# Data Sheet | Item Number: 2070-542/998-406

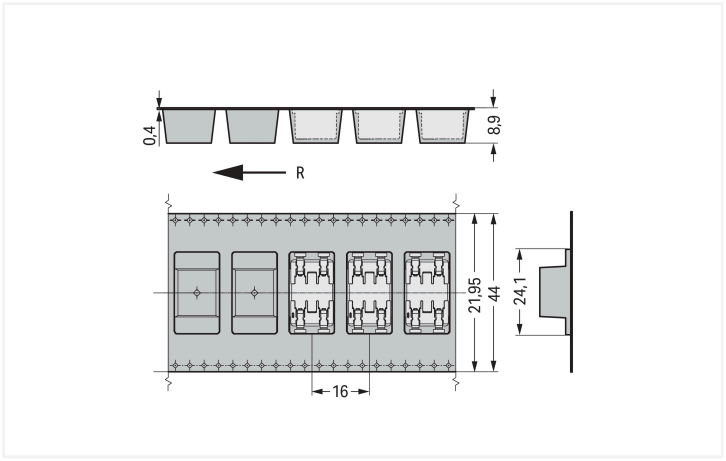
Through-Board SMD PCB Terminal Block; 0.75 mm²; Pin spacing 6.5 mm; 2-pole; Push-in CAGE CLAMP®; in tape-and-reel packaging; white

https://www.wago.com/2070-542/998-406

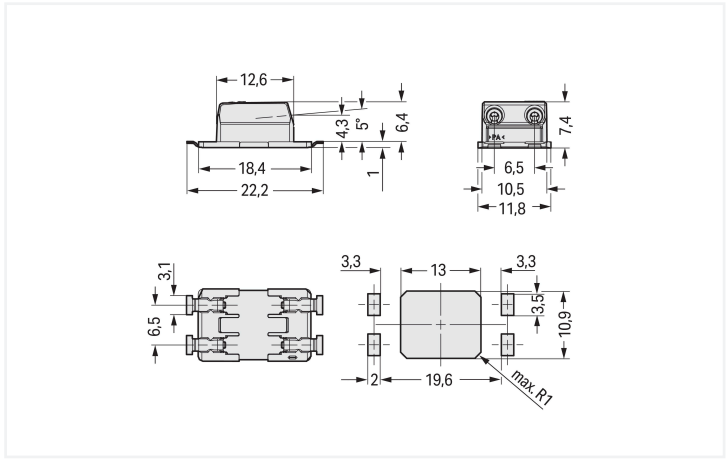




Color: white




Dimensions in mm
R = feed direction




Dimensions in mm

PCB terminal block, 2070 Series, operating tool

This PCB terminal block (item number 2070-542/998-406) is designed for quick and simple connections. It is a universal connector that can be used practically anywhere, e.g., as a pluggable PCB connector, panel feedthrough header, connector for rail-mount terminal blocks, or a floating connector for different mounting methods. Conductors should only be connected to this PCB terminal block if their strip length is between 8 and 10 mm . This product features one conductor terminal and utilizes Push-in CAGE CLAMP®. Push-in CAGE CLAMP® connection technology is ideal for connecting all conductor types. It allows direct insertion of both solid and fine-stranded conductors with ferrules without the need for tools—all thanks to its pluggable design. The dimensions are (11.8 x 7.45 x 22.2) mm (width x height x depth). Depending on the type of conductor, this PCB terminal block is designed for conductor cross sections ranging from 0.2 mm² to 0.75 mm².

The contact surface is coated with tin. This PCB terminal block is operated with an operating tool. SMD is used to solder the PCB terminal block. Insert the conductor into the board at an angle of 0°..

## Notes

| | |
|---|---|
| General safety information | **NOTICE: Observe installation and safety instructions!**<br><br>**To be sold only with installation instructions!** |
| Note | Depending on reflow soldering temperatures and times, color deviations may occur. These deviations will have no impact on functionality. |
| Variants: | Reel diameter of tape-and-reel packaging: 381 mm<br>Other versions (or variants) can be requested from WAGO Sales or configured at https://configurator.wago.com/. |

## Electrical data

### Ratings — Electrical data for FR4 PCB type

| Ratings | | | |
|---|---|---|---|
| Ratings per | IEC/EN 60664-1 | IEC/EN 60664-1 | IEC/EN 60664-1 |
| Overvoltage category | III | III | II |
| Pollution degree | 3 | 2 | 2 |
| Nominal voltage | 320 V | 320 V | 630 V |
| Rated impulse withstand voltage | 4 kV | 4 kV | 4 kV |
| Rated current | 9 A | 9 A | 9 A |

### Ratings — Electrical data for metal-core PCBs

| Ratings | | | |
|---|---|---|---|
| Ratings per | IEC/EN 60664-1 | IEC/EN 60664-1 | IEC/EN 60664-1 |
| Overvoltage category | III | III | II |
| Pollution degree | 3 | 2 | 2 |
| Nominal voltage | 200 V | 320 V | 500 V |
| Rated impulse withstand voltage | 4 kV | 4 kV | 4 kV |
| Rated current | 9 A | 9 A | 9 A |

### Ratings

| | |
|---|---|
| Approvals per | UL 1977 |
| Rated voltage | 600 V |
| Rated current | 9 A |

## Connection Data

| | |
|---|---|
| Clamping units | 2 |
| Total number of potentials | 2 |
| Number of connection types | 1 |
| Number of levels | 1 |

### Connection 1

| | |
|---|---|
| Connection technology | Push-in CAGE CLAMP® |
| Actuation type | Operating tool |
| Solid conductor | 0.2 … 0.75 mm² / 24 … 18 AWG |
| Fine-stranded conductor | 0.2 … 0.75 mm² / 24 … 18 AWG |
| Strip length | 8 … 10 mm / 0.31 … 0.39 inches |
| Conductor connection direction to PCB | 0 ° |
| Pole number | 2 |

## Physical data

| | |
|---|---|
| Pin spacing | 6.5 mm / 0.256 inches |
| Width | 11.8 mm / 0.465 inches |
| Height | 7.45 mm / 0.293 inches |
| Depth | 22.2 mm / 0.874 inches |
| Reel diameter of tape-and-reel packaging | 330 mm |
| Tape width | 44 mm |
| PCB thickness (max.) | 2.4 mm |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## Mechanical data

| | |
|---|---|
| Marking | - + |
| Design | with cover |
| Mounting type | Through-board |

## PCB contact

| | |
|---|---|
| PCB contact | SMD |
| Solder pin arrangement | over the entire terminal strip (in-line) |
| Number of solder pins per potential | 2 |

## Material data

| | |
|---|---|
| Note (material data) | Information on material specifications can be found here |
| Color | white |
| Material group | I |
| Insulation material (main housing) | Polyphthalamide (PPA GF) |
| Flammability class per UL94 | V0 |
| Contact material | Copper alloy |
| Contact Plating | Tin |
| Fire load | 0.012 MJ |
| Weight | 1.3 g |

## Environmental requirements

| | |
|---|---|
| Limit temperature range | -60 … +105 °C |

## Environmental Testing

| | |
|---|---|
| Test specification:<br>Railway applications –<br>Rolling stock –<br>Electronic equipment | DIN EN 50155 (VDE 0115-200):2022-06 |
| Test procedure:<br>Railway applications –<br>Rolling stock equipment –<br>Vibration and shock tests | DIN EN 61373 (VDE 0115-0106):2011-04 |
| Spectrum/Mounting location | Service life test, Category 1, Class A/B |
| Functional test with noise-like oscillations | Test passed according to Section 8 of the standard |
| Frequency | $f_1$ = 5 Hz to $f_2$ = 150 Hz |
| Acceleration | 0.101g (highest test level used for all axes) |
| Test duration per axis | 10 min. |
| Test directions | X, Y and Z axes |
| Monitoring of contact faults and interruptions | Passed |
| Voltage drop measurement before and after each axis | Passed |
| Simulated service life test through increased levels of noise-like oscillations | Test passed according to Section 9 of the standard |
| Frequency | $f_1$ = 5 Hz to $f_2$ = 150 Hz |
| Acceleration | 0.572g (highest test level used for all axes) |
| Test duration per axis | 5 h |
| Test directions | X, Y and Z axes |
| Extended testing: Monitoring of contact faults and interruptions | Passed |
| Extended testing: Voltage drop measurement before and after each axis | Passed |
| Shock test | Test passed according to Section 10 of the standard |
| Shock pulse form | Half sine |
| Acceleration | 5g (highest test level used for all axes) |
| Shock duration | 30 ms |


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## Environmental Testing

| | |
|---|---|
| Number of shocks (per axis) | 3 pos. und 3 neg. |
| Test directions | X, Y and Z axes |
| Extended testing: Monitoring of contact faults and interruptions | Passed |
| Extended testing: Voltage drop measurement before and after each axis | Passed |
| Vibration and shock stress for rolling stock equipment | Passed |

## Commercial data

| | |
|---|---|
| PU (SPU) | 2385 (477) pcs |
| Packaging type | Box |
| Country of origin | CH |
| GTIN | 4055143645119 |
| Customs tariff number | 85369010000 |

## Product Classification

| | |
|---|---|
| UNSPSC | 39121409 |
| eCl@ss 10.0 | 27-14-11-06 |
| eCl@ss 9.0 | 27-14-11-06 |
| ETIM 9.0 | EC001284 |
| ETIM 10.0 | EC001284 |
| ECCN | NO US CLASSIFICATION |

## Environmental Product Compliance

| | |
|---|---|
| RoHS Compliance Status | Compliant,No Exemption |

## Approvals / Certificates

### General approvals

| Approval | Standard | Certificate Name |
|---|---|---|
| CB<br>DEKRA Certification B.V. | IEC 60998 | NL-57652 |
| CB<br>DEKRA Certification B.V. | EN 60998 | NL-57653 |
| KEMA/KEUR<br>DEKRA Certification B.V. | EN 60998 | 71-107967 |
| KEMA/KEUR<br>DEKRA Certification B.V. | EN 60947-7-4 | 71-107965 |
| UR<br>Underwriters Laboratories Inc. | UL 1977 | E45171 |

### Declarations of conformity and manufacturer's declarations

| Approval | Standard | Certificate Name |
|---|---|---|
| EU-Declaration of Conformity<br>WAGO GmbH & Co. KG | - | - |
| Railway<br>WAGO GmbH & Co. KG | - | Z00004398.000 |
| UK-Declaration of Conformity<br>WAGO GmbH & Co. KG | - | - |


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## Downloads

### Environmental Product Compliance

**Compliance Search**

Environmental Product Compliance
2070-542/998-406

### Documentation

**Safety Data Sheet**

Handling and Safety Instructions of PCB Terminal Blocks with Push-In Cage Clamp — pdf, 393.90 KB

**Additional Information**

Technical Section — 03.04.2019 — pdf, 2027.26 KB

### CAD/CAE-Data

**CAD data**

2D/3D Models
2070-542/998-406

**CAE data**

ZUKEN Portal
2070-542/998-406

**PCB Design**

Symbol and Footprint via SamacSys
2070-542/998-406

Symbol and Footprint via Ultra Librarian
2070-542/998-406

## 1 Compatible Products

### 1.1 Optional Accessories

#### 1.1.1 Tool

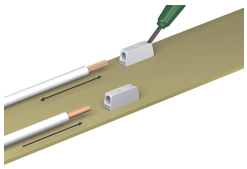
##### 1.1.1.1 Operating tool



Item No.: 2070-400
Operating tool; made of insulating material; green

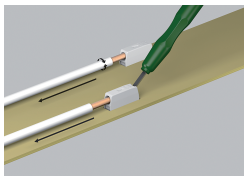
## Installation Notes

### Conductor termination



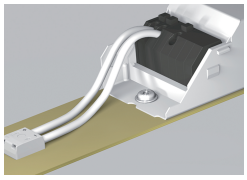
Insert fine-stranded conductors and remove all conductor types via operating tool. Solid conductors can also be terminated by simply pushing them in.

### Conductor removal



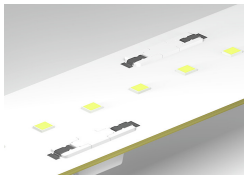
Use an operating tool or simply “twist and pull“ to remove solid conductors.

### Installation



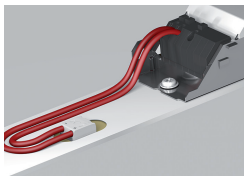
Shift wiring to the back of the LED module via 2070 Series SMD PCB Terminal Blocks.

### Application



The variants with cover feature a center contact surface for easy pick-and-place assembly and minimum shadowing.

### Application



The printed variants offer unique pole marking on the back of the module.