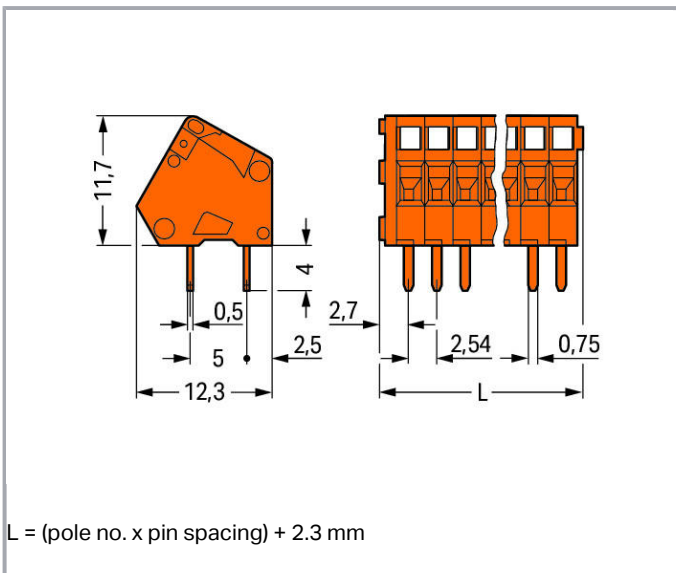
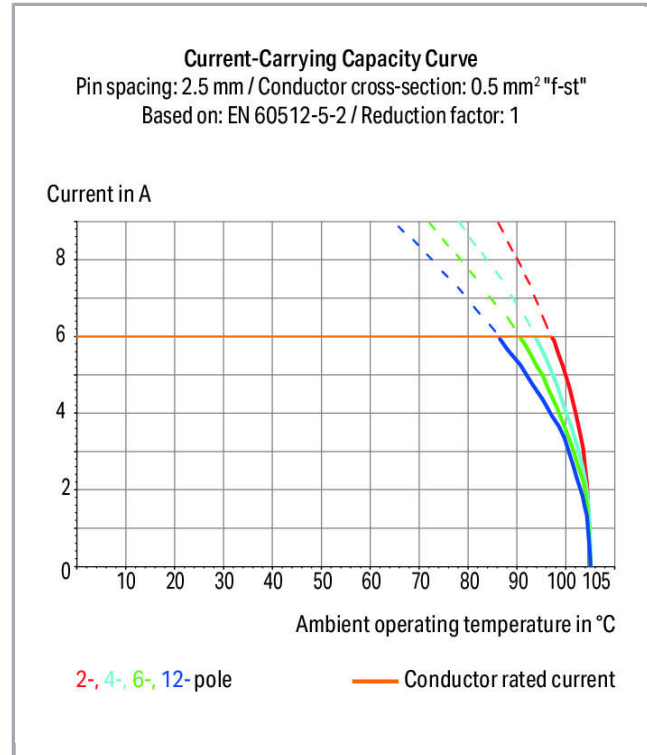
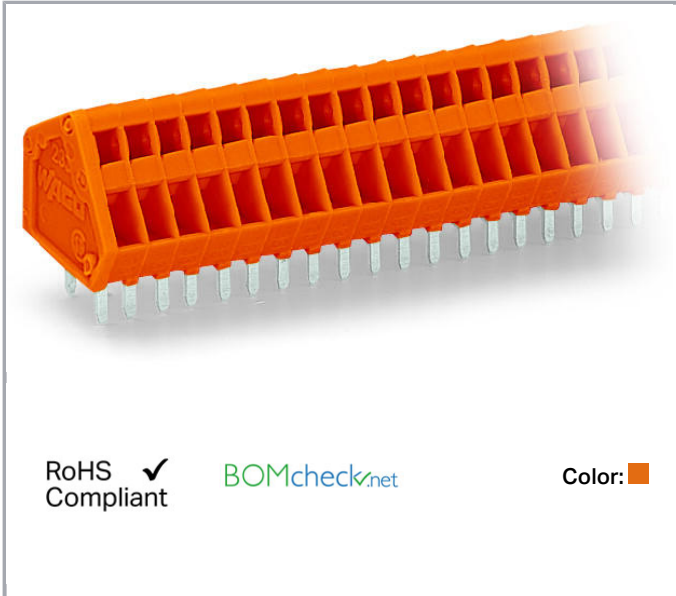


Data sheet | Item number: 233-408

PCB terminal block; 0.5 mm<sup>2</sup>; Pin spacing 2.54 mm; 8-pole; CAGE CLAMP®; 0,50 mm<sup>2</sup>; orange

[www.wago.com/233-408](http://www.wago.com/233-408)



Subject to changes. Please also observe the further product documentation!

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## Item description

- Compact terminal strips with CAGE CLAMP® connection and screwdriver actuation parallel or perpendicular to conductor entry
- Double solder pins for high mechanical stability
- Custom color combinations

## Data

### Electrical data

#### Ratings per IEC/EN 60664-1

| Ratings per                     | IEC/EN 60664-1  |
|---------------------------------|---|
| Rated voltage (III / 3)         | 63 V  |
| Rated impulse voltage (III / 3) | 2.5 kV  |
| Rated voltage (III / 2)         | 160 V   |
| Rated impulse voltage (III / 2) | 2.5 kV  |
| Rated voltage (II / 2)          | 320 V   |
| Rated impulse voltage (II / 2)  | 2.5 kV  |
| Rated current                   | 6 A   |
| Legend (ratings)                | (III / 2) ± Overvoltage category III / Pollution degree 2 |

#### Approvals per UL 1059

|                                |         |
|--------------------------------|---------|
| Rated voltage UL (Use Group B) | 150 V   |
| Rated current UL (Use Group B) | 4 A     |
| Approvals per                  | UL 1059 |

#### Approvals per CSA

|                                 |       |
|---------------------------------|-------|
| Rated voltage CSA (Use Group B) | 150 V |
| Rated current CSA (Use Group B) | 4 A   |

## Connection data

|  |  |
|--|--|
| Connection technology                                    | CAGE CLAMP®                                  |
| Actuation type   | Operating tool                               |
| Solid conductor  | 0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG |
| Fine-stranded conductor                                  | 0.08 ... 0.5 mm <sup>2</sup> / 28 ... 20 AWG |
| Fine-stranded conductor with ferrule with plastic collar | 0.25 mm <sup>2</sup>                         |

Subject to changes. Please also observe the further product documentation!

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|   |   |
|---|---|
| Fine-stranded conductor with ferrule without plastic collar | 0.25 mm <sup>2</sup>  |
| Strip length  | 5 ... 6 mm / 0.2 ... 0.24 inch  |
| Conductor entry angle to the PCB                            | 30°   |
| No. of poles  | 8   |
| Total number of connection points                           | 8   |
| Total number of potentials                                  | 8   |
| Number of connection types                                  | 1   |
| Number of levels  | 1   |
| Note (conductor cross-section)                              | Terminating 0.75 mm <sup>2</sup> /18 AWG conductors is possible; however insulation diameter allows only every other clamping unit to be terminated with this conductor size. |

### Geometrical Data

|                                   |                       |
|-----------------------------------|-----------------------|
| Pin spacing                       | 2.54 mm / 0.1 inch    |
| Width                             | 22.62 mm / 0.891 inch |
| Height                            | 15.7 mm / 0.618 inch  |
| Height from the surface           | 11.7 mm / 0.461 inch  |
| Depth                             | 12.1 mm / 0.476 inch  |
| Solder pin length                 | 4 mm                  |
| Solder pin dimensions             | 0.5 x 0.75 mm         |
| Drilled hole diameter (tolerance) | 1.1 (+0.1) mm         |

### PCB contact

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

### Material Data

|                             |  |
|-----------------------------|--|
| Color                       | orange                                 |
| Material group              | I                                      |
| Insulating material         | Polyamide 66 (PA 66)                   |
| Flammability class per UL94 | V0                                     |
| Clamping spring material    | Chrome nickel spring steel (CrNi)      |
| Contact material            | Electrolytic copper (E <sub>Cu</sub> ) |
| Contact plating             | tin-plated                             |
| Fire load                   | 0.044 MJ                               |
| Weight                      | 2.8 g                                  |

Subject to changes. Please also observe the further product documentation!

## Environmental Requirements





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

## Commercial data


|                    |                     |
|--------------------|---------------------|
| Product Group      | 4 (Printed Circuit) |
| Packaging type     | BOX                 |
| Country of origin  | CH                  |
| GTIN               | 4045454049997       |
| Customs Tariff No. | 85369010000         |

## Approvals / Certificates

### Country specific Approvals

| Logo   | Approval                        | Additional Approval Text | Certificate name |
|--|---------------------------------|--------------------------|------------------|
|    | CCA<br>DEKRA Certification B.V. | EN 60998                 | NTR NL<br>6946   |
|  | CCA<br>DEKRA Certification B.V. | EN 60998                 | 2153951.01       |
|  | CCA<br>DEKRA Certification B.V. | EN 60947-7-4             | 2169331.02       |
|  | CSA<br>DEKRA Certification B.V. | C22.2                    | 1465035          |


### Ship Approvals

| Logo   | Approval   | Additional Approval Text | Certificate name         |
|--|--|--------------------------|--------------------------|
|  | ABS<br>American Bureau of Shipping               | -                        | 19-<br>HG1869876-<br>PDA |
|  | DNV GL<br>Det Norske Veritas, Germanischer Lloyd | -                        | TAE000016Z               |

Subject to changes. Please also observe the further product documentation!





## UL-Approvals

| Logo   | Approval                            | Additional Approval Text | Certificate name    |
|--|-------------------------------------|--------------------------|---------------------|
|  | UL<br>UL International Germany GmbH | UL 1059                  | 20190731-<br>E45172 |




## Counterpart

## Compatible products

### ferrule

|  |  |  |
|--|--|--|
|  | <b>Item no.: 216-131</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated       | <a href="http://www.wago.com/216-131">www.wago.com/216-131</a> |
|  | <b>Item no.: 216-151</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated       | <a href="http://www.wago.com/216-151">www.wago.com/216-151</a> |
|  | <b>Item no.: 216-301</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow | <a href="http://www.wago.com/216-301">www.wago.com/216-301</a> |
|  | <b>Item no.: 216-321</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow | <a href="http://www.wago.com/216-321">www.wago.com/216-321</a> |

### tools

|  |  |  |
|--|--|--|
|  | <b>Item no.: 210-647</b><br>Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft                | <a href="http://www.wago.com/210-647">www.wago.com/210-647</a> |
|  | <b>Item no.: 210-648</b><br>Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; angled; short | <a href="http://www.wago.com/210-648">www.wago.com/210-648</a> |
|  | <b>Item no.: 210-719</b><br>Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft                | <a href="http://www.wago.com/210-719">www.wago.com/210-719</a> |
|  | <b>Item no.: 233-331</b><br>Operating tool; insulated; yellow  | <a href="http://www.wago.com/233-331">www.wago.com/233-331</a> |
|  | <b>Item no.: 233-332</b><br>Operating tool; made of insulating material  | <a href="http://www.wago.com/233-332">www.wago.com/233-332</a> |

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Item no.: 233-335  
Operating tool

[www.wago.com/233-335](http://www.wago.com/233-335)

### Marking accessories

|   |  |
|---|--|
| <b>Item no.: 210-331/250-202</b><br>Marking strips; as a DIN A4 sheet; MARKED; 1-16 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white  | <a href="http://www.wago.com/210-331/250-202">www.wago.com/210-331/250-202</a> |
| <b>Item no.: 210-331/250-204</b><br>Marking strips; as a DIN A4 sheet; MARKED; 17-32 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white | <a href="http://www.wago.com/210-331/250-204">www.wago.com/210-331/250-204</a> |
| <b>Item no.: 210-331/250-206</b><br>Marking strips; as a DIN A4 sheet; MARKED; 33-48 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white | <a href="http://www.wago.com/210-331/250-206">www.wago.com/210-331/250-206</a> |
| <b>Item no.: 210-331/250-207</b><br>Marking strips; as a DIN A4 sheet; MARKED; 1-48 (100x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white  | <a href="http://www.wago.com/210-331/250-207">www.wago.com/210-331/250-207</a> |
| <b>Item no.: 210-331/254-202</b><br>Marking strips; as a DIN A4 sheet; MARKED; 1-16 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white  | <a href="http://www.wago.com/210-331/254-202">www.wago.com/210-331/254-202</a> |
| <b>Item no.: 210-331/254-204</b><br>Marking strips; as a DIN A4 sheet; MARKED; 17-32 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white | <a href="http://www.wago.com/210-331/254-204">www.wago.com/210-331/254-204</a> |
| <b>Item no.: 210-331/254-206</b><br>Marking strips; as a DIN A4 sheet; MARKED; 33-48 (400x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white | <a href="http://www.wago.com/210-331/254-206">www.wago.com/210-331/254-206</a> |
| <b>Item no.: 210-331/254-207</b><br>Marking strips; as a DIN A4 sheet; MARKED; 1-48 (100x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white  | <a href="http://www.wago.com/210-331/254-207">www.wago.com/210-331/254-207</a> |

### Downloads

#### Documentation

##### Additional Information

|                        |             |               |          |
|------------------------|-------------|---------------|----------|
| Technical explanations | Apr 3, 2019 | pdf<br>3.6 MB | Download |
|------------------------|-------------|---------------|----------|

### CAD/CAE-Data

#### CAD data

|                      |     |          |
|----------------------|-----|----------|
| 2D/3D Models 233-408 | URL | Download |
|----------------------|-----|----------|

Subject to changes. Please also observe the further product documentation!

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#### CAE data

|                           |                     |                          |
|---------------------------|---------------------|--------------------------|
| EPLAN Data Portal 233-408 | <a href="#">URL</a> | <a href="#">Download</a> |
|---------------------------|---------------------|--------------------------|

---

#### PCB Design

|                              |                     |                          |
|------------------------------|---------------------|--------------------------|
| Symbol and Footprint 233-408 | <a href="#">URL</a> | <a href="#">Download</a> |
|------------------------------|---------------------|--------------------------|

CAX data for your PCB design, consisting of "schematic symbols and PCB footprints", allow easy integration of the WAGO component into your development environment.

#### Supported formats:

- Accel EDA 14 & 15
- Altium 6 to current version
- Cadence Allegro
- DesignSpark
- Eagle Libraries
- KiCad
- Mentor Graphics BoardStation
- Mentor Graphics Design Architect
- Mentor Graphics Design Expedition 99 and 2000
- OrCAD 9.X PCB and Capture
- PADS PowerPCB 3, 3.5, 4.X, and 5.X
- PADS PowerPCB and PowerLogic 3.0
- PCAD 2000, 2001, 2002, 2004, and 2006
- Pulsonix 8.5 or newer
- STL
- 3D STEP
- TARGET 3001!
- View Logic ViewDraw
- Quadcept
- Zuken CadStar 3 and 4
- Zuken CR-5000 and CR-8000

PCB Component Libraries (EDA), PCB CAD Library Ultra Librarian

---

## Installation Notes

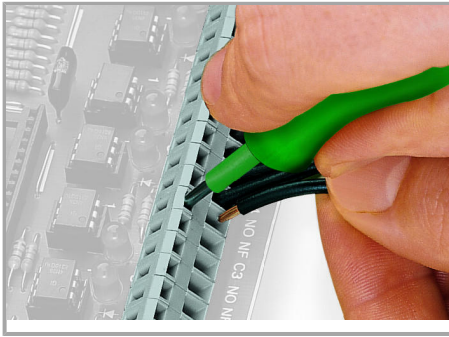
### Inserting a conductor

Subject to changes. Please also observe the further product documentation!

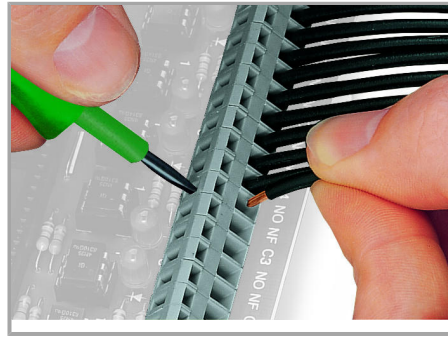
---

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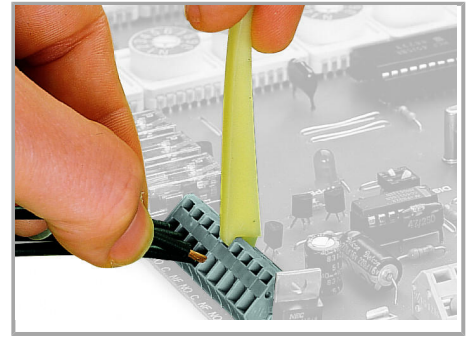
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Inserting a conductor via 3.5 mm screwdriver.



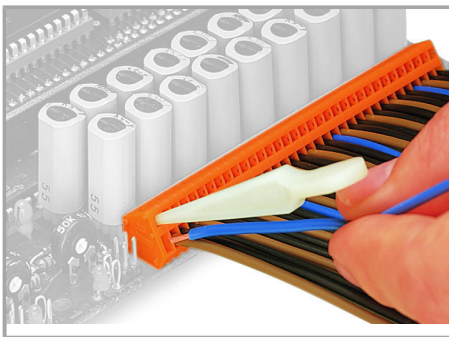
Inserting a conductor via 3.5 mm screwdriver.



Inserting a conductor via operating tool.

Screwdriver actuation parallel to conductor entry.

Screwdriver actuation perpendicular to conductor entry.

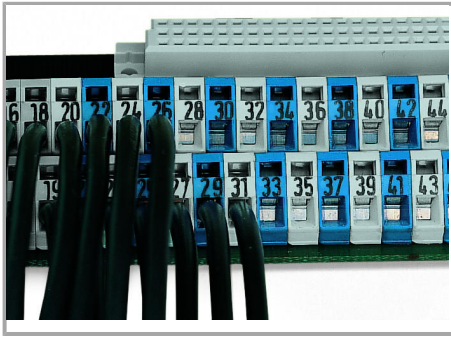


Compared to standard screwdrivers, these operating tools are far more convenient for wiring PCB terminal strips at factory.

## Assembly

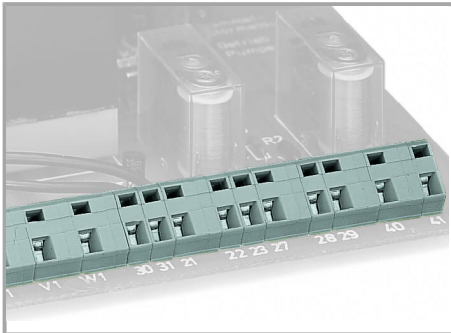
Subject to changes. Please also observe the further product documentation!





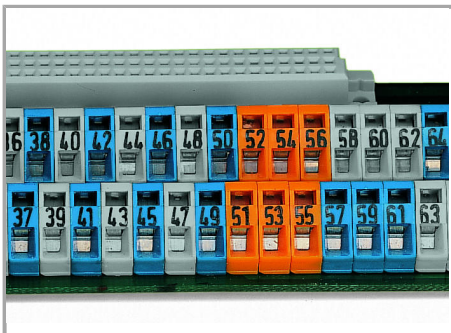
PCB Terminal Strips placed behind each other save space – staggering them by half the pin spacing simplifies subsequent wiring of the first row.

### Assembly

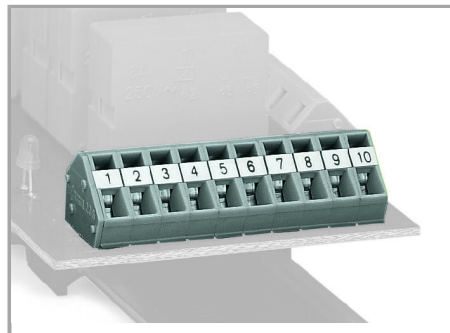


Combining PCB terminal blocks with different pin spacing.

### Marking



Labeling via factory direct marking.



Labeling with self-adhesive marking strips.

Subject to changes. Please also observe the further product documentation!