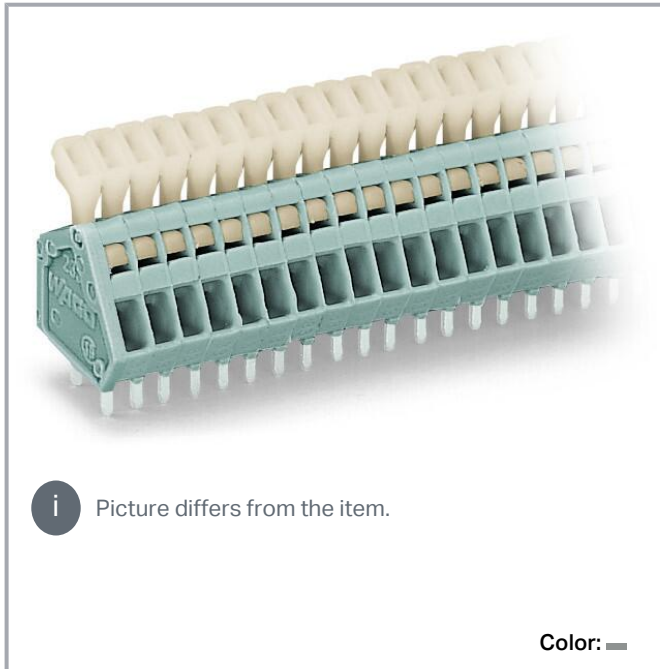


## Data sheet | Item number: 233-209

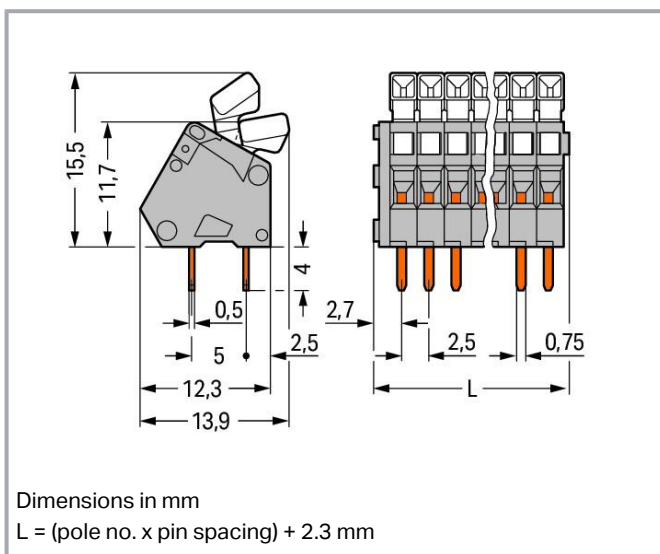
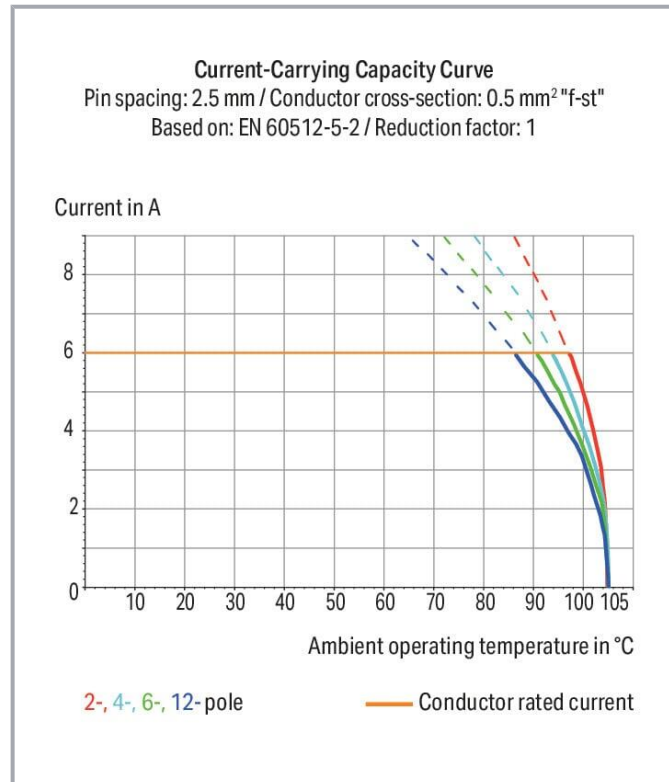
PCB terminal block; push-button; 0.5 mm<sup>2</sup>; Pin spacing 2.5 mm; 9-pole;  
CAGE CLAMP®; 0,50 mm<sup>2</sup>; gray

[www.wago.com/233-209](http://www.wago.com/233-209)



**i** Picture differs from the item.

Color:



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

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## Item description

- PCB terminal strips with push-buttons and CAGE CLAMP® connection
- Double solder pins for high mechanical stability on PCB
- Ideal for in-the-field wiring thanks to simplified push-button actuation
- Convenient, tool-free operation

## Data

### Notes

Variants:

Other pole numbers

Other colors

Mixed-color PCB connector strips

Direct marking

Other versions (or variants) can be requested from WAGO Sales or configured at <https://configurator.wago.com/>.

## Electrical data

### Ratings per IEC/EN

| Ratings per                   | IEC/EN 60664-1                                            |
|-------------------------------|-----------------------------------------------------------|
| Nominal 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                                                    |
| Nominal voltage (II/2)        | 320 V                                                     |
| Rated surge voltage (II/2)    | 2.5 kV                                                    |
| Rated current                 | 6 A                                                       |
| Legend (ratings)              | (III / 2) ≙ Overvoltage category III / Pollution degree 2 |

### Ratings per UL

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

### Ratings per CSA

|                                 |       |
|---------------------------------|-------|
| Approvals per                   | CSA   |
| Rated voltage CSA (Use Group B) | 150 V |

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

## Connection data

|                            |   |
|----------------------------|---|
| Connection points          | 9 |
| Total number of potentials | 9 |
| Number of connection types | 1 |
| Number of levels           | 1 |

## Connection 1

|                                                   |                                                                                                                                                                  |
|---------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connection technology                             | CAGE CLAMP®                                                                                                                                                      |
| Actuation type                                    | Push-button                                                                                                                                                      |
| Solid conductor                                   | 0.08 ... 0.5 mm² / 28 ... 20 AWG                                                                                                                                 |
| Fine-stranded conductor                           | 0.08 ... 0.5 mm² / 28 ... 20 AWG                                                                                                                                 |
| Fine-stranded conductor; with insulated ferrule   | 0.25 mm²                                                                                                                                                         |
| Fine-stranded conductor; with uninsulated ferrule | 0.25 mm²                                                                                                                                                         |
| Note (conductor cross-section)                    | Terminating 0.75 mm²/18 AWG conductors is possible; however insulation diameter allows only every other clamping unit to be terminated with this conductor size. |
| Strip length                                      | 5 ... 6 mm / 0.2 ... 0.24 inches                                                                                                                                 |
| Conductor connection direction to PCB             | 30 °                                                                                                                                                             |
| Pole number                                       | 9                                                                                                                                                                |

## Physical data

|                                      |                          |
|--------------------------------------|--------------------------|
| Pin spacing                          | 2.5 mm / 0.098 inches    |
| Width                                | 24.8 mm / 0.976 inches   |
| Height                               | 19.5 mm / 0.768 inches   |
| Height from the surface              | 15.5 mm / 0.61 inches    |
| Depth                                | 13.9 mm / 0.547 inches   |
| Solder pin length                    | 4 mm                     |
| Solder pin dimensions                | 0.5 x 0.75 mm            |
| Drilled hole diameter with tolerance | 1.1 <sup>(+0.1)</sup> mm |

## PCB contact

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

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



Material data

Note (material data)

Information on material specifications can be found here

|                             |                                        |
|-----------------------------|----------------------------------------|
| Color                       | gray                                   |
| Material group              | I                                      |
| Insulation material         | Polyamide (PA66)                       |
| Flammability class per UL94 | V0                                     |
| Clamping spring material    | Chrome-nickel spring steel (CrNi)      |
| Contact material            | Electrolytic copper (E <sub>Cu</sub> ) |
| Contact plating             | Tin                                    |
| Fire load                   | 0.085 MJ                               |
| Weight                      | 3.6 g                                  |

Environmental requirements

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

Commercial data

|                       |                                |
|-----------------------|--------------------------------|
| Product Group         | 4 (Printed Circuit Connectors) |
| eCl@ss 10.0           | 27-44-04-01                    |
| eCl@ss 9.0            | 27-44-04-01                    |
| ETIM 8.0              | EC002643                       |
| ETIM 7.0              | EC002643                       |
| PU (SPU)              | 200 (50) pcs                   |
| Packaging type        | Box                            |
| Country of origin     | CH                             |
| GTIN                  | 4045454049515                  |
| Customs tariff number | 85369010000                    |

Environmental Product Compliance

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

Approvals / Certificates

General approvals

| Logo | Approval | Additional Approval Text | Certificate name |
|------|----------|--------------------------|------------------|
|------|----------|--------------------------|------------------|

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|                                                                                   |                                       |              |                |
|-----------------------------------------------------------------------------------|---------------------------------------|--------------|----------------|
|   | 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 | NTR NL<br>7786 |
|   | CSA<br>DEKRA Certification B.V.       | C22.2        | 1465035        |
|   | KEMA/KEUR<br>DEKRA Certification B.V. | EN 60947-7-4 | 71-111040      |
|  | UL<br>UL International Germany GmbH   | UL 1059      | E45172         |

## Declarations of conformity and manufacturer's declarations

| Logo                                                                               | Approval                                           | Additional Approval Text | Certificate name |
|------------------------------------------------------------------------------------|----------------------------------------------------|--------------------------|------------------|
|  | EU-Declaration of Conformity<br>WAGO GmbH & Co. KG | -                        | -                |
|  | UK-Declaration of Conformity<br>WAGO GmbH & Co. KG | -                        | -                |

## Approvals for marine applications

| Logo                                                                               | Approval                           | Additional Approval Text | Certificate name         |
|------------------------------------------------------------------------------------|------------------------------------|--------------------------|--------------------------|
|  | ABS<br>American Bureau of Shipping | -                        | 19-<br>HG1869876-<br>PDA |

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

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**BV**  
Bureau Veritas S.A.

IEC 60998

11915/D0  
BV



**DNV**  
DNV GL SE

-

TAE000016Z

## Optional accessories

### Ferrule

| Ferrule                                                                         |                                                                                                                                |                                                                |
|---------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
|  | <b>Item no.: 216-131</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; uninsulated; electro-tin plated; silver-colored | <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> |

### Tool

| Operating tool                                                                     |                                                                                                                  |                                                                |
|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
|   | <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> |

### Marking accessories

| Marking strip                                                                      |                                                                                                                                                                                                     |                                                                                |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
|  | <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.: 210-331/250-202</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.: 210-331/254-204</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> |

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|                                                                                  |                                                                                                                                                                                                     |                                                                                |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
|  | <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.: 210-331/254-206</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.: 210-331/250-206</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.: 210-331/254-202</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.: 210-331/254-207</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

2019 Apr 3

pdf  
2.1 MB

Download

## CAD/CAE-Data

### CAD data

|                      |     |          |
|----------------------|-----|----------|
| 2D/3D Models 233-209 | URL | Download |
|----------------------|-----|----------|

### CAE data

|                           |     |          |
|---------------------------|-----|----------|
| EPLAN Data Portal 233-209 | URL | Download |
|---------------------------|-----|----------|

|                      |     |          |
|----------------------|-----|----------|
| ZUKEN Portal 233-209 | URL | Download |
|----------------------|-----|----------|

### PCB Design

|                                                  |     |          |
|--------------------------------------------------|-----|----------|
| Symbol and Footprint via Ultra Librarian 233-209 | URL | Download |
|--------------------------------------------------|-----|----------|

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:

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



- Accel EDA 14 & 15
- Altair
- Altium 6 to current version
- Autodesk Fusion 360
- 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
- Zuken eCADSTAR 2020 and 2021Zuken CR-5000 and CR-8000

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

Symbol and Footprint via SamacSys 233-209

URL

Download

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:

- 3D (stp)
- Altium
- CADSTAR
- Capture

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- CircuitStudio
- CR-5000
- CR-8000
- DEHDL
- DesignSpark PCB
- DesignSpark PCB PRO
- DipTrace
- EAGLE
- Easy-PC
- EasyEDA
- eCADSTAR
- KiCad
- OrCAD\_Allegro16
- PADS
- Proteus
- Pulsonix
- Quadcept
- SOLIDWORKS PCB
- TARGET 3001!
- xDX Designer
- Xpedition

PCB Component Libraries (EDA), PCB CAD Library SamacSys Electronic Component Search Engine

Asset Administration Shell

|                                    |     |          |
|------------------------------------|-----|----------|
| Asset Administration Shell 233-209 | URL | Download |
|------------------------------------|-----|----------|

Environmental Product Compliance

Compliance Search

|                                                                                                   |     |          |
|---------------------------------------------------------------------------------------------------|-----|----------|
| Environmental Product Compliance 233-209                                                          | URL | Download |
| PCB terminal block; push-button; 0.5 mm²; Pin spacing 2.5 mm; 9-pole; CAGE CLAMP®; 0,50 mm²; gray |     |          |

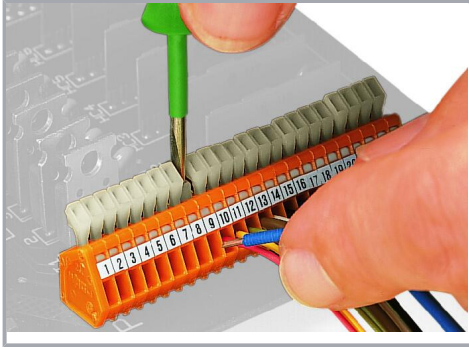
Installation Notes

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

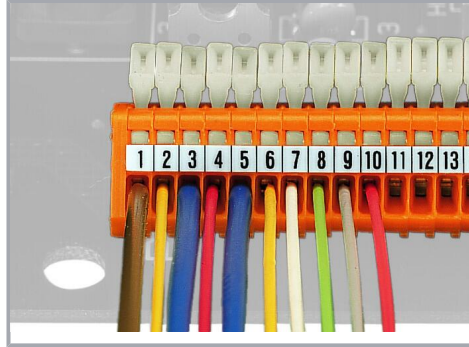
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### Conductor termination



Inserting/removing a conductor.



Nominal cross-section: 0.5 mm<sup>2</sup> (20 AWG),  
0.75 mm<sup>2</sup> (18 AWG) only in every other position

### Marking



Labeling via self-adhesive marking strips or  
factory direct marking.

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