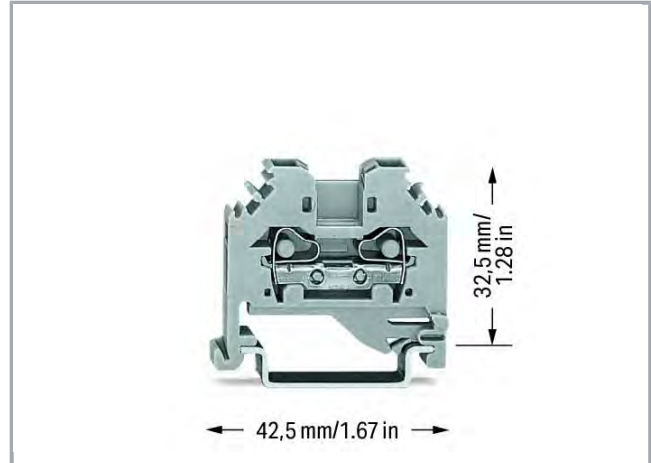
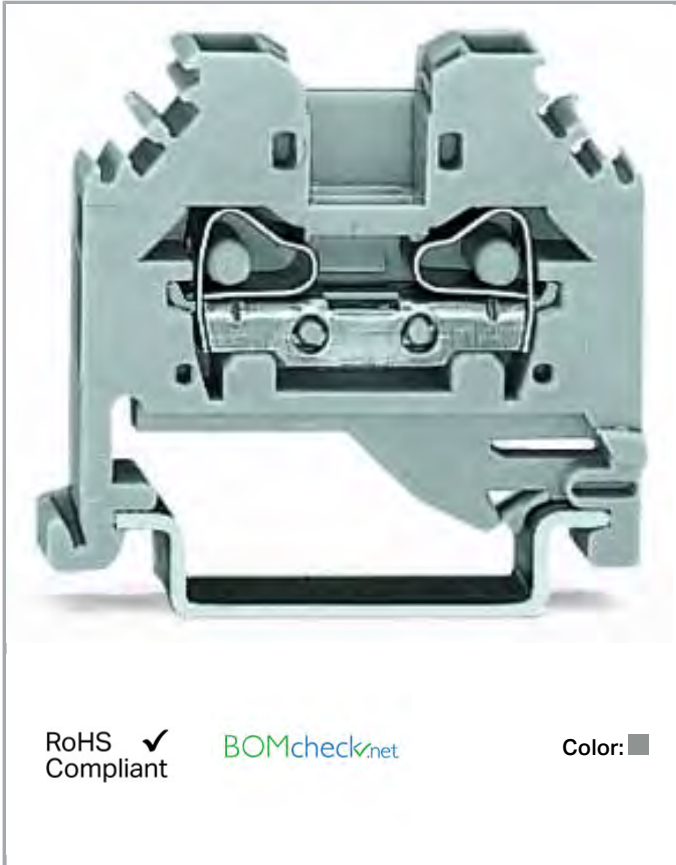
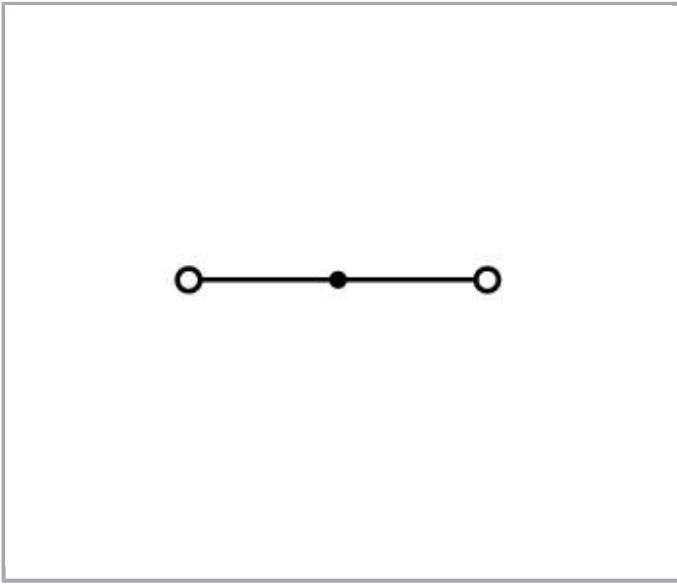


**Data sheet | Item number: 281-101**

2-conductor through terminal block; 4 mm<sup>2</sup>; lateral marker slots; for DIN-rail  
35 x 15 and 35 x 7.5; CAGE CLAMP®; 4,00 mm<sup>2</sup>; gray



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



### Item description

#### Note:

##### Terminating Aluminum Conductors

WAGO spring clamp terminal blocks are suitable for solid aluminum conductors up to 4 mm<sup>2</sup>/12 AWG if WAGO "Alu-Plus" Contact Paste is used for termination.

##### "Alu-Plus" Contact Paste Advantages:

- Automatically destroys the oxide film during clamping.
- Prevents fresh oxidation at the clamping point.
- Prevents electrolytic corrosion between aluminum and copper conductors (in the same terminal block).
- Provides long-term protection against corrosion.

Using terminal blocks with CAGE CLAMP® Spring Pressure Connection Technology, **aluminum conductors must first be cleaned with a blade** and then immediately be inserted into the clamping units filled with "Alu-Plus" Contact Paste.

It is also possible to apply WAGO "Alu-Plus" **additionally** on the whole surface of the aluminum conductor before termination.

Please note that the nominal currents must be adapted to the reduced conductivity of the aluminum conductors:

2.5 mm<sup>2</sup> (14 AWG) = 16 A

4 mm<sup>2</sup> (12 AWG) = 22 A

### Data

#### Electrical data

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



## Ratings per IEC/EN 60664-1

|                             |                                                                      |
|-----------------------------|----------------------------------------------------------------------|
| Ratings per                 | IEC/EN 60947-7-1                                                     |
| Nominal voltage (III/3)     | 800 V                                                                |
| Rated surge voltage (III/3) | 8 kV                                                                 |
| Rated current               | 32 A                                                                 |
| Legend (ratings)            | (III / 3) $\triangleq$ Overvoltage category III / Pollution degree 3 |

## Connection data

|                                   |                                            |
|-----------------------------------|--------------------------------------------|
| Connection technology             | CAGE CLAMP®                                |
| Actuation type                    | Operating tool                             |
| Connectable conductor materials   | Copper<br>Aluminum                         |
| Solid conductor                   | 0,08 ... 4 mm <sup>2</sup> / 28 ... 12 AWG |
| Fine-stranded conductor           | 0,08 ... 4 mm <sup>2</sup> / 28 ... 12 AWG |
| Strip length                      | 9 ... 10 mm / 0.35 ... 0.39 inch           |
| Total number of connection points | 2                                          |
| Total number of potentials        | 1                                          |
| Number of levels                  | 1                                          |
| Wiring type                       | Side-entry wiring                          |

## Geometrical Data

|                                    |                      |
|------------------------------------|----------------------|
| Width                              | 6 mm / 0.236 inch    |
| Height from upper-edge of DIN-rail | 32,5 mm / 1.28 inch  |
| Depth                              | 42,5 mm / 1.673 inch |

## Mechanical data

|               |                 |
|---------------|-----------------|
| Design        | horizontal type |
| Mounting type | DIN-35 rail     |
| Marking level | Side marking    |

## Material Data

|                     |                      |
|---------------------|----------------------|
| Color               | gray                 |
| Insulation material | Polyamide 66 (PA 66) |
| Fire load           | 0.108 MJ             |
| Weight              | 5.9 g                |

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

## Commercial data

|                       |                                  |
|-----------------------|----------------------------------|
| Product Group         | 1 (Rail Mounted Terminal Blocks) |
| Packaging type        | BOX                              |
| Country of origin     | IN                               |
| GTIN                  | 4044918618168                    |
| Customs tariff number | 85369010000                      |

## Approvals / Certificates

### Country specific Approvals

| Logo                                                                               | Approval                                     | Additional Approval Text | Certificate name |
|------------------------------------------------------------------------------------|----------------------------------------------|--------------------------|------------------|
|    | <b>CCA</b><br>DEKRA Certification B.V.       | EN 60947, IEC 60947      | NTR NL-7454/A1   |
|    | <b>CSA</b><br>DEKRA Certification B.V.       | C22.2 No. 158            | 1505034          |
|  | <b>KEMA/KEUR</b><br>DEKRA Certification B.V. | EN 60947                 | 71-107288        |

### Ship Approvals

| Logo                                                                                | Approval                                                | Additional Approval Text | Certificate name |
|-------------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------|------------------|
|   | <b>ABS</b><br>American Bureau of Shipping               | -                        | 20-HG1941090-PDA |
|  | <b>BV</b><br>Bureau Veritas S.A.                        | EN 60947                 | 07436/E0 BV      |
|   | <b>DNV GL</b><br>Det Norske Veritas, Germanischer Lloyd | -                        | TAE00001V2       |
|                                                                                     | <b>LR</b><br>Lloyds Register                            | EN 60947                 | 91/20112 (E9)    |

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-E45172  |

## Counterpart

## Compatible products

### Jumper



**Item no.: 210-103**

Wire commoning chain; insulated; 50 connections; black



**Item no.: 210-123**

Wire commoning chain; insulated; 50 connections



**Item no.: 249-123**

Push-in type wire jumper; insulated; wire length 180 mm; Conductor cross section 0.75 mm²



**Item no.: 249-125**

Push-in type wire jumper; insulated; wire length 60 mm; Conductor cross section 0.75 mm²



**Item no.: 249-126**

Push-in type wire jumper; insulated; wire length 110 mm; Conductor cross section 0.75 mm²



**Item no.: 249-127**

Push-in type wire jumper; insulated; wire length 250 mm; Conductor cross section 0.75 mm²

**Item no.: 281-402**

Adjacent jumper; insulated; IN = IN terminal block; gray

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



**Item no.: 281-409**  
Alternate jumper; insulated; IN = IN terminal block; gray



**Item no.: 281-422**  
Adjacent jumper; insulated; IN = IN terminal block; yellow-green



**Item no.: 283-414**  
Step-down jumper; insulated; from 16 mm<sup>2</sup> to 4 mm<sup>2</sup>; Nominal current 32 A; gray



**Item no.: 284-413**  
Step-down jumper; insulated; from 10/6 mm<sup>2</sup> to 6/4 mm<sup>2</sup>; Nominal current 30 A; gray



**Item no.: 284-414**  
Step-down jumper; insulated; from 10/6 mm<sup>2</sup> to 4/2.5/1.5 mm<sup>2</sup>; Nominal current 15 A; gray



**Item no.: 709-110**  
Wire commoning chain; insulated; 4 connections; 3 x 110 mm; black



**Item no.: 709-111**  
Wire commoning chain; insulated; 3 connections; 2 x 120 mm; black



**Item no.: 709-112**  
Wire commoning chain; insulated; 3 connections; 2 x 170 mm; black



**Item no.: 781-452**  
Staggered jumper; insulated; from 1 to 2; Spacing: 6 mm; gray



**Item no.: 781-453**  
Staggered jumper; insulated; from 1 to 3; Spacing: 6 mm; gray



**Item no.: 781-454**  
Staggered jumper; insulated; from 1 to 4; Spacing: 6 mm; gray



**Item no.: 781-455**  
Staggered jumper; insulated; from 1 to 5; Spacing: 6 mm; gray



**Item no.: 781-456**  
Staggered jumper; insulated; from 1 to 6; Spacing: 6 mm; gray

#### End plate



**Item no.: 281-301**  
End and intermediate plate; 3 mm thick; gray



**Item no.: 281-302**  
End and intermediate plate; 3 mm thick; orange



**Item no.: 281-322**  
Separator plate; 2 mm thick; oversized; orange



**Item no.: 281-332**  
Separator plate; 2 mm thick; oversized; gray

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

 **Item no.: 281-333**  
Step-down intermediate plate; 1 mm thick; "only for 4 mm terminal blocks; gray

 **Item no.: 281-336**  
Step-down intermediate plate; 1 mm thick; "only for 4 mm terminal blocks; orange

#### Marking accessories

 **Item no.: 2009-115**  
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

 **Item no.: 2009-115/000-002**  
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow

 **Item no.: 2009-115/000-006**  
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue

 **Item no.: 2009-115/000-007**  
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray

 **Item no.: 2009-115/000-012**  
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange

 **Item no.: 2009-115/000-017**  
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; light green

 **Item no.: 2009-115/000-023**  
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green

 **Item no.: 2009-115/000-024**  
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet

 **Item no.: 209-140**  
Group marker carrier; gray

 **Item no.: 209-141**  
Group marker carrier; gray

 **Item no.: 209-142**  
Group marker carrier; gray

 **Item no.: 249-105**  
Group marker carrier; gray

 **Item no.: 793-501**  
WMB marking card; as card; not stretchable; plain; snap-on type; white

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



**Item no.: 793-501/000-002**  
WMB marking card; as card; not stretchable; plain; snap-on type; yellow



**Item no.: 793-501/000-005**  
WMB marking card; as card; not stretchable; plain; snap-on type; red



**Item no.: 793-501/000-006**  
WMB marking card; as card; not stretchable; plain; snap-on type; blue



**Item no.: 793-501/000-007**  
WMB marking card; as card; not stretchable; plain; snap-on type; gray



**Item no.: 793-501/000-012**  
WMB marking card; as card; not stretchable; plain; snap-on type; orange



**Item no.: 793-501/000-017**  
WMB marking card; as card; not stretchable; plain; snap-on type; light green



**Item no.: 793-501/000-023**  
WMB marking card; as card; not stretchable; plain; snap-on type; green



**Item no.: 793-501/000-024**  
WMB marking card; as card; not stretchable; plain; snap-on type; violet



**Item no.: 793-5501**  
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white



**Item no.: 793-5501/000-002**  
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; yellow



**Item no.: 793-5501/000-005**  
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; red



**Item no.: 793-5501/000-006**  
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; blue



**Item no.: 793-5501/000-007**  
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; gray



**Item no.: 793-5501/000-012**  
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-

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



on type; orange



**Item no.: 793-5501/000-017**

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; green



**Item no.: 793-5501/000-023**

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; light green



**Item no.: 793-5501/000-024**

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; violet

#### assembling



**Item no.: 209-106**

Mounting carrier; for isolated mounting on DIN 35 rails; gray



**Item no.: 709-153**

Cover; Type 1; suitable for cover carrier, type 1; 1 m long; transparent

#### Protective Warning Marker



**Item no.: 281-405**

Protective warning marker; with high-voltage symbol, black; for 5 terminal blocks; yellow

#### check



**Item no.: 209-170**

Test plug adapter; 8.3 mm wide; for 4 mm Ø test plugs; suitable for 1.5 mm<sup>2</sup> - 10 mm<sup>2</sup> tbs; gray



**Item no.: 280-404**

Test plug adapter; 5 mm wide; for test plug 210-137 (2.3 mm Ø); suitable for 1.5 mm<sup>2</sup> - 4 mm<sup>2</sup> tbs; gray

#### tools



**Item no.: 210-657**

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short



**Item no.: 210-658**

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; angled; short



**Item no.: 210-720**

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft

#### ferrule



**Item no.: 216-106**

Ferrule; Sleeve for 2.5 mm<sup>2</sup> / AWG 14; uninsulated; electro-tin plated



**Item no.: 216-201**

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; white



**Item no.: 216-202**

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray

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

|                                                                                   |                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <b>Item no.: 216-203</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated; red                                                                             |
|    | <b>Item no.: 216-204</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated; black                                                                         |
|    | <b>Item no.: 216-205</b><br>Ferrule; Sleeve for 2.08 mm <sup>2</sup> / AWG 14; insulated; electro-tin plated; yellow                                                                       |
|    | <b>Item no.: 216-206</b><br>Ferrule; Sleeve for 2.5 mm <sup>2</sup> / AWG 14; insulated; electro-tin plated; blue                                                                          |
|    | <b>Item no.: 216-241</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white |
|    | <b>Item no.: 216-242</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray |
|    | <b>Item no.: 216-243</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red     |
|    | <b>Item no.: 216-244</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black |
|    | <b>Item no.: 216-246</b><br>Ferrule; Sleeve for 2.5 mm <sup>2</sup> / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue  |
|                                                                                   | <b>Item no.: 216-301</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow                                                                       |
|  | <b>Item no.: 216-302</b><br>Ferrule; Sleeve for 0.34 mm <sup>2</sup> / 22 AWG; insulated; electro-tin plated; green                                                                        |

#### General accessories

|                                                                                   |                                                                                                                                                      |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>Item no.: 281-407</b><br>Test plug; 6 mm wide; Nominal current 24 A; for 0.08 mm <sup>2</sup> - 2.5 mm <sup>2</sup> ; 2,50 mm <sup>2</sup> ; gray |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Carrier rail

|                                                                                    |                                                                                                                                       |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                    | <b>Item no.: 210-112</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm" |
|  | <b>Item no.: 210-113</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715                   |
|  | <b>Item no.: 210-114</b><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715                    |
|  | <b>Item no.: 210-115</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm" |

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

**Item no.: 210-118**

Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715

**Item no.: 210-196**

Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored

**Item no.: 210-197**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715

**Item no.: 210-198**

Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored

**Item no.: 210-504**

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715

**Item no.: 210-505**

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715

**Item no.: 210-506**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715

**Item no.: 210-508**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715

**Downloads****Documentation****Additional Information**

Technical explanations

Apr 3, 2019

**CAD/CAE-Data****CAD data**

2D/3D Models 281-101

**CAE data**

EPLAN Data Portal 281-101

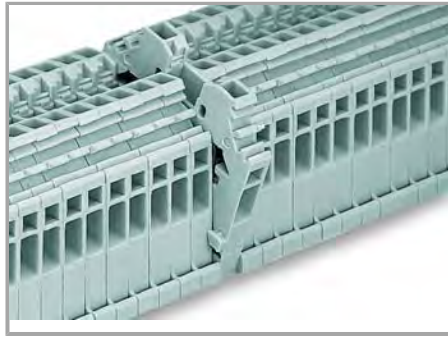
WSCAD Universe 281-101

**Installation Notes****Installation**

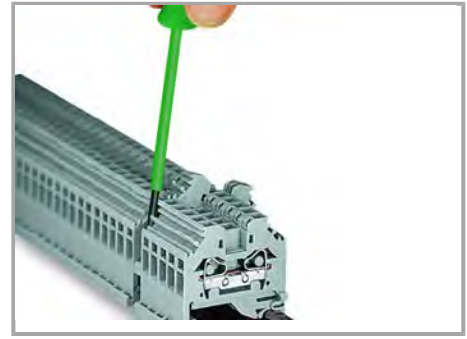
Subject to changes. Please also observe the further product documentation!



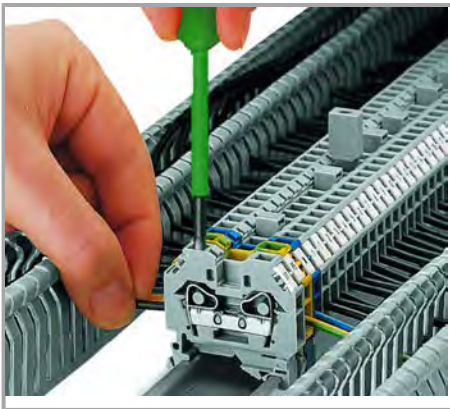
Snapping side-entry rail-mount terminal blocks onto the carrier rail.



Quick assembly keys prevent reverse mounting.



Removing a terminal block from the assembly.



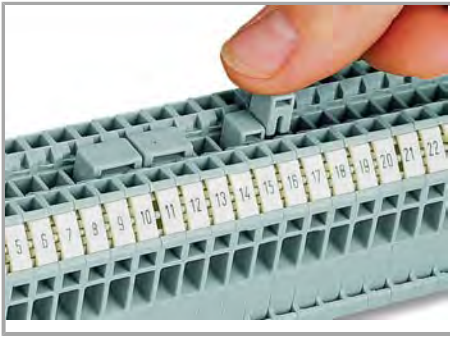
#### **CAGE CLAMP® connection**

Inserting a conductor.

With ferruled conductors, it is necessary to use a terminal block one size larger than the conductor's nominal cross-section.

#### **Commoning**

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



Commoning using an adjacent jumper  
(280-402).

Push jumper down until fully inserted.

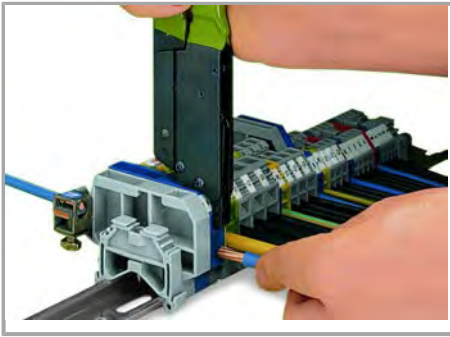
#### Testing



Testing with a test plug

(picture shows 209-170 Test Plug Adapter).

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



When operating the handles beyond the locked position, the ratchet allows the tool to open and be removed from the terminal block.



Labeling via WMB Multi Marking System.

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