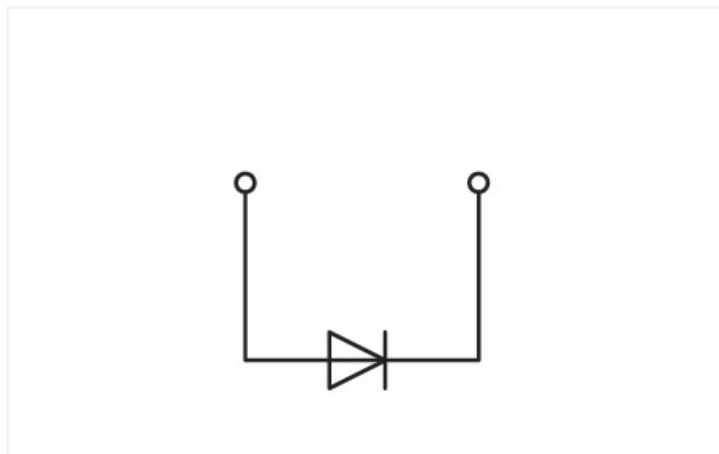


## Data Sheet | Item Number: 281-603/281-410

Component terminal block; 2-conductor; with diode 1N4007; anode, left side; for DIN-rail 35 x 15 and 35 x 7.5; 4 mm<sup>2</sup>; CAGE CLAMP®; gray

<https://www.wago.com/281-603/281-410>



Color: ■ gray

Similar to illustration

### Component terminal block with diode, 281 Series, CAGE CLAMP®

Our component terminal block with diode (item number 281-603/281-410) is the ideal way to connect conductors quickly and easily. Strip lengths must be between 9 and 10 mm when connecting conductors to this component terminal block with diode. This product incorporates conductor terminals and utilizes CAGE CLAMP®. Our tried-and-tested universal connection known as CAGE CLAMP® is the industry standard for connection technology and electrical interconnections. Depending on the type of conductor, this component terminal block with diode is designed for conductor cross sections ranging from 0.08 mm<sup>2</sup> to 4 mm<sup>2</sup>.

#### Electrical data

| Ratings per                     | IEC/EN 60947-7-1 |     |    |
|---------------------------------|------------------|-----|----|
| Overvoltage category            | III              | III | II |
| Pollution degree                | 3                | 2   | 2  |
| Nominal voltage                 | -                | -   | -  |
| Rated impulse withstand voltage | -                | -   | -  |
| Rated current                   | -                | -   | -  |

#### General information

|                          |                    |
|--------------------------|--------------------|
| Nominal voltage          | 250 V              |
| Reverse voltage          | 1000 V             |
| Number/type of diode/LED | with 1N4007 diode  |
| Wiring direction         | Front-entry wiring |

#### Connection Data

|                            |   |
|----------------------------|---|
| Clamping units             | 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 |

## Connection 1

Connectable conductor materials (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 [249-130](#) 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 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> = 16 A  
4 mm<sup>2</sup> = 22 A

|                         |  |
|-------------------------|--|
| 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 inches         |
| Wiring direction        | Front-entry wiring                         |

## Physical data

|                                   |                      |
|-----------------------------------|----------------------|
| Width                             | 6 mm / 0.236 inches  |
| Height                            | 53 mm / 2.087 inches |
| Depth from upper-edge of DIN-rail | 29 mm / 1.142 inches |

## Mechanical data

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

## Material data

|                                    |  |
|------------------------------------|--|
| Note (material data)               | <a href="#">Information on material specifications can be found here</a> |
| Color                              | gray   |
| Material group                     | I  |
| Insulation material (main housing) | Polyamide (PA66)   |
| Flammability class per UL94        | V0   |
| Fire load                          | 0.143 MJ   |
| Weight                             | 7.3 g  |

### Environmental requirements

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

### Commercial data

|                       |                                  |
|-----------------------|----------------------------------|
| Product Group         | 1 (Rail Mounted Terminal Blocks) |
| PU (SPU)              | 100 pcs                          |
| Packaging type        | Box                              |
| Country of origin     | DE                               |
| GTIN                  | 4045454196936                    |
| Customs tariff number | 85369010000                      |

### Product Classification

|             |                      |
|-------------|----------------------|
| UNSPSC      | 39121410             |
| eCl@ss 10.0 | 27-14-11-27          |
| eCl@ss 9.0  | 27-14-11-27          |
| ETIM 9.0    | EC000903             |
| ETIM 10.0   | EC000903             |
| ECCN        | NO US CLASSIFICATION |

### Environmental Product Compliance

|   |  |
|---|--|
| CAS-No.                                   | 7439-92-1<br>79-94-7                                     |
| REACH Candidate List Substance            | 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol<br>Lead |
| RoHS Compliance Status                    | Compliant,With Exemption                                 |
| RoHS Exemption                            | 7(a)   |
| SCIP notification number (Austria)        | 04489d72-f3f3-48ae-8c0c-baec8438fda4                     |
| SCIP notification number (Belgium)        | 4979d73a-27e1-49c1-82fc-a8e9f090fcb9                     |
| SCIP notification number (Bulgaria)       | ce4f1a12-c985-42b2-8c61-65832892fc18                     |
| SCIP notification number (Czech Republic) | cea70e0d-5365-453d-94a0-1a7c1495a7ad                     |
| SCIP notification number (Denmark)        | 4b7dc8ce-10a5-4da7-987e-6da54574de8c                     |
| SCIP notification number (Finland)        | a9d497a4-c121-4812-8d62-0f05b96ba74c                     |
| SCIP notification number (France)         | 6a6f3a01-beae-4142-93ef-16acb6df8d20                     |
| SCIP notification number (Germany)        | 86e6b12e-c774-441c-b13d-fa611417379b                     |
| SCIP notification number (Hungary)        | 4708b8c1-27f8-4c52-8919-525356337d78                     |
| SCIP notification number (Italy)          | 888f832f-b87a-4914-b7ce-84c254b74a5b                     |
| SCIP notification number (Netherlands)    | db032659-ecd3-4a58-a76c-c4475cddf8ee                     |
| SCIP notification number (Poland)         | 0d16ac11-6618-426c-82e9-5f0320222ae6                     |
| SCIP notification number (Romania)        | 13c1ebde-35b6-4be5-b218-4bb017016238                     |
| SCIP notification number (Sweden)         | 5b9964be-c084-43ff-aa25-f12276f6f53f                     |

### Approvals / Certificates

#### General approvals



| Approval                              | Standard | Certificate Name |
|---------------------------------------|----------|------------------|
| KEMA/KEUR<br>DEKRA Certification B.V. | EN 60947 | 71-107288        |

#### Declarations of conformity and manufacturer's declarations

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

Approvals for marine applications



| Approval  | Standard | Certificate Name  |
|---|----------|-------------------|
| ABS<br>American Bureau of Ship-<br>ping               | -        | 24-0152298-PDA    |
| DNV GL<br>Det Norske Veritas, Ger-<br>manischer Lloyd | -        | TAE00001V2        |
| PRS<br>Polski Rejestr Statków                         | -        | TE/1094/880590/23 |

Downloads

Environmental Product Compliance

| Compliance Search                                      |
|--|
| Environmental Product<br>Compliance<br>281-603/281-410 |



CAD/CAE-Data

| CAD data                        |
|---------------------------------|
| 2D/3D Models<br>281-603/281-410 |



| CAE data                             |
|--------------------------------------|
| EPLAN Data Portal<br>281-603/281-410 |
| WSCAD Universe<br>281-603/281-410    |
| ZUKEN Portal<br>281-603/281-410      |



1 Compatible Products

1.1 Required Accessories

1.1.1 End plate

1.1.1.1 End plate



[Item No.: 281-316](#)  
End and intermediate plate; 3 mm thick;  
gray

[Item No.: 281-317](#)  
End and intermediate plate; 3 mm thick;  
orange

[Item No.: 281-337](#)  
Separator plate; 2 mm thick; oversized;  
gray

[Item No.: 281-327](#)  
Separator plate; 2 mm thick; oversized;  
orange

## 1.2 Optional Accessories

### 1.2.1 DIN-rail

#### 1.2.1.1 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; unslotted; 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

### 1.2.2 Ferrule

#### 1.2.2.1 Ferrule



**Item No.: 216-241**

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



**Item No.: 216-242**

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



**Item No.: 216-243**

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



**Item No.: 216-244**

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



**Item No.: 216-246**

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



**Item No.: 216-106**

Ferrule; Sleeve for 2.5 mm<sup>2</sup> / AWG 14; un-insulated; electro-tin plated; silver-colored

### 1.2.3 Installation

#### 1.2.3.1 Cover



**Item No.: 709-153**

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

### 1.2.3.2 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

### 1.2.3.3 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

### 1.2.4 Insulation stop

#### 1.2.4.1 Insulation stop



**Item No.: 281-470**

Insulation stop; 0.08 - 0.2 mm<sup>2</sup> "s" (0.14 mm<sup>2</sup> "f-st"); 5 pieces/strip; white



**Item No.: 281-471**

Insulation stop; 0.25 - 0.5 mm<sup>2</sup>; 5 pieces/strip; light gray



**Item No.: 281-472**

Insulation stop; 0.75 - 1.5 mm<sup>2</sup>; 5 pieces/strip; dark gray

### 1.2.5 Jumper

#### 1.2.5.1 Jumper



**Item No.: 281-490**

Jumper; 10-way; insulated; gray



**Item No.: 281-482**

Jumper; 2-way; insulated; gray



**Item No.: 281-492**

Jumper; 2-way; insulated; gray



**Item No.: 281-483**

Jumper; 3-way; insulated; gray



**Item No.: 281-485**

Jumper; 5-way; insulated; gray



**Item No.: 709-110**

Wire commoning chain; 2.5 mm<sup>2</sup>; insulated; black



**Item No.: 709-111**

Wire commoning chain; 2.5 mm<sup>2</sup>; insulated; black



**Item No.: 709-112**

Wire commoning chain; 2.5 mm<sup>2</sup>; insulated; black



**Item No.: 210-103**

Wire commoning chain; insulated; black



**Item No.: 210-123**

Wire commoning chain; insulated; blue

### 1.2.6 Marking

#### 1.2.6.1 Marker



**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.: 793-5501/000-023**

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.: 793-5501/000-017**

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.: 793-5501/000-012**

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



**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.: 793-5501/000-024**

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; 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

1.2.6.1 Marker



**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.: 793-501/000-006**  
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.: 793-501/000-023**  
WMB marking card; as card; not stretchable; plain; snap-on type; green



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



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



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



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



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



**Item No.: 793-501/000-002**  
WMB marking card; as card; not stretchable; 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.: 2009-115/000-023**  
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green



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



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



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



**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

1.2.7 Protective warning marker

1.2.7.1 Cover



**Item No.: 281-415**  
Protective warning marker; for 5 terminal blocks; with high-voltage symbol, black; yellow

1.2.8 Tool

1.2.8.1 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



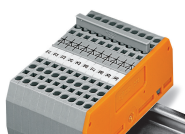
**Item No.: 210-657**  
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured

## Installation Notes

### Commoning



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



These diode terminal blocks have been specially developed for custom diode circuits, such as lamp test and collective fault signal circuits.