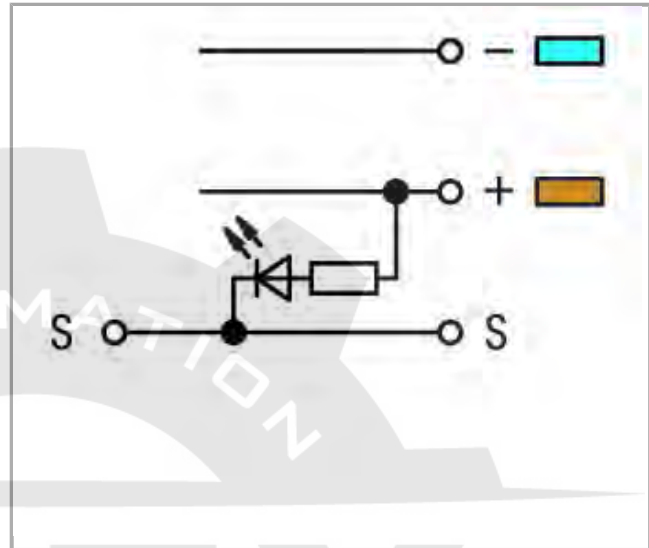
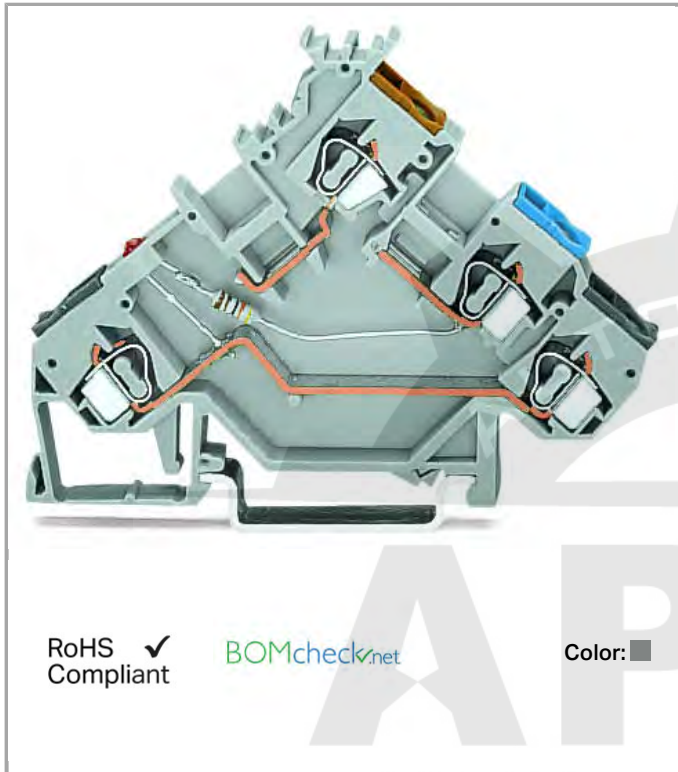


## Data sheet | Item number: 280-561/281-413

3-conductor sensor terminal block; LED (red); for NPN-(low-side) switching sensors; with colored conductor entries; 2.5 mm<sup>2</sup>; CAGE CLAMP®



280-561/281-413



RoHS  
Compliant

BOMcheck.net

Color: ■

### Item description

#### Note:

##### Terminating Aluminum Conductors

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

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

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

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

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

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

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

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

**Safety information 1:**

LED power consumption: 4.8mA

**Data**

**Electrical data**

|                  |      |
|------------------|------|
| Voltage type (1) | DC   |
| Nominal voltage  | 24 V |

**Ratings per IEC/EN 60664-1**

|               |      |
|---------------|------|
| Rated current | 20 A |
|---------------|------|

**Connection data**

|                                   |                                              |
|-----------------------------------|----------------------------------------------|
| Connection technology             | CAGE CLAMP®                                  |
| Actuation type                    | Operating tool                               |
| Connectable conductor materials   | Copper<br>Aluminum                           |
| 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 |
| Strip length                      | 8 ... 9 mm / 0.31 ... 0.35 inch              |
| Note (conductor cross-section)    | 12 AWG: THHN, THWN                           |
| Total number of connection points | 2                                            |
| Total number of potentials        | 2                                            |
| Number of levels                  | 3                                            |
| Type of wiring                    | Front-entry wiring                           |

**Geometrical Data**

|                                       |                      |
|---------------------------------------|----------------------|
| Width                                 | 5 mm / 0.197 inch    |
| Height from upper-edge of DIN-35 rail | 55.5 mm / 2.185 inch |
| Depth                                 | 80 mm / 3.15 inch    |

**Mechanical data**

|                  |                |
|------------------|----------------|
| Design           | angled         |
| Type of mounting | DIN-35 rail    |
| Marking level    | Center marking |

**Material Data**

|                     |                      |
|---------------------|----------------------|
| Color               | gray                 |
| Insulating material | Polyamide 66 (PA 66) |
| Fire load           | 0.174 MJ             |

|        |          |
|--------|----------|
| Weight | 10.522 g |
|--------|----------|

## Commercial data

|                    |                                  |
|--------------------|----------------------------------|
| Product Group      | 1 (Rail Mounted Terminal Blocks) |
| Country of origin  | DE                               |
| GTIN               | 4045454299262                    |
| Customs Tariff No. | 85369010000                      |

## Approvals / Certificates

### Country specific Approvals

| Logo                                                                             | Approval                        | Additional Approval Text | Certificate name |
|----------------------------------------------------------------------------------|---------------------------------|--------------------------|------------------|
|  | CCA<br>DEKRA Certification B.V. | EN 60947                 | 2160584.53       |

### Ship Approvals

| Logo                                                                               | Approval                                         | Additional Approval Text | Certificate name |
|------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------|------------------|
|  | ABS<br>American Bureau of Shipping               | EN 60947                 | 14-HG1293677-PDA |
|  | DNV GL<br>Det Norske Veritas, Germanischer Lloyd | -                        | TAE00001V2       |

### UL-Approvals

| Logo                                                                               | Approval                             | Additional Approval Text | Certificate name |
|------------------------------------------------------------------------------------|--------------------------------------|--------------------------|------------------|
|  | UR<br>Underwriters Laboratories Inc. | UL 1059                  | E45172           |

## Compatible products

#### Insulation stop

|                                                                                  |                                                                                                                           |         |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------|
|  | <b>Item no.: 280-470</b><br>Insulation stop; 0.08 - 0.2 mm <sup>2</sup> "s" (0.14 mm <sup>2</sup> "f-st"); 5 pieces/strip | 280-470 |
|  | <b>Item no.: 280-471</b><br>Insulation stop; 0.25 - 0.5 mm <sup>2</sup> ; 5 pieces/strip                                  | 280-471 |
|  | <b>Item no.: 280-472</b><br>Insulation stop; 0.75 - 1 mm <sup>2</sup> ; 5 pieces/strip                                    | 280-472 |

#### assembling

|                                                                                  |                                                                                         |         |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------|
|  | <b>Item no.: 709-154</b><br>Cover; Type 2; suitable for cover carrier, type 2; 1 m long | 709-154 |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---------|

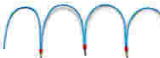
#### tools

|                                                                                  |                                                                                                                |         |
|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|
|  | <b>Item no.: 210-657</b><br>Operating tool with partially insulated shaft; Blade (3.5 x 0.5) mm; short         | 210-657 |
|  | <b>Item no.: 210-658</b><br>Operating tool with partially insulated shaft; Blade (3.5 x 0.5) mm; short; angled | 210-658 |
|  | <b>Item no.: 210-720</b><br>Operating tool with partially insulated shaft; Type 2, blade (3.5 x 0.5) mm        | 210-720 |

#### End plate

|                                                                                    |                                                                                                     |         |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------|
|  | <b>Item no.: 280-319</b><br>End and intermediate plate; 1 mm thick; for triple-deck terminal blocks | 280-319 |
|  | <b>Item no.: 280-321</b><br>End and intermediate plate; 1 mm thick; for triple-deck terminal blocks | 280-321 |

#### Jumper

|                                                                                    |                                                                                                                                   |         |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|---------|
|  | <b>Item no.: 210-103</b><br>Wire commoning chain; insulated; 50 connections                                                       | 210-103 |
|  | <b>Item no.: 210-123</b><br>Wire commoning chain; insulated; 50 connections                                                       | 210-123 |
|  | <b>Item no.: 249-123</b><br>Push-in type wire jumper; insulated; wire length 180 mm; Conductor cross section 0.75 mm <sup>2</sup> | 249-123 |
|  | <b>Item no.: 249-125</b><br>Push-in type wire jumper; insulated; wire length 60 mm; Conductor cross section 0.75 mm <sup>2</sup>  | 249-125 |
|  | <b>Item no.: 249-126</b><br>Push-in type wire jumper; insulated; wire length 110 mm; Conductor cross section 0.75 mm <sup>2</sup> | 249-126 |
|  | <b>Item no.: 249-127</b><br>Push-in type wire jumper; insulated; wire length 250 mm; Conductor cross section 0.75 mm <sup>2</sup> | 249-127 |
|  | <b>Item no.: 280-402</b><br>Adjacent jumper; insulated; IN = IN terminal block                                                    | 280-402 |
|  | <b>Item no.: 280-482</b><br>Comb-style jumper bar; insulated; 2-way; IN = IN terminal block                                       | 280-482 |



**Item no.: 280-483**  
Comb-style jumper bar; insulated; 3-way; IN = IN terminal block

280-483



**Item no.: 280-484**  
Comb-style jumper bar; insulated; 4-way; IN = IN terminal block

280-484



**Item no.: 280-485**  
Comb-style jumper bar; insulated; 5-way; IN = IN terminal block

280-485



**Item no.: 280-490**  
Comb-style jumper bar; insulated; 10-way; IN = IN terminal block

280-490



**Item no.: 280-492**  
Alternate comb-style jumper bar; insulated; 2-way; IN = IN terminal block

280-492



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

709-110



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

709-111



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

709-112



**Item no.: 780-452**  
Staggered jumper; insulated; from 1 to 2; Spacing: 5 mm; suitable for 2-conductor female plugs

780-452



**Item no.: 780-453**  
Staggered jumper; insulated; from 1 to 3; Spacing: 5 mm; suitable for 2-conductor female plugs

780-453



**Item no.: 780-454**  
Staggered jumper; insulated; from 1 to 4; Spacing: 5 mm; suitable for 2-conductor female plugs

780-454



**Item no.: 780-455**  
Staggered jumper; insulated; from 1 to 5; Spacing: 5 mm; suitable for 2-conductor female plugs

780-455



**Item no.: 780-456**  
Staggered jumper; insulated; from 1 to 6; Spacing: 5 mm; suitable for 2-conductor female plugs

780-456



**Item no.: 780-457**  
Staggered jumper; insulated; from 1 to 7; Spacing: 5 mm; suitable for 2-conductor female plugs

780-457



**Item no.: 780-458**  
Staggered jumper; insulated; from 1 to 8; Spacing: 5 mm; suitable for 2-conductor female plugs

780-458

#### Carrier rail



**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

210-112



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

210-113



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

210-114



**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

210-115

|                                                                                  |                                                                                                                                 |         |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------|
|  | <b>Item no.: 210-118</b><br>Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715            | 210-118 |
|  | <b>Item no.: 210-196</b><br>Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715          | 210-196 |
|  | <b>Item no.: 210-197</b><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715                | 210-197 |
|  | <b>Item no.: 210-198</b><br>Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715           | 210-198 |
|  | <b>Item no.: 210-504</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715   | 210-504 |
|  | <b>Item no.: 210-505</b><br>Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715 | 210-505 |
|  | <b>Item no.: 210-506</b><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715  | 210-506 |
|  | <b>Item no.: 210-508</b><br>Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715    | 210-508 |

**Protective Warning Marker**

|                                                                                  |                                                                                                               |         |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------|
|  | <b>Item no.: 280-415</b><br>Protective warning marker; with high-voltage symbol, black; for 5 terminal blocks | 280-415 |
|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------|

**ferrule**

|                                                                                    |                                                                                                                |         |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------|
|  | <b>Item no.: 216-101</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / AWG 22; uninsulated; electro-tin plated  | 216-101 |
|  | <b>Item no.: 216-102</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / AWG 20; uninsulated; electro-tin plated | 216-102 |
|  | <b>Item no.: 216-103</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; uninsulated; electro-tin plated    | 216-103 |
|  | <b>Item no.: 216-104</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; uninsulated; electro-tin plated  | 216-104 |
|  | <b>Item no.: 216-201</b><br>Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated    | 216-201 |
|  | <b>Item no.: 216-202</b><br>Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated   | 216-202 |
|  | <b>Item no.: 216-203</b><br>Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated      | 216-203 |
|  | <b>Item no.: 216-204</b><br>Ferrule; Sleeve for 1.5 mm <sup>2</sup> / AWG 16; insulated; electro-tin plated    | 216-204 |
|                                                                                    | <b>Item no.: 216-301</b><br>Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated   | 216-301 |
|  | <b>Item no.: 216-302</b><br>Ferrule; Sleeve for 0.34 mm <sup>2</sup> / 22 AWG; insulated; electro-tin plated   | 216-302 |

**Marking accessories**

|                                                                                     |                                                                                                                          |          |          |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|----------|----------|
|    | <b>Item no.: 2009-115</b><br>WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type         |          | 2009-115 |
|    | <b>Item no.: 2009-115/000-002</b><br>WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type | /000-002 | 2009-115 |
|    | <b>Item no.: 2009-115/000-006</b><br>WMB-Inline; for smartPRINTER; on reel; stretchable 5 - 5.2 mm; plain; snap-on type  | /000-006 | 2009-115 |
|    | <b>Item no.: 2009-115/000-007</b><br>WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type | /000-007 | 2009-115 |
|    | <b>Item no.: 2009-115/000-012</b><br>WMB-Inline; for smartPRINTER; on reel; stretchable 5 - 5.2 mm; plain; snap-on type  | /000-012 | 2009-115 |
|    | <b>Item no.: 2009-115/000-017</b><br>WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type | /000-017 | 2009-115 |
|    | <b>Item no.: 2009-115/000-023</b><br>WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type | /000-023 | 2009-115 |
|  | <b>Item no.: 2009-115/000-024</b><br>WMB-Inline; for smartPRINTER; on reel; stretchable 5 - 5.2 mm; plain; snap-on type  | /000-024 | 2009-115 |
|   | <b>Item no.: 793-501</b><br>WMB marking card; as card; not stretchable; plain; snap-on type                              |          | 793-501  |
|   | <b>Item no.: 793-501/000-002</b><br>WMB marking card; as card; not stretchable; plain; snap-on type                      | /000-002 | 793-501  |
|   | <b>Item no.: 793-501/000-005</b><br>WMB marking card; as card; not stretchable; plain; snap-on type                      | /000-005 | 793-501  |
|   | <b>Item no.: 793-501/000-006</b><br>WMB marking card; as card; not stretchable; plain; snap-on type                      | /000-006 | 793-501  |
|   | <b>Item no.: 793-501/000-007</b><br>WMB marking card; as card; not stretchable; plain; snap-on type                      | /000-007 | 793-501  |
|   | <b>Item no.: 793-501/000-012</b><br>WMB marking card; as card; not stretchable; plain; snap-on type                      | /000-012 | 793-501  |
|   | <b>Item no.: 793-501/000-017</b><br>WMB marking card; as card; not stretchable; plain; snap-on type                      | /000-017 | 793-501  |



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

/000-023

793-501



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

/000-024

793-501



**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

793-5501



**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

/000-002

793-5501



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

/000-005

793-5501



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

/000-006

793-5501



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

/000-007

793-5501



**Item no.: 793-5501/000-012**  
WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type

/000-012

793-5501



**Item no.: 793-5501/000-017**  
WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type

/000-017

793-5501



**Item no.: 793-5501/000-023**  
WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type

/000-023

793-5501



**Item no.: 793-5501/000-024**  
WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type

/000-024

793-5501

## Downloads

### Documentation

#### Bid Text

280-561/281-413

doc  
25.6 kB

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## CAD/CAE - Smart Data

### CAD data

