2-conductor through terminal block; 2.5 mm²; center marking; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 2,50 mm²; gray

https://www.wago.com/280-901
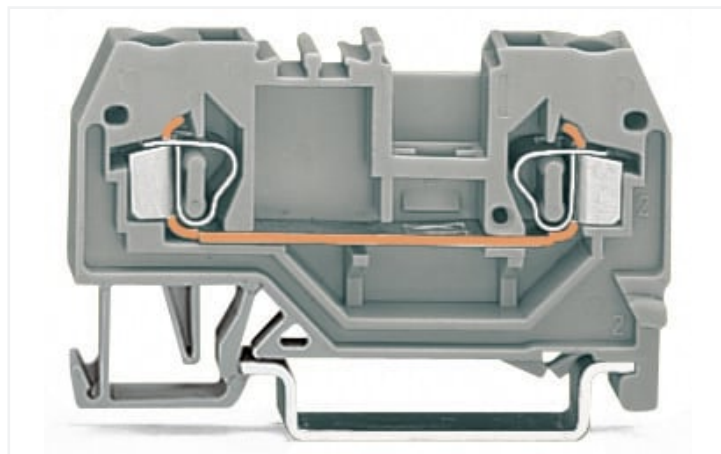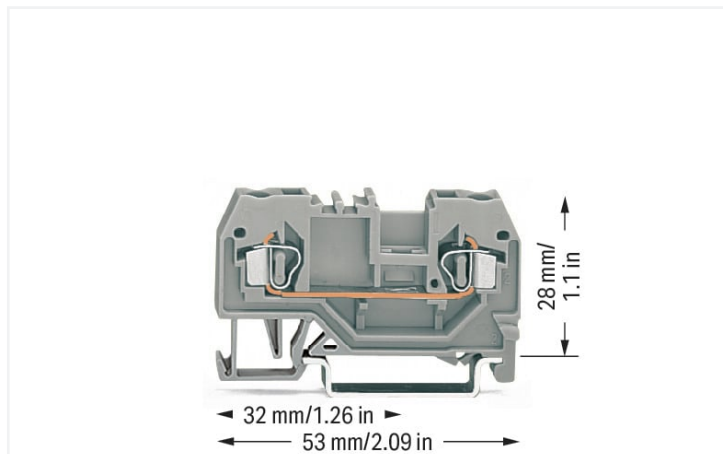


Color: ■ gray
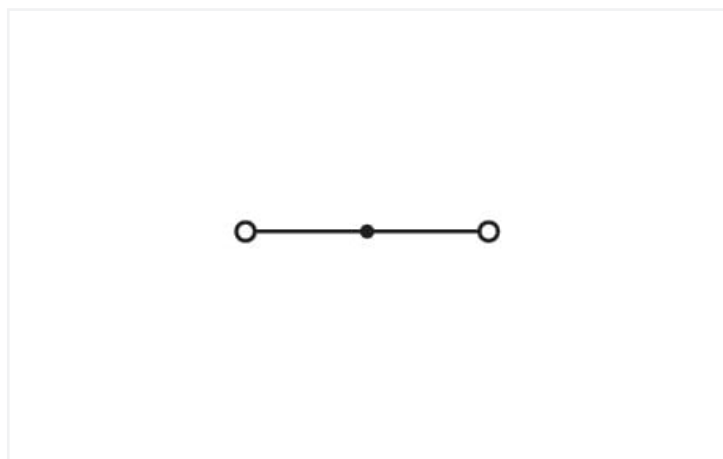


Similar to illustration

## Electrical data

| Ratings per | IEC/EN 60947-7-1 | | |
|---|---|---|---|
| Overvoltage category | III | III | II |
| Pollution degree | 3 | 2 | 2 |
| Nominal voltage | 800 V | - | - |
| Rated surge voltage | 8 kV | - | - |
| Rated current | 24 A | - | - |

| Approvals per | UL 1059 | | |
|---|---|---|---|
| Use group | B | C | D |
| Rated voltage | - | 600 V | - |
| Rated current | - | 20 A | - |

| Approvals per | CSA 22.2 No 158 | | |
|---|---|---|---|
| Use group | B | C | D |
| Rated voltage | - | 600 V | - |
| Rated current | - | 24 A | - |

| Power Loss | |
|---|---|
| Power loss, per pole (potential) | 0.7661 W |
| Rated current $I_N$ for specified power loss | 24 A |
| Resistance value for specified, current-dependent power loss | 0.00133 Ω |

## Connection data

| | |
|---|---|
| Connection points | 2 |
| Total number of potentials | 1 |
| Number of levels | 1 |

### Connection 1

| | |
|---|---|
| Connection technology | CAGE CLAMP® |
| Actuation type | Operating tool |
| Connectable conductor materials | Copper<br>Aluminum |
| Connectable conductor materials (note) | **Terminating Aluminum Conductors** WAGO spring clamp terminal blocks are suitable for solid aluminum conductors up to 4 mm²/12 AWG if WAGO "Alu-Plus" Contact Paste <a href="https://www.wago.com/249-130">249-130</a> is used for termination.<br><br>"Alu-Plus" Contact Paste Advantages:<br><br>• Automatically destroys the oxide film during clamping.<br>• Prevents fresh oxidation at the clamping point.<br>• Prevents electrolytic corrosion between aluminum and copper conductors (in the same terminal block).<br>• Provides long-term protection against corrosion.<br><br>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.<br><br>It is also possible to apply WAGO "Alu-Plus" **additionally** on the whole surface of the aluminum conductor before termination.<br><br>Please note that the nominal currents must be adapted to the reduced conductivity of the aluminum conductors::<br>2.5 mm² = 16 A<br>4 mm² = 22 A |
| Solid conductor | 0.08 … 2.5 mm² / 28 … 12 AWG |
| Fine-stranded conductor | 0.08 … 2.5 mm² / 28 … 12 AWG |
| Note (conductor cross-section) | 12 AWG: THHN, THWN |
| Strip length | 8 … 9 mm / 0.31 … 0.35 inches |
| Wiring direction | Front-entry wiring |

## Physical data

| | |
|---|---|
| Width | 5 mm / 0.197 inches |
| Height | 53 mm / 2.087 inches |
| Depth from upper-edge of DIN-rail | 28 mm / 1.102 inches |

## Mechanical data

| | |
|---|---|
| Mounting type | DIN-35 rail |
| Marking level | Center marking |

## Material data

| | |
|---|---|
| Note (material data) | <a href="https://www.wago.com/us/material-specifications" href="_blank">Information on material specifications can be found here</a> |
| Color | gray |
| Material group | I |
| Insulation material | Polyamide (PA66) |
| Flammability class per UL94 | V0 |
| Fire load | 0.096 MJ |
| Weight | 5.4 g |

## Environmental requirements

| | |
|---|---|
| Processing temperature | -35 … +85 °C |
| Continuous operating temperature | -60 … +105 °C |

## Commercial data

| | |
|---|---|
| Product Group | 1 (Rail Mounted Terminal Blocks) |
| eCl@ss 10.0 | 27-14-11-20 |
| eCl@ss 9.0 | 27-14-11-20 |
| ETIM 8.0 | EC000897 |
| ETIM 7.0 | EC000897 |
| PU (SPU) | 100 pcs |
| Packaging type | Box |
| Country of origin | PL |
| GTIN | 4044918391726 |
| Customs tariff number | 85369010000 |

## Environmental Product Compliance

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

## Approvals / Certificates

### General approvals

| Approval | Standard | Certificate Name |
|---|---|---|
| CCA<br>DEKRA Certification B.V. | EN 60947 | 2157201.01 |
| CSA<br>DEKRA Certification B.V. | C22.2 | 1536071 |
| UL<br>Underwriters Laboratories Inc. | UL 1059 | E45172 |

### Declarations of conformity and manufacturer's declarations

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

## Approvals for marine applications

| Approval | Standard | Certificate Name |
|---|---|---|
| ABS<br>American Bureau of Shipping | EN 60947 | 20-HG1941090-PDA |
| BV<br>Bureau Veritas S.A. | EN 60947 | 07436/F0 BV |
| DNV GL<br>Det Norske Veritas, Germanischer Lloyd | - | TAE00001V2 |
| LR<br>Lloyds Register | EN 60947 | 91/20112 (E9) |

## Downloads

### Environmental Product Compliance

**Compliance Search**

| Environmental Product Compliance 280-901 | ↓ |
|---|---|

## Documentation

**Additional Information**

| Technical Section | pdf<br>2240.62 KB | ↓ |
|---|---|---|

**Bid Text**

| 280-901 | 19.02.2019 | xml<br>3.27 KB | ↓ |
|---|---|---|---|
| 280-901 | 28.02.2017 | doc<br>24.00 KB | ↓ |

## CAD/CAE-Data

**CAD data**

| 2D/3D Models 280-901 | ↓ |
|---|---|

**CAE data**

| EPLAN Data Portal 280-901 | ↓ |
|---|---|
| WSCAD Universe 280-901 | ↓ |
| ZUKEN Portal 280-901 | ↓ |

## 1 Compatible Products

### 1.1 Optional Accessories

#### 1.1.1 DIN-rail

##### 1.1.1.1 Mounting accessories

**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.: 210-198**
Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored

**Item No.: 210-508**
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; 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; silver-colored

**Item No.: 210-506**
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715; silver-colored

**Item No.: 210-114**
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; similar to EN 60715; silver-colored

**Item No.: 210-118**
Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

**Item No.: 210-115**
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm; silver-colored

**Item No.: 210-112**
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm; silver-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; silver-colored

**Item No.: 210-113**
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

**Item No.: 210-505**
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715; silver-colored

#### 1.1.2 End plate

##### 1.1.2.1 End plate

**Item No.: 284-334**
Step-down cover plate; 1 mm thick; for 2-, 3- and 4-conductor terminal blocks; gray

**Item No.: 284-344**
Step-down cover plate; 1 mm thick; for 2-, 3- and 4-conductor terminal blocks; orange

#### 1.1.3 Ferrule

##### 1.1.3.1 Ferrule

**Item No.: 216-301**
Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow

**Item No.: 216-302**
Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise

**Item No.: 216-201**
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white

**Item No.: 216-101**
Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated; silver-colored

**Item No.: 216-202**
Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray

**Item No.: 216-102**
Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin plated; silver-colored

**Item No.: 216-203**
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red

**Item No.: 216-103**
Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated

**Item No.: 216-204**
Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black

**Item No.: 216-104**
Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated; silver-colored

## 1.1.4 Installation

### 1.1.4.1 Cover

Item No.: 709-153
Cover; Type 1; suitable for cover carrier, type 1; 1 m long; transparent

### 1.1.4.2 Cover carrier

Item No.: 709-167
Cover carrier; Type 1; incl. fixing/retaining screws and knurled nut; suitable for 279 to 282 and 880 Series rail-mounted terminal blocks; suitable for 264 Series miniature rail-mounted terminal blocks; suitable for 270 Series sensor and actuator terminal blocks; gray

### 1.1.4.3 Mounting accessories

Item No.: 209-106
Mounting carrier; for isolated mounting on DIN 35 rails; gray

Item No.: 249-116
Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

## 1.1.5 Insulation stop

### 1.1.5.1 Insulation stop

Item No.: 280-470
Insulation stop; 0.08 - 0.2 mm² "s" (0.14 mm² "f-st"); 5 pieces/strip; white

Item No.: 280-471
Insulation stop; 0.25 - 0.5 mm²; 5 pieces/strip; light gray

Item No.: 280-472
Insulation stop; 0.75 - 1 mm²; 5 pieces/strip; black

## 1.1.6 Jumper

### 1.1.6.1 Jumper

Item No.: 280-490
Jumper; 10-way; insulated; gray

Item No.: 280-482
Jumper; 2-way; insulated; gray

Item No.: 280-492
Jumper; 2-way; insulated; gray

Item No.: 280-483
Jumper; 3-way; insulated; gray

Item No.: 280-484
Jumper; 4-way; insulated; gray

Item No.: 280-485
Jumper; 5-way; insulated; gray

Item No.: 280-402
Jumper; insulated; gray

Item No.: 280-409
Jumper; insulated; gray

Item No.: 280-422
Jumper; insulated; yellow-green

Item No.: 780-452
Staggered jumper; from 1 to 2; insulated; gray

Item No.: 780-453
Staggered jumper; from 1 to 3; insulated; gray

Item No.: 780-454
Staggered jumper; from 1 to 4; insulated; gray

Item No.: 780-455
Staggered jumper; from 1 to 5; insulated; gray

Item No.: 780-456
Staggered jumper; from 1 to 6; insulated; gray

Item No.: 780-457
Staggered jumper; from 1 to 7; insulated; gray

Item No.: 780-458
Staggered jumper; from 1 to 8; insulated; gray

## 1.1.6.1 Jumper

**Item No.: 284-414**
Step-down jumper; from 284/282 to 281/280/279 series; insulated; gray

**Item No.: 709-110**
Wire commoning chain; 2.5 mm²; insulated; black

**Item No.: 709-111**
Wire commoning chain; 2.5 mm²; insulated; black

**Item No.: 709-112**
Wire commoning chain; 2.5 mm²; insulated; black

**Item No.: 210-103**
Wire commoning chain; insulated; black

**Item No.: 210-123**
Wire commoning chain; insulated; blue

## 1.1.7 Marking

### 1.1.7.1 Double marker carrier

**Item No.: 209-128**
Adaptor; gray

### 1.1.7.2 Group marker carrier

**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

### 1.1.7.3 Marker

**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.: 793-501**
WMB marking card; as card; not stretchable; plain; snap-on type; white

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

## 1.1.8 Plug

### 1.1.8.1 Component module with diode

**Item No.: 280-803/281-411**
Component plug; 2-pole; with diode 1N4007; 10 mm wide; gray

**Item No.: 280-803/281-420**
Component plug; 2-pole; with rectifier diode and LED; 10 mm wide; gray

**Item No.: 280-803/281-421**
Component plug; 2-pole; with rectifier diode and LED; 10 mm wide; gray

### 1.1.8.2 Component module with LED

**Item No.: 280-803/281-415**
Component plug; 2-pole; LED (red); 10 mm wide; gray

**Item No.: 280-803/281-416**
Component plug; 2-pole; LED (red); 10 mm wide; gray

**Item No.: 280-803/281-413**
Component plug; 2-pole; LED (red); 24 VDC; 10 mm wide; gray

**Item No.: 280-803/281-414**
Component plug; 2-pole; LED (red); 48 VDC; 10 mm wide; gray

**Item No.: 280-803/281-420**
Component plug; 2-pole; with rectifier diode and LED; 10 mm wide; gray

**Item No.: 280-803/281-421**
Component plug; 2-pole; with rectifier diode and LED; 10 mm wide; gray

**WAGO**

## 1.1.8.3 Empty component plug housing

**Item No.: 280-803**
Empty component plug housing; 10 mm wide; Type 4; 2-pole; gray

## 1.1.8.4 Neon indicator module

**Item No.: 280-803/281-417**
Component plug; 2-pole; 10 mm wide; gray

**Item No.: 280-803/281-418**
Component plug; 2-pole; 10 mm wide; gray

## 1.1.9 Protective warning marker

### 1.1.9.1 Cover

**Item No.: 280-415**
Protective warning marker; for 5 terminal blocks; with high-voltage symbol, black; yellow

## 1.1.10 Push-in type wire jumper

### 1.1.10.1 Jumper

**Item No.: 249-126**
Push-in type wire jumper; 0.75 mm²; insulated; 110 mm long; black

**Item No.: 249-123**
Push-in type wire jumper; 0.75 mm²; insulated; 180 mm long; black

**Item No.: 249-127**
Push-in type wire jumper; 0.75 mm²; insulated; 250 mm long; black

**Item No.: 249-125**
Push-in type wire jumper; insulated; 60 mm long; black

## 1.1.11 Test and measurement

### 1.1.11.1 Testing accessories

**Item No.: 249-107**
B-type spacer module; modular; e.g., for bridging commoned terminal blocks; gray

**Item No.: 249-106**
B-type test plug module; modular; 1,50 mm²; gray

**Item No.: 249-142**
L-type end module; modular; with rigid contact pin; End module; 1,50 mm²; gray

**Item No.: 249-143**
L-type spacer module; modular; e.g., bridging commoned terminal blocks; gray

**Item No.: 249-141**
L-type test plug module; modular; with spring-loaded contact pin; Center module; 1,50 mm²; gray

**Item No.: 280-419**
Spacer module; modular; bridging commoned terminal blocks; gray

**Item No.: 280-404**
Test plug adapter; 5 mm wide; for test plug (2.3 mm Ø); suitable for 1.5 mm² - 4 mm² tbs; gray

**Item No.: 209-170**
Test plug adapter; 8.3 mm wide; for 4 mm Ø test plugs; suitable for 1.5 mm² - 10 mm² tbs; gray

**Item No.: 280-418**
Test plug module; modular; suitable for all WAGO 280 and 780 Series rail-mounted terminal blocks with jumper slots in the current bar; gray

**Item No.: 281-407**
Test plug; 6 mm wide; Nominal current 24 A; for 0.08 mm² - 2.5 mm²; 2,50 mm²; gray

## 1.1.12 Tool

### 1.1.12.1 Operating tool

**Item No.: 210-658**
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; angled; short; multicoloured

**Item No.: 210-720**
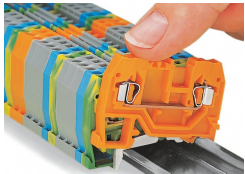Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured
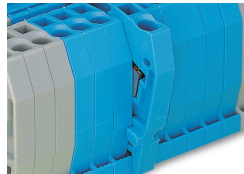
**Item No.: 210-657**
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured
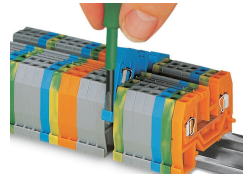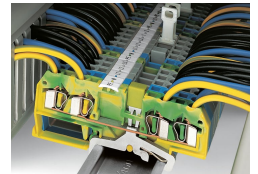
## Installation Notes

### Installation

Snapping a terminal block onto the DIN-rail.

Quick assembly keys prevent reverse mounting.

Removing a terminal block from the assembly.

Steel DIN-rails are not suited for PEN (ground and N-conductor) applications per EN 60947-7-2 (VDE 0611, Part 3).

### Conductor termination
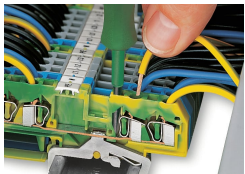
**CAGE CLAMP® connection**
Inserting a conductor.
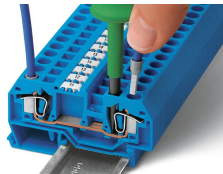
**CAGE CLAMP® connection**
Inserting a conductor.
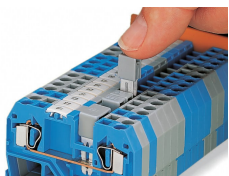With ferruled conductors, it is necessary to use a terminal block one size larger than the conductor's nominal cross-section.

Inserting insulation stops.
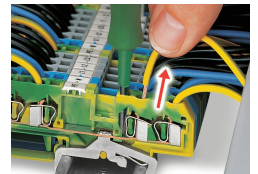
**CAGE CLAMP® connection**
Removing a solid conductor.

## Commoning
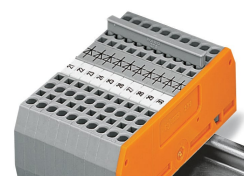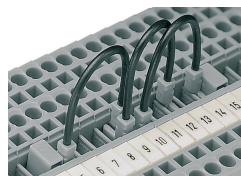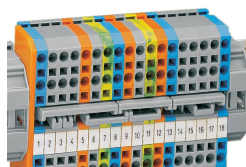


Commoning using an adjacent jumper. Push jumper down until fully inserted!



Staggered jumpers are suitable for sophisticated circuit requirements. Push jumpers down until fully inserted!



**Push-In Type Wire Jumpers**
When installing machines or control systems, it is often necessary to make an additional connection between two terminal blocks that are not next to each other on the rail. In such cases, WAGO's touch-proof, push-in type wire jumpers are the ideal solution.

These jumpers are compatible with the following rail-mount terminal blocks:
- 279 Series (1.5 mm²/16 AWG),
- 280/775/780 Series (2.5 mm²/14 AWG)
- 281/769/776/777/781 and 880 Series (4 mm²/12 AWG)
They are available in three conductor lengths (60, 110 and 250 mm), allowing up to 60 terminal blocks to be commoned depending on their width (see table on the right).

The 280/775/780 and 281/776/777/781 Series Terminal Blocks accept two wire jumpers, allowing the use of commoning chains. Furthermore, the 280/769/775/780/880 and 281/776/777/781 Series allow both wire jumper and adjacent jumper to be simultaneously plugged into a same terminal block.



Commoning using comb-style jumper bars:
Push comb-style jumper bars down until fully inserted.
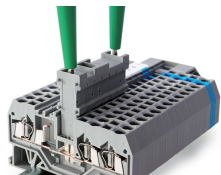
## Testing
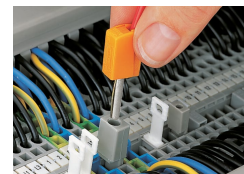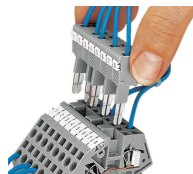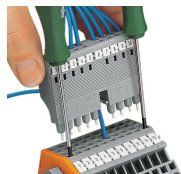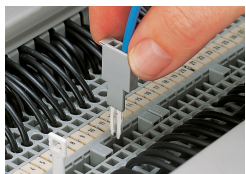


Testing with a test plug.
Picture shows a test plug fitted with CAGE CLAMP®.


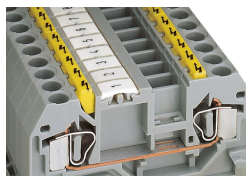
L-type test plug modules fitted with CAGE CLAMP®



B-type test plug modules fitted with CAGE CLAMP®



Testing with a test plug.
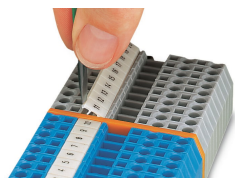Picture shows a test plug adapter (209-170).



Test plugs modules are directly plugged into the jumper contact slot of the current bar.
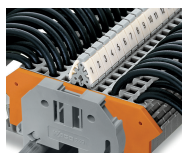
## Cover



Protective warning markers inserted into the operating slots

## Marking



Labeling via WMB Multi Marking System.



Terminal block marking with double marker carriers (209-128) Terminal blocks with side marking

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

Current addresses can be found at:: www.wago.com