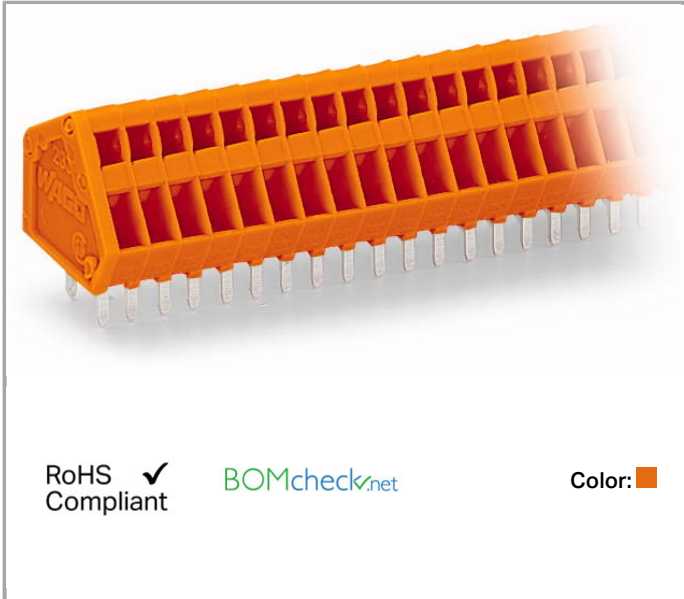


Data sheet | Item number: 233-448

PCB terminal block; 0.5 mm²; Pin spacing 2.54 mm; 48-pole; CAGE CLAMP®



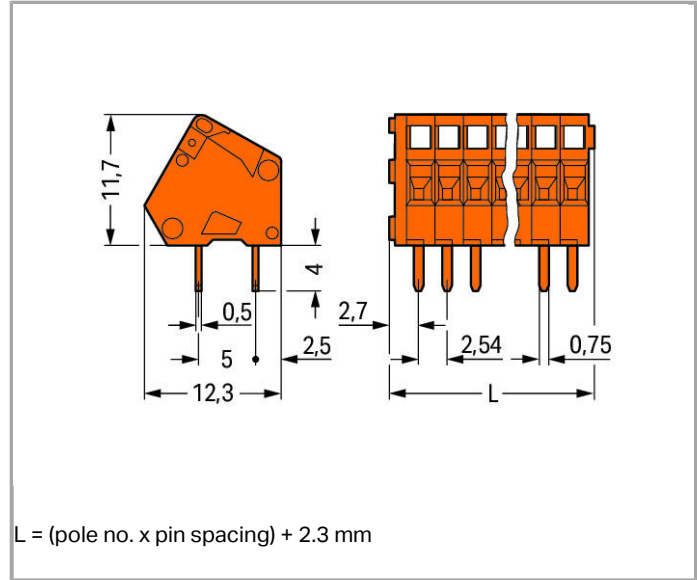
www.wago.com/233-448



RoHS  Compliant

[BOMcheck.net](https://www.bomcheck.net)

Color: 



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

Other variants can be requested via the WAGO sales department or, if necessary, configured at <https://configurator.wago.com/>: Direct marking, Mixed-color terminal strips, Other colors, Other pole numbers

Data

Electrical data

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 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 ² / 28 ... 20 AWG |
| Fine-stranded conductor | 0.08 ... 0.5 mm ² / 28 ... 20 AWG |
| Fine-stranded conductor with ferrule with plastic collar | 0.25 mm ² |
| Fine-stranded conductor with ferrule without plastic collar | 0.25 mm ² |
| Strip length | 5 ... 6 mm / 0.2 ... 0.24 Inch |
| Conductor entry angle to the PCB | 30° |
| No. of poles | 48 |
| Total number of connection points | 48 |
| Total number of potentials | 48 |
| Number of connection types | 1 |
| Number of levels | 1 |

Geometrical Data

| | |
|-----------------------------------|--------------------------|
| Pin spacing | 2.54 mm (0.1 inch) |
| Width | 124.22 mm / 4.891 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 (Ecu) |
| Contact plating | tin-plated |
| Fire load | 0.244 MJ |
| Weight | 16.394 g |

Environmental Requirements

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

Commercial data

| | |
|--------------------|---------------------|
| Country of origin | CH |
| GTIN | 4045454051242 |
| Customs Tariff No. | 85369010000 |
| Product Group | 4 (Printed Circuit) |

Approvals / Certificates

Country specific Approvals

| Logo | Approval | Certificate name |
|--|---------------------------------|------------------|
|  | CCA DEKRA Certification B.V. | NTR NL 6946 |
|  | CCA DEKRA Certification B.V. | 2153951.01 |
|  | CSA DEKRA Certification B.V. | 1465035 |
|  | CSA DEKRA Certification B.V. | 1465035 |

Ship Approvals


| Logo | Approval | Certificate name |
|------|----------|------------------|
| | | |









DNV GL
Det Norske Veritas, Germanischer Lloyd

TAE000016Z





UL-Approvals

| Logo | Approval | Certificate name |
|--|-------------------------------------|------------------|
|  | UL UL International Germany GmbH | E45172 |


Compatible products**tools**







| | | |
|--|---|--|
|  | Item no.: 210-647 Operating tool with partially insulated shaft; Blade (2.5 x 0.4) mm; short | www.wago.com/210-647 |
|  | Item no.: 210-648 Operating tool with partially insulated shaft; Blade (2.5 x 0.4) mm; short; angled | www.wago.com/210-648 |
|  | Item no.: 210-719 Operating tool with partially insulated shaft; Type 1, blade (2.5 x 0.4) mm | www.wago.com/210-719 |
|  | Item no.: 233-331 Operating tool; for female and male connectors with CAGE CLAMP® connection; insulated | www.wago.com/233-331 |
|  | Item no.: 233-332 Operating tool; for 233 and 733 Series; of insulating material | www.wago.com/233-332 |
|  | Item no.: 233-335 Operating tool; for 233 and 733 Series | www.wago.com/233-335 |

ferrule

| | | |
|--|--|--|
|  | Item no.: 216-131 Ferrule; Sleeve for 0.25 mm ² / AWG 24; uninsulated; electro-tin plated | www.wago.com/216-131 |
|  | Item no.: 216-151 Ferrule; Sleeve for 0.25 mm ² / AWG 24; uninsulated; electro-tin plated | www.wago.com/216-151 |
|  | Item no.: 216-301 Ferrule; Sleeve for 0.25 mm ² / AWG 24; insulated; electro-tin plated | www.wago.com/216-301 |
|  | Item no.: 216-321 Ferrule; Sleeve for 0.25 mm ² / AWG 24; insulated; electro-tin plated | www.wago.com/216-321 |

Marking accessories

| | | |
|--|---|--|
|  | Item no.: 210-331/250-202 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 | www.wago.com/210-331/250-202 |
|--|---|--|

| | | |
|---|--|--|
|  | Item no.: 210-331/250-204 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 | www.wago.com/210-331/250-204 |
|  | Item no.: 210-331/250-206 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 | www.wago.com/210-331/250-206 |
|  | Item no.: 210-331/250-207 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 | www.wago.com/210-331/250-207 |
|  | Item no.: 210-331/254-202 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 | www.wago.com/210-331/254-202 |
|  | Item no.: 210-331/254-204 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 | www.wago.com/210-331/254-204 |
|  | Item no.: 210-331/254-206 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 | www.wago.com/210-331/254-206 |
|  | Item no.: 210-331/254-207 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 | www.wago.com/210-331/254-207 |

Downloads

smartDATA

CAD data

| 3D Download 233-448 | | URL | Download |
|---|----------------------|----------------|----------|
| PCB libraries | | | |
| TARGET Library for WAGO PCB Terminal Blocks Compatible with TARGET PCB Design Software Version 17.x | 1.1.0 Oct 6, 2014 | ZIP 27.1 MB | Download |
| EAGLE Library for WAGO PCB Terminal Blocks Compatible with EAGLE PCB Design Software Version 6.x or higher | 2.1 Nov 17, 2017 | ZIP 23.9 MB | Download |
| DesignSpark Library for WAGO PCB Terminal Blocks Compatible with DesignSpark PCB Version 4.x or higher | 2.1 Oct 6, 2014 | ZIP 22.5 MB | Download |



Subject to changes.

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