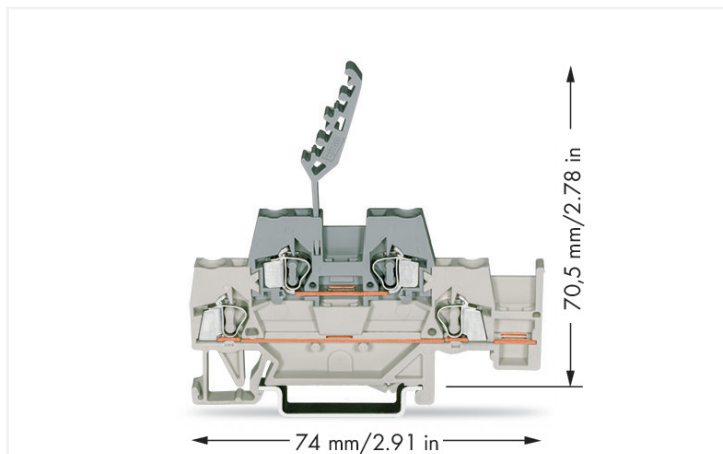


## Data Sheet | Item Number: 280-542

Double-deck terminal block; Through/through terminal block; with additional jumper position on lower level; for DIN-rail 35 x 15 and 35 x 7.5; 2.5 mm<sup>2</sup>; CAGE CLAMP®; 2,50 mm<sup>2</sup>; light gray/gray

<https://www.wago.com/280-542>



Color: ■ light gray/gray

Double-deck terminal block, 280 Series, CAGE CLAMP®

Fault-free electrical installations are guaranteed with this double-deck terminal block (item number 280-542). Conductors should only be connected to this double-deck terminal block if their strip length is between 8 and 9 mm. The double-deck terminal block also functions as a through terminal block. Featuring conductor terminals along with CAGE CLAMP®, this product is highly versatile. Our renowned universal connection known as CAGE CLAMP® is the industry standard for connection technology and electrical interconnections. This double-deck terminal block is suitable for conductor cross sections ranging from 0.08 mm<sup>2</sup> to 2.5 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                 | 500 V            | -   | -  |
| Rated impulse withstand voltage | 6 kV             | -   | -  |
| Rated current                   | 20 A             | -   | -  |

### Power Loss

|  |           |
|--|-----------|
| Power loss, per pole (potential)                             | 0.532 W   |
| Rated current I <sub>N</sub> for power loss specification    | 20 A      |
| Resistance value for specified, current-dependent power loss | 0.00133 Ω |

### General information

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

### Connection Data

|                            |   |
|----------------------------|---|
| Clamping units             | 4 |
| Total number of potentials | 2 |
| Number of levels           | 2 |

### 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 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG |
| Fine-stranded conductor        | 0.08 ... 2.5 mm <sup>2</sup> / 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                            | 64 mm / 2.52 inches    |
| Depth from upper-edge of DIN-rail | 70.5 mm / 2.776 inches |

## Mechanical data

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

## Material data

|                                    |  |
|------------------------------------|--|
| Note (material data)               | <a href="#">Information on material specifications can be found here</a> |
| Color                              | light gray/gray  |
| Material group                     | I  |
| Insulation material (main housing) | Polyamide (PA66)   |
| Flammability class per UL94        | V0   |
| Fire load                          | 0.175 MJ   |
| Weight                             | 10.4 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)              | 50 pcs                           |
| Packaging type        | Box                              |
| Country of origin     | DE                               |
| GTIN                  | 4044918479158                    |
| Customs tariff number | 85369010000                      |

### Product Classification

|             |                      |
|-------------|----------------------|
| UNSPSC      | 39121410             |
| eCl@ss 10.0 | 27-14-11-20          |
| eCl@ss 9.0  | 27-14-11-20          |
| ETIM 9.0    | EC000897             |
| ETIM 10.0   | EC000897             |
| ECCN        | NO US CLASSIFICATION |

### Environmental Product Compliance

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

### Approvals / Certificates

#### General approvals



| Approval                              | Standard | Certificate Name |
|---------------------------------------|----------|------------------|
| KEMA/KEUR<br>DEKRA Certification B.V. | EN 60947 | 71-154769        |

#### 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 | 24-0152298-PDA   |
| BV<br>Bureau Veritas S.A.                        | EN 60947 | 07436/G0 BV      |
| DNV GL<br>Det Norske Veritas, Germanischer Lloyd | -        | TAE00001V2       |

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 280-542



CAD/CAE-Data

CAD data

2D/3D Models 280-542



CAE data

EPLAN Data Portal 280-542



WSCAD Universe 280-542



1 Compatible Products

1.1 Required Accessories

1.1.1 End plate

1.1.1.1 End plate



[Item No.: 280-342](#)

End and intermediate plate; 2.5 mm thick; gray



[Item No.: 280-343](#)

End and intermediate plate; 2.5 mm thick; orange



[Item No.: 280-369](#)

Intermediate plate; 1.1 mm thick; 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.: 216-301**

Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow



**Item No.: 216-302**

Ferrule; Sleeve for 0.34 mm<sup>2</sup> / 22 AWG; insulated; electro-tin plated; light turquoise



**Item No.: 216-201**

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; electrolytic copper; acc. to DIN 46228, Part 4/09.90; white



**Item No.: 216-101**

Ferrule; Sleeve for 0.5 mm<sup>2</sup> / AWG 22; un-insulated; electro-tin plated; silver-colored



**Item No.: 216-202**

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



**Item No.: 216-102**

Ferrule; Sleeve for 0.75 mm<sup>2</sup> / AWG 20; un-insulated; electro-tin plated; silver-colored



**Item No.: 216-203**

Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; un-insulated; electro-tin plated; red



**Item No.: 216-103**

Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; un-insulated; electro-tin plated



**Item No.: 216-204**

Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; un-insulated; electro-tin plated; black



**Item No.: 216-104**

Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; un-insulated; electro-tin plated; silver-colored

## 1.2.3 Installation

### 1.2.3.1 Cover



**Item No.: 709-154**

Cover; Type 2; suitable for cover carrier, type 2; 1 m long; transparent

### 1.2.3.2 Cover carrier



**Item No.: 709-168**

Cover carrier; Type 2; incl. fixing/retaining screws and knurled nut; suitable for 283 to 285 Series rail-mounted terminal blocks; suitable for 279 to 281 Series double- and triple-deck terminal blocks; suitable for 780 to 785, 775, 776 and 777 Series TOP-JOB® rail-mounted terminal blocks; suitable for 280 Series sensor and actuator terminal blocks; suitable for 282 Series disconnect/test terminal blocks for transformer circuits; 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.: 280-470**  
 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.: 280-471**  
 Insulation stop; 0.25 - 0.5 mm<sup>2</sup>; 5 pieces/strip; light gray



**Item No.: 280-472**  
 Insulation stop; 0.75 - 1 mm<sup>2</sup>; 5 pieces/strip; black

1.2.5 Jumper

1.2.5.1 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.: 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



**Item No.: 281-421**  
 Vertical jumper; 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**  
 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

## 1.2.7 Protective warning marker

### 1.2.7.1 Cover



**Item No.: 280-415**

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

## 1.2.8 Push-in type wire jumper

### 1.2.8.1 Jumper



**Item No.: 249-126**

Push-in type wire jumper; 0.75 mm<sup>2</sup>; insulated; 110 mm long; black



**Item No.: 249-123**

Push-in type wire jumper; 0.75 mm<sup>2</sup>; insulated; 180 mm long; black



**Item No.: 249-127**

Push-in type wire jumper; 0.75 mm<sup>2</sup>; insulated; 250 mm long; black



**Item No.: 249-125**

Push-in type wire jumper; insulated; 60 mm long; black

## 1.2.9 Test and measurement

### 1.2.9.1 Testing accessories



**Item No.: 249-142**

L-type end module; modular; with rigid contact pin; End module; 1,50 mm<sup>2</sup>; gray



**Item No.: 249-141**

L-type test plug module; modular; with spring-loaded contact pin; Center module; 1,50 mm<sup>2</sup>; gray

## 1.2.10 Tool

### 1.2.10.1 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.

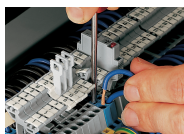


Removing a terminal block from the assembly.



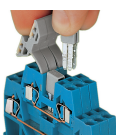
Double-deck terminal blocks accommodate two circuits of different potentials on two decks; different circuits can be differentiated by color coding either deck (280 Series). The lower deck is wider than the upper for easier wiring.

Conductor termination



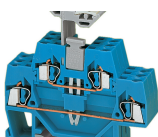
The flexible marker carrier, which is placed above the wiring level, can be pushed aside during wiring or commoning. The carrier has two staggered levels for WMB markers that perfectly align with the terminal block decks.

Commoning



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

Commoning

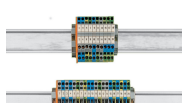


Commoning with a vertical jumper (281-421). Push vertical jumper down until fully inserted!

Combining vertical and adjacent jumpers.



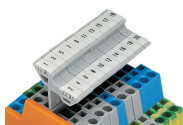
Example of a mixed assembly with double-deck terminal blocks. The 280 Series Double-Deck Terminal Blocks are available with decks of same or different color according to their function. This is an additional visual aid during wiring, service or maintenance.



With a terminal block width of just 5 mm, an effective width of just 2.5 mm for terminal blocks of same or different potentials can be realized for conductors ranging 0.08 mm<sup>2</sup> ... 2.5 mm<sup>2</sup> (28 ... 14 AWG).

Use 50% less rail space with double-deck terminal blocks.

Marking



Labeling via WMB Multi Marking System.