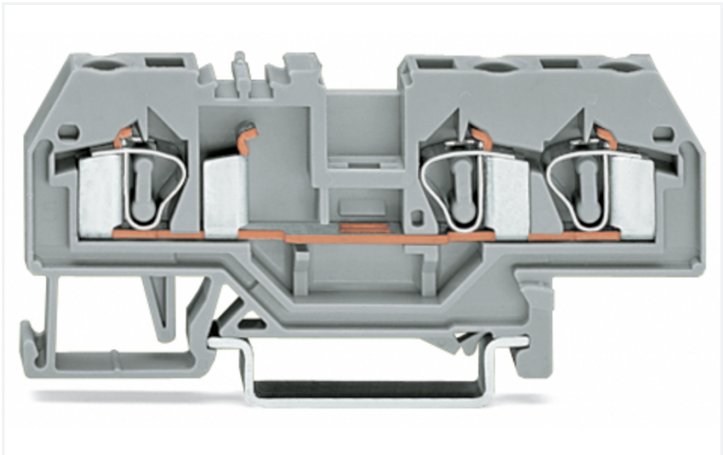
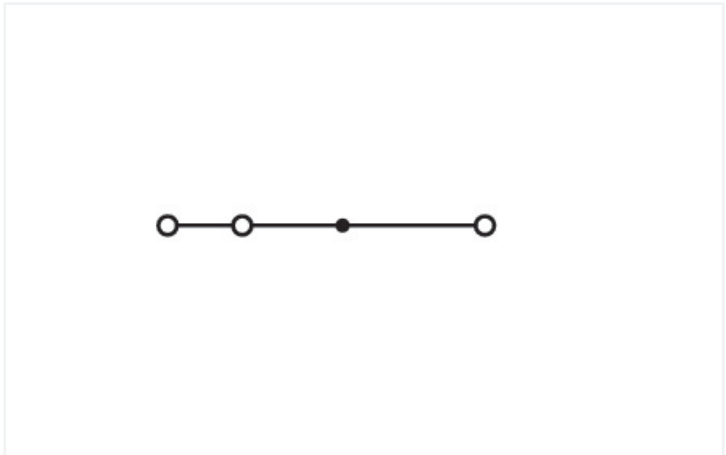




Color: ■ red

Similar to illustration



Similar to illustration

Through terminal block, 281 Series, CAGE CLAMP®

Our through terminal block (item number 281-679) ensures effortless electrical installations. Whether for use in industry or building installations, our rail-mount through terminal blocks allow you to quickly and securely connect electrical conductors. They're perfect for either classic through-wiring or distributing potential, depending on the variant. This through rail-mount terminal block has a rated voltage of 800 V and can handle currents up to 32 A. Conductors should only be connected to this through terminal block if their strip length is between 9 mm and 10 mm. This product features conductor terminals and utilizes CAGE CLAMP®. Our highly-rated and maintenance-free CAGE CLAMP® connection makes it easy to connect all conductor types without having to prepare the conductor. For example, you don't need to crimp ferrules. Depending on the conductor type, this through terminal block is designed for conductor cross sections ranging from 0.08 mm² to 4 mm². It has one level. You can connect a single potential using the three clamping points. The red housing is made of polyamide (PA66) for insulation. This through rail-mount terminal block is operated with an operating tool. These through rail-mount terminal blocks are mounted using DIN-35 rails.. The front-entry wiring allows you to connect copper, aluminum conductors.

| Electrical data            |       |                                 |    |                                                                                                                                                                                                                             |
|----------------------------|-------|---------------------------------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ratings per                |       | IEC/EN 60947-7-1                |    |                                                                                                                                                                                                                             |
| Overvoltage category       | III   | III                             | II | <div>Power Loss</div> <div>Power loss, per pole (potential)1.024 W</div> <div>Rated current I<sub>N</sub> for specified power loss32 A</div> <div>Resistance value for specified, current-dependent power loss0.001 Ω</div> |
| Pollution degree           | 3     | 2                               | 2  |                                                                                                                                                                                                                             |
| Nominal voltage            | 800 V | -                               | -  |                                                                                                                                                                                                                             |
| Rated surge voltage        | 8 kV  | -                               | -  |                                                                                                                                                                                                                             |
| Rated current              | 32 A  | -                               | -  |                                                                                                                                                                                                                             |
|                            |       |                                 |    |                                                                                                                                                                                                                             |
| Connection data            |       |                                 |    |                                                                                                                                                                                                                             |
| Clamping units             | 3     | <div>Connection 1</div>         |    |                                                                                                                                                                                                                             |
| Total number of potentials | 1     | Connection technology           |    | CAGE CLAMP®                                                                                                                                                                                                                 |
| Number of levels           | 1     | Actuation type                  |    | Operating tool                                                                                                                                                                                                              |
|                            |       | Connectable conductor materials |    | Copper<br>Aluminum                                                                                                                                                                                                          |

| Connection 1                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connectable conductor materials (note) | <p><b>Terminating Aluminum Conductors</b></p> <p>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="#">249-130</a> is used for termination.</p> <p>“Alu-Plus” Contact Paste Advantages:</p> <ul style="list-style-type: none"><li>• Automatically destroys the oxide film during clamping.</li><li>• Prevents fresh oxidation at the clamping point.</li><li>• Prevents electrolytic corrosion between aluminum and copper conductors (in the same terminal block).</li><li>• Provides long-term protection against corrosion.</li></ul> <p>Using terminal blocks with CAGE CLAMP® Spring Pressure Connection Technology, <b>aluminum conductors must first be cleaned with a blade</b> and then immediately inserted into the clamping units filled with “Alu-Plus” contact paste.</p> <p>It is also possible to apply WAGO “Alu-Plus” <b>additionally</b> on the whole surface of the aluminum conductor before termination.</p> <p>Please note that the nominal currents must be adapted to the reduced conductivity of the aluminum conductors::</p> <p>2.5 mm² = 16 A</p> <p>4 mm² = 22 A</p> |
| Solid conductor                        | 0.08 ... 4 mm² / 28 ... 12 AWG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Fine-stranded conductor                | 0.08 ... 4 mm² / 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                            | 73.5 mm / 2.894 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   | Center marking  |

| Material data                      |                                                                          |
|------------------------------------|--------------------------------------------------------------------------|
| Note (material data)               | <a href="#">Information on material specifications can be found here</a> |
| Color                              | red                                                                      |
| Material group                     | I                                                                        |
| Insulation material (main housing) | Polyamide (PA66)                                                         |
| Flammability class per UL94        | V0                                                                       |
| Fire load                          | 0.174 MJ                                                                 |
| Weight                             | 10.1 g                                                                   |



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

| Commercial data       |               |
|-----------------------|---------------|
| PU (SPU)              | 50 pcs        |
| Packaging type        | Box           |
| Country of origin     | DE            |
| GTIN                  | 4044918484886 |
| 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 8.0               | EC000897             |
| ECCN                   | NO US CLASSIFICATION |

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

Approvals / Certificates

| General approvals                     |           | Declarations of conformity and manufacturer's declarations                                                            |
|---------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------|
|                                       |           |                                                                                                                       |
| Approval                              | Standard  | Certificate Name                                                                                                      |
| CCA<br>DEKRA Certification B.V.       | IEC 60947 | NTR NL-7454/A1                                                                                                        |
| CSA<br>CSA Group                      | C22.2     | 1505034                                                                                                               |
| KEMA/KEUR<br>DEKRA Certification B.V. | EN 60947  | 71-107288                                                                                                             |
| UL<br>Underwriters Laboratories Inc.  | UL 1059   | E45172                                                                                                                |
|                                       |           | Approval      Standard      Certificate Name<br>EU-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               | -        | 20-HG1941090-PDA |
| BV<br>Bureau Veritas S.A.                             | EN 60947 | 07436/F0 BV      |
| DNV GL<br>Det Norske Veritas, Ger-<br>manischer Lloyd | -        | TAE00001V2       |



|                                          |
|------------------------------------------|
| Downloads                                |
| Environmental Product Compliance         |
| Compliance Search                        |
| Environmental Product Compliance 281-679 |

| Documentation |            |                 |                                                                                                   |
|---------------|------------|-----------------|---------------------------------------------------------------------------------------------------|
| Bid Text      |            |                 |                                                                                                   |
| 281-679       | 19.02.2019 | xml<br>3.18 KB  | <a href="#"></a> |
| 281-679       | 28.02.2017 | doc<br>24.00 KB | <a href="#"></a> |

| CAD/CAE-Data         |                           |
|----------------------|---------------------------|
| CAD data             | CAE data                  |
| 2D/3D Models 281-679 | EPLAN Data Portal 281-679 |
|                      | WSCAD Universe 281-679    |
|                      | ZUKEN Portal 281-679      |

|                                                                                     |                                                                                       |                                                                                      |                                                                                       |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 1 Compatible Products                                                               |                                                                                       |                                                                                      |                                                                                       |
| 1.1 Required Accessories                                                            |                                                                                       |                                                                                      |                                                                                       |
| 1.1.1 End plate                                                                     |                                                                                       |                                                                                      |                                                                                       |
| 1.1.1.1 End plate                                                                   |                                                                                       |                                                                                      |                                                                                       |
|  |    |  |  |
| <a href="#">Item No.: 281-324</a><br>End and intermediate plate; 2.5 mm thick; gray | <a href="#">Item No.: 281-326</a><br>End and intermediate plate; 2.5 mm thick; orange | <a href="#">Item No.: 281-344</a><br>Separator plate; 2 mm thick; oversized; gray    | <a href="#">Item No.: 281-346</a><br>Separator plate; 2 mm thick; oversized; orange   |

| 1.2 Optional Accessories                                                                                                                                |                                                                                                                                                |                                                                                                                                                       |                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.2.1 DIN-rail                                                                                                                                          |                                                                                                                                                |                                                                                                                                                       |                                                                                                                                                               |
| 1.2.1.1 Mounting accessories                                                                                                                            |                                                                                                                                                |                                                                                                                                                       |                                                                                                                                                               |
|                                                                      |                                                             |                                                                   |                                                                          |
| <a href="#">Item No.: 210-196</a><br>Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslopped; similar to EN 60715; silver-colored         | <a href="#">Item No.: 210-198</a><br>Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslopped; according to EN 60715; copper-colored | <a href="#">Item No.: 210-508</a><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slopped; galvanized; similar to EN 60715; silver-colored | <a href="#">Item No.: 210-197</a><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slopped; similar to EN 60715; silver-colored                     |
|                                                                      |                                                             |                                                                   |                                                                          |
| <a href="#">Item No.: 210-506</a><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslopped; galvanized; similar to EN 60715; silver-colored | <a href="#">Item No.: 210-114</a><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslopped; similar to EN 60715; silver-colored    | <a href="#">Item No.: 210-118</a><br>Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslopped; according to EN 60715; silver-colored         | <a href="#">Item No.: 210-115</a><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slopped; according to EN 60715; "Hole width 18 mm; silver-colored |



1.2.1.1 Mounting accessories



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



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

1.2.2 End plate

1.2.2.1 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

1.2.3 Ferrule

1.2.3.1 Ferrule



**Item No.: 216-241**  
Ferrule; Sleeve for 0.5 mm² / 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 mm² / 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 mm² / 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 mm² / 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 mm² / 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 mm² / AWG 14; un-insulated; electro-tin plated; silver-colored

1.2.4 Installation

1.2.4.1 Cover



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

1.2.4.2 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



1.2.4.3 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

1.2.5 Insulation stop

1.2.5.1 Insulation stop



**Item No.: 281-470**  
Insulation stop; 0.08 - 0.2 mm² "s" (0.14 mm² "f-st"); 5 pieces/strip; white



**Item No.: 281-471**  
Insulation stop; 0.25 - 0.5 mm²; 5 pieces/strip; light gray



**Item No.: 281-472**  
Insulation stop; 0.75 - 1.5 mm²; 5 pieces/strip; dark gray

1.2.6 Jumper

1.2.6.1 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.: 281-402**  
Jumper; insulated; gray



**Item No.: 281-409**  
Jumper; insulated; gray



**Item No.: 281-422**  
Jumper; insulated; yellow-green



**Item No.: 781-452**  
Staggered jumper; from 1 to 2; insulated; gray



**Item No.: 781-453**  
Staggered jumper; from 1 to 3; insulated; gray



**Item No.: 781-454**  
Staggered jumper; from 1 to 4; insulated; gray



**Item No.: 781-455**  
Staggered jumper; from 1 to 5; insulated; gray



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



**Item No.: 283-414**  
Step-down jumper; from 283 to 281 series; insulated; gray



**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

1.2.7 Marking

1.2.7.1 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



1.2.7.2 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



**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

1.2.8 Protective warning marker

1.2.8.1 Cover



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



1.2.9 Push-in type wire jumper

1.2.9.1 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

1.2.10 Test and measurement

1.2.10.1 Testing accessories



**Item No.: 249-148**  
B-type spacer module; modular; e.g., for bridging commoned terminal blocks; gray



**Item No.: 249-147**  
B-type test plug module; modular; 2,50 mm<sup>2</sup>; gray



**Item No.: 249-145**  
L-type end module; modular; with rigid contact pin; End module; 2,50 mm<sup>2</sup>; gray



**Item No.: 249-146**  
L-type spacer module; modular; e.g., bridging commoned terminal blocks; gray



**Item No.: 249-144**  
L-type test plug module; modular; with spring-loaded contact pin; Center module; 2,50 mm<sup>2</sup>; gray



**Item No.: 281-419**  
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 mm<sup>2</sup> - 4 mm<sup>2</sup> tbs; gray



**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.: 281-418**  
Test plug module; modular; suitable for all WAGO 281, 776, 777 and 781 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 mm<sup>2</sup> - 2.5 mm<sup>2</sup>; gray

1.2.11 Tool

1.2.11.1 Operating tool



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



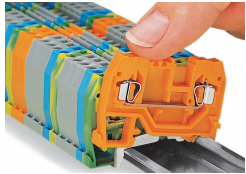
**Item No.: 210-720**  
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured



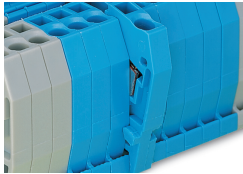
**Item No.: 210-657**  
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured

Installation Notes

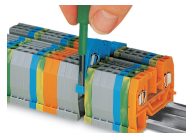
Installation



Snapping a terminal block onto the DIN-rail.



Quick assembly keys prevent reverse mounting.



Removing a terminal block from the assembly.

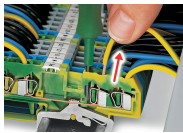
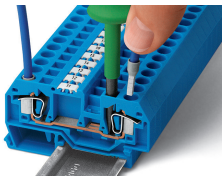


Steel DIN-rails are not suited for PEN (ground and N-conductor) applications per EN 60947-7-2 (VDE 0611, Part 3).





Conductor termination



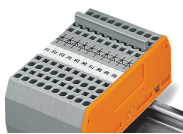
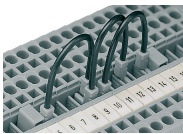
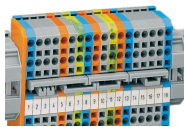
**CAGE CLAMP® connection**  
Inserting a conductor.

**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.

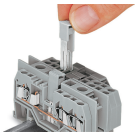
These jumpers are compatible with the following rail-mount terminal blocks:

- 279 Series (1.5 mm<sup>2</sup>/16 AWG),
- 280/775/780 Series (2.5 mm<sup>2</sup>/14 AWG)
- 281/769/776/777/781 and 880 Series (4 mm<sup>2</sup>/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).

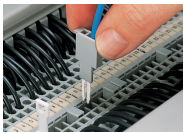
The 280/775/780 and 281/776/777/781 Series Terminal Blocks accept two wire jumpers, allowing the use of commoning chains. Furthermore, the 280/769/775/780/880 and 281/776/777/781 Series allow both wire jumper and adjacent jumper to be simultaneously plugged into a same terminal block.

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



Commoning terminal blocks of different sizes via step-down jumpers.

Testing



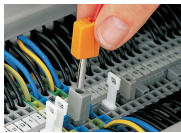
Testing with a test plug.  
Picture shows a test plug fitted with CAGE CLAMP®.



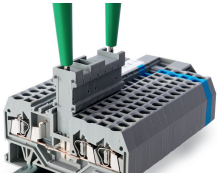
L-type test plug modules fitted with CA-GE CLAMP®



B-type test plug modules fitted with CA-GE CLAMP®

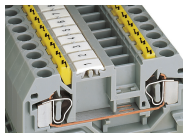


Testing with a test plug.  
Picture shows a test plug adapter (209-170).



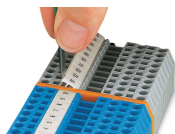
Test plugs modules are directly plugged into the jumper contact slot of the current bar.

Cover

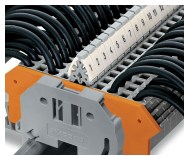


Protective warning markers inserted into the operating slots

Marking



Labeling via WMB Multi Marking System.



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