parts) |
|--------------------|--------------------------|

### Electrical tests

|                         |                     |
|-------------------------|---------------------|
| Rated current           | 6 A                 |
| Conductor cross section | 0.5 mm <sup>2</sup> |

# PCB terminal block - PTSM 0,5/ 4-2,5-H SMD WH R24 - 1814650

## Technical data

### Electrical tests

|                             |        |
|-----------------------------|--------|
| Rated voltage (III/2)       | 160 V  |
| Rated surge voltage (III/2) | 2.5 kV |

### Air clearances and creepage distances

|   |                     |
|---|---------------------|
| Clearances and creepage distances               | IEC 60664-1:2007-04 |
| Specification                                   | IEC 60664-1:2007-04 |
| Minimum clearance - inhomogeneous field (III/3) | 1.5 mm              |
| Minimum clearance - inhomogeneous field (III/2) | 1.5 mm              |
| Minimum clearance - inhomogeneous field (II/2)  | 1.5 mm              |
| Minimum creepage distance value (III/3)         | 1.6 mm              |
| Minimum creepage distance value (III/2)         | 1.5 mm              |
| Minimum creepage distance value (II/2)          | 1.6 mm              |

### Temperature-rise test

|                                   |                                     |
|-----------------------------------|-------------------------------------|
| Specification                     | IEC 60998-2-1:2002-12               |
| Result                            | Test passed                         |
| Requirement temperature-rise test | Increase in temperature $\leq$ 45 K |

### Current carrying capacity / derating curves

|                     |   |
|---------------------|---|
| Caption             | Type: PTSM 0,5/...-2,5-H SMD WH (L) R..<br>Tested in accordance with DIN EN 60512-5-2:2003-01<br>Reduction factor = 1<br>Number of positions: 5 |
| Specification       | Following IEC 60512-5-2:2002-02   |
| Number of positions | 5   |
| Reduction factor    | 1   |

### Vibration test

|                        |                        |
|------------------------|------------------------|
| Specification          | IEC 60068-2-6:2007-12  |
| Result                 | Test passed            |
| Frequency              | 10 - 150 - 10 Hz       |
| Sweep speed            | 1 octave/min           |
| Amplitude              | 0.35 mm (10 - 60.1 Hz) |
| Acceleration           | 5 g (60.1 - 150 Hz)    |
| Test duration per axis | 2.5 h                  |

### Resistance to ageing, humidity and penetration of solids

|            |                 |
|------------|-----------------|
| Dry heat   | 168 h/100°C     |
| Humid heat | 48 h/30 °C/92 % |

### Insulation resistance

|  |                     |
|--|---------------------|
| Specification                                | IEC 60998-1:2002-12 |
| Result                                       | Test passed         |
| Insulation resistance, neighboring positions | 100 GΩ              |

### Glow-wire test

## PCB terminal block - PTSM 0,5/ 4-2,5-H SMD WH R24 - 1814650

### Technical data

#### Glow-wire test

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

#### Mechanical strength/tumbling barrel test

|                       |                     |
|-----------------------|---------------------|
| Specification         | IEC 60998-1:2002-12 |
| Height of fall        | 50 cm               |
| Number of drop cycles | 50                  |
| Rotation speed        | 5 rpm               |

#### Standards and Regulations

|  |        |
|--|--------|
| Connection in acc. with standard       | EN-VDE |
|  | UL     |
| Flammability rating according to UL 94 | V0     |

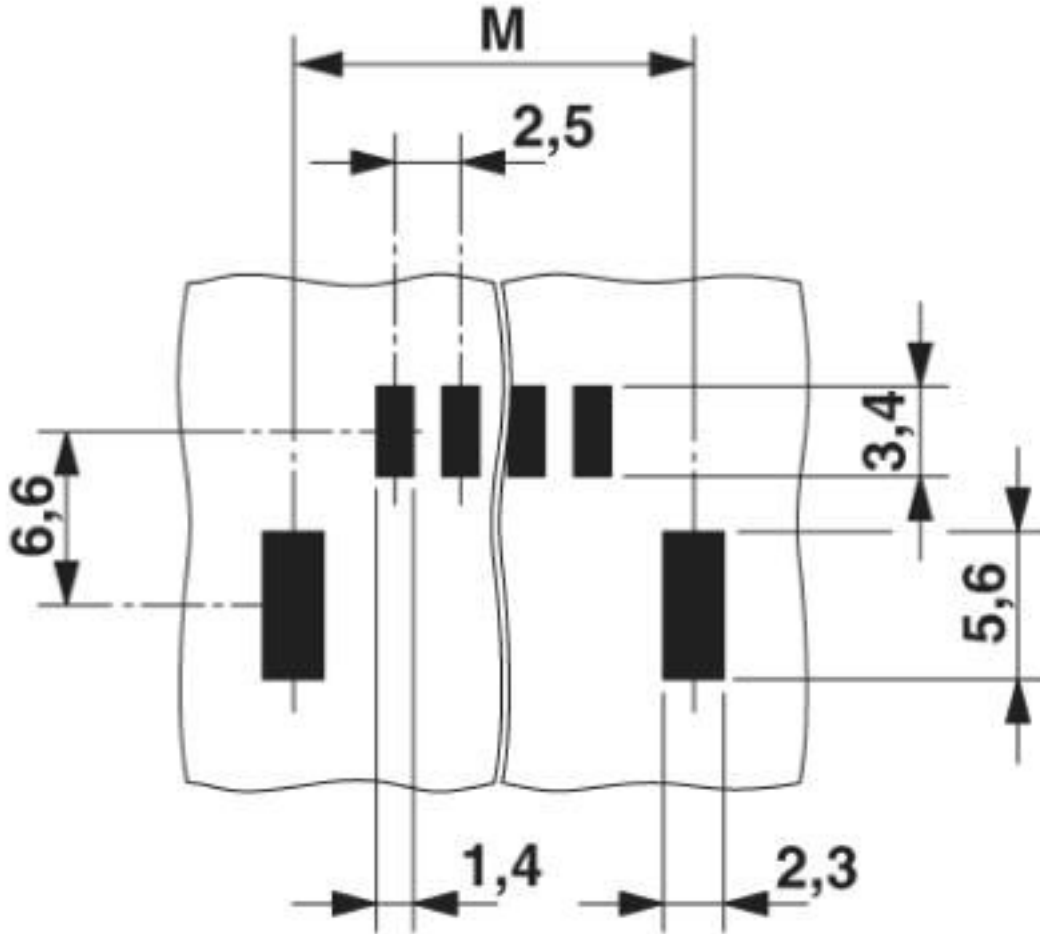
#### Environmental Product Compliance

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

### Drawings

# PCB terminal block - PTSM 0,5/ 4-2,5-H SMD WH R24 - 1814650

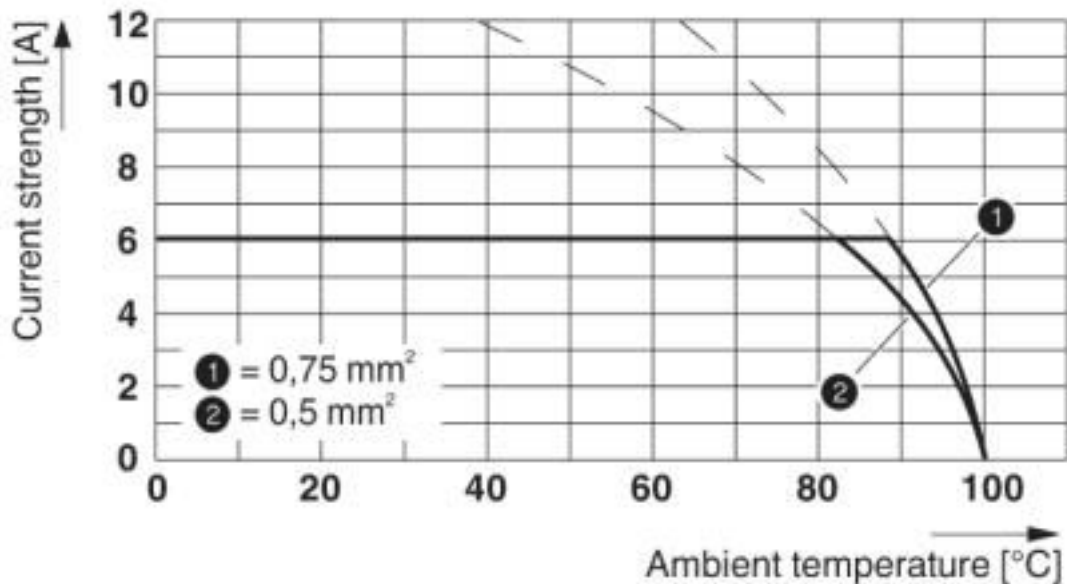
Drilling diagram



Dimension M: 12.7 mm

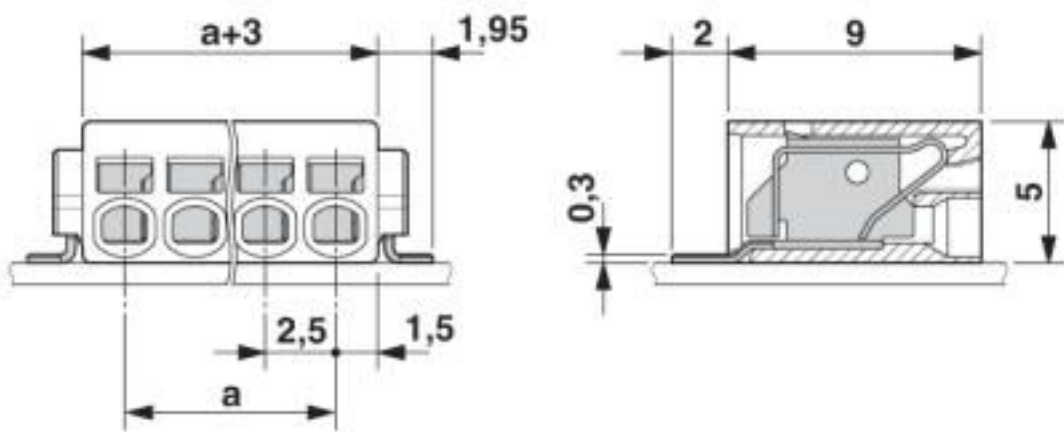
# PCB terminal block - PTSM 0,5/ 4-2,5-H SMD WH R24 - 1814650

Diagram



Type: PTSM 0,5/...-2,5-H SMD WH (L) R..  
 Tested in accordance with DIN EN 60512-5-2:2003-01  
 Reduction factor = 1  
 Number of positions: 5

Dimensional drawing



## Classifications

eCl@ss

|               |          |
|---------------|----------|
| eCl@ss 10.0.1 | 27440401 |
| eCl@ss 4.0    | 27141100 |
| eCl@ss 4.1    | 27141100 |
| eCl@ss 5.0    | 27141100 |
| eCl@ss 5.1    | 27261100 |

# PCB terminal block - PTSM 0,5/ 4-2,5-H SMD WH R24 - 1814650

## Classifications

### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 6.0 | 27261100 |
| eCl@ss 7.0 | 27440401 |
| eCl@ss 8.0 | 27440401 |
| eCl@ss 9.0 | 27440401 |

### ETIM

|          |          |
|----------|----------|
| ETIM 3.0 | EC001121 |
| ETIM 4.0 | EC002643 |
| ETIM 5.0 | EC002637 |
| ETIM 6.0 | EC002643 |
| ETIM 7.0 | EC002643 |

### UNSPSC

|               |          |
|---------------|----------|
| UNSPSC 6.01   | 30211801 |
| UNSPSC 7.0901 | 39121432 |
| UNSPSC 11     | 39121432 |
| UNSPSC 12.01  | 39121432 |
| UNSPSC 13.2   | 39121432 |
| UNSPSC 18.0   | 39121432 |
| UNSPSC 19.0   | 39121432 |
| UNSPSC 20.0   | 39121432 |
| UNSPSC 21.0   | 39121432 |

## Approvals


### Approvals

#### Approvals

UL Recognized / VDE Zeichengenehmigung / EAC / cULus Recognized

#### Ex Approvals

### Approval details

|                    |   |  |
|--------------------|---|--|
| UL Recognized      |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> E118976-20130619 |
|                    |   | B  |
| Nominal voltage UN |   | 150 V  |
| Nominal current IN |   | 5 A  |



# PCB terminal block - PTSM 0,5/ 4-2,5-H SMD WH R24 - 1814650

## Approvals

|               |       |
|---------------|-------|
|               | B     |
| mm²/AWG/kcmil | 26-18 |

|                        |  |   |          |
|------------------------|--|---|----------|
| VDE Zeichengenehmigung |  | <a href="http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx">http://www2.vde.com/de/Institut/Online-Service/VDE-gepruefteProdukte/Seiten/Online-Suche.aspx</a> | 40048725 |
|------------------------|--|---|----------|

|     |  |  |         |
|-----|--|--|---------|
| EAC |  |  | B.01687 |
|-----|--|--|---------|

|                  |  |   |                 |
|------------------|--|---|-----------------|
| cULus Recognized |  | <a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a> | E60425-20030527 |
|------------------|--|---|-----------------|

|                    |       |
|--------------------|-------|
|                    | B     |
| Nominal voltage UN | 150 V |
| Nominal current IN | 5 A   |
| mm²/AWG/kcmil      | 26-20 |

## Accessories

### Accessories

#### Cable end sleeve

Ferrule - AI 0,25- 6 BU - 3203040



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

Ferrule - AI 0,25- 6 YE - 3203024



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

## PCB terminal block - PTSM 0,5/ 4-2,5-H SMD WH R24 - 1814650

### Accessories

Ferrule - AI 0,34- 6 TQ - 3203053



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

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### Screwdriver tools

Screwdriver - SZS 0,4X2,0 - 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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### Additional products

Sample set - SAMPLE PTSM 0,5/ 4-2,5-H SMDWH - 1820945



PCB terminal block, nominal current: 6 A, rated voltage (III/2): 160 V, nominal cross section: 0.5 mm<sup>2</sup>, pitch: 2.5 mm, number of positions: 4, connection method: Push-in spring connection, mounting: SMD soldering, conductor/PCB connection direction: 0 °, color: white, Pin layout: Linear pad geometry, Solder pin [P]: 2 mm. 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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