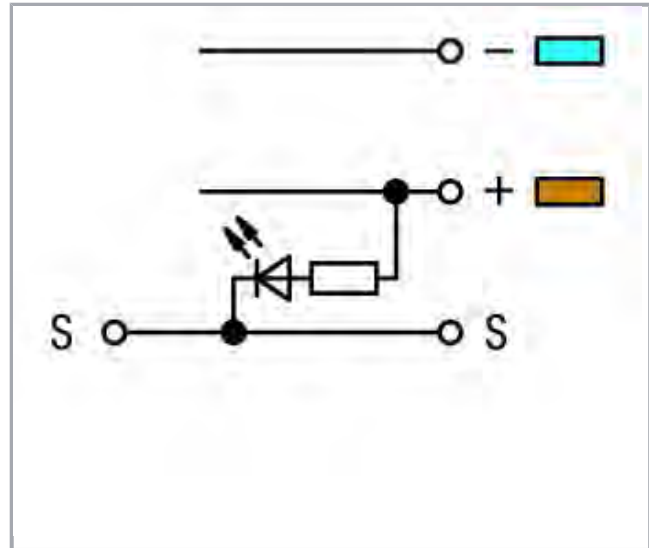


Data sheet | Item number: 280-561/281-413

3-conductor sensor terminal block; LED (red); for NPN-(low-side) switching sensors; with colored conductor entries; 2.5 mm²; CAGE CLAMP®; 2,50 mm²; gray



Item description

Note:

Terminating Aluminum Conductors

WAGO spring clamp terminal blocks are suitable for solid aluminum conductors up to 4 mm²/12 AWG if WAGO "Alu-Plus" Contact Paste 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.**

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



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 mm² = 16 A

4 mm² = 22 A

Safety information 1:

LED power consumption: 4.8 mA

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 Aluminum
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Total number of connection points	2
Total number of potentials	2
Number of levels	3
Wiring type	Front-entry wiring
Note (conductor cross-section)	12 AWG: THHN, THWN

Geometrical Data

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

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

Mechanical data

Design	angled
Mounting type	DIN-35 rail
Marking level	Center marking

Material Data

Color	gray
Insulation material	Polyamide 66 (PA66)
Fire load	0.174 MJ
Weight	10.5 g

Commercial data

Product Group	1 (Rail Mounted Terminal Blocks)
Packaging type	BOX
Country of origin	DE
GTIN	4045454299262
Customs tariff number	85369010000

Approvals / Certificates

Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
	CCA DEKRA Certification B.V.	EN 60947	2160584.53

Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	EN 60947	20-HG1941090-PDA
	DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAE00001V2

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

UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UR Underwriters Laboratories Inc.	UL 1059	20190731-E45172

Compatible products

Protective Warning Marker

**Item no.: 280-415**

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

Marking accessories

**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

**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.: 2009-115/000-012**

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange

**Item no.: 2009-115/000-017**

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; light green

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

**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.: 2009-115/000-024**

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; 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.: 793-501/000-005**

WMB marking card; as card; not stretchable; plain; snap-on type; red

**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.: 793-501/000-012**

WMB marking card; as card; not stretchable; plain; snap-on type; orange

**Item no.: 793-501/000-017**

WMB marking card; as card; not stretchable; plain; snap-on type; light green

**Item no.: 793-501/000-023**

WMB marking card; as card; not stretchable; plain; snap-on type; green

**Item no.: 793-501/000-024**

WMB marking card; as card; not stretchable; 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.: 793-5501/000-005**

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

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

**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.: 793-5501/000-012**

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.: 793-5501/000-017**

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.: 793-5501/000-023**

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.: 793-5501/000-024**

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

tools

**Item no.: 210-657**

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short

**Item no.: 210-658**

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; angled; short

**Item no.: 210-720**

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft

Insulation stop

**Item no.: 280-470**

Insulation stop; 0.08 - 0.2 mm² "s" (0.14 mm² "f-st"); 5 pieces/strip; white

**Item no.: 280-471**

Insulation stop; 0.25 - 0.5 mm²; 5 pieces/strip; light gray

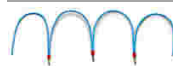
**Item no.: 280-472**

Insulation stop; 0.75 - 1 mm²; 5 pieces/strip

Jumper

**Item no.: 210-103**

Wire commoning chain; insulated; black

**Item no.: 210-123**

Wire commoning chain; insulated; blue

**Item no.: 280-402**

Jumper; insulated; gray

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



Item no.: 280-482
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.: 280-490
Jumper; 10-way; insulated; gray



Item no.: 280-492
Jumper; 2-way; 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.: 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

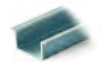
Carrier rail



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

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

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

**Item no.: 210-114**

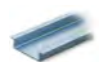
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715

**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

**Item no.: 210-118**

Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715

**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.: 210-197**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715

**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.: 210-504**

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715

**Item no.: 210-505**

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715

**Item no.: 210-506**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715

**Item no.: 210-508**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715

Push-In type wire jumper**Item no.: 249-123**Push-in type wire jumper; 0.75 mm²; insulated; 180 mm long; black**Item no.: 249-125**

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

**Item no.: 249-126**Push-in type wire jumper; 0.75 mm²; insulated; 110 mm long; black**Item no.: 249-127**Push-in type wire jumper; 0.75 mm²; insulated; 250 mm long; black**assembling****Item no.: 249-116**

Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

**Item no.: 709-154**

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

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

ferrule



Item no.: 216-101
Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated



Item no.: 216-102
Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin plated



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



Item no.: 216-104
Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated



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



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



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



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

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



Item no.: 216-302
Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; green

Downloads

Documentation

Bid Text

280-561/281-413

doc - Datei

280-561/281-413

GAEB X81 - Datei

Additional Information

Technical explanations

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

CAD/CAE-Data

CAD data

2D/3D Models 280-561/281-413

CAE data

EPLAN Data Portal 280-561/281-413

WSCAD Universe 280-561/281-413

ZUKEN Portal 280-561/281-413

Installation Notes

Installation



Snapping a terminal block onto the carrier rail – terminal blocks with a grounding foot automatically establish a direct contact to the rail.



Removing a terminal block from the carrier rail. Notice: Remove jumper contacts first.

Conductor termination

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



CAGE CLAMP® connection



CAGE CLAMP® connection

Inserting a conductor via straight operating tool (210-720).

Inserting a conductor via angled operating tool (210-658).

Commoning

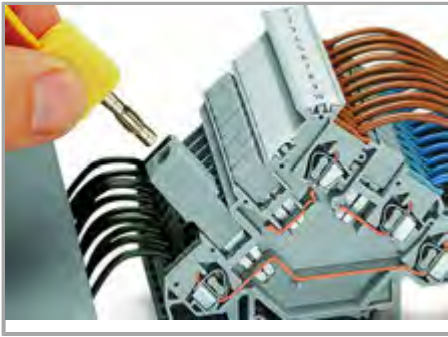


Commoning using an adjacent jumper (280-402).

Push jumper down until fully inserted.

Testing

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

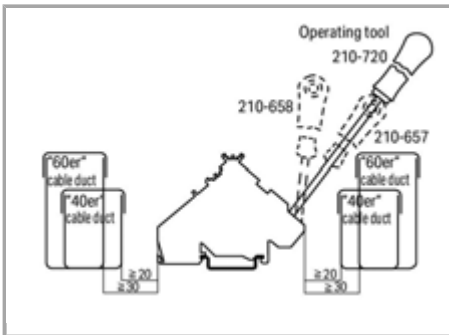


Testing via banana plug and test plug adapter (209-170).



Testing via voltage tester directly on the current bar.

Installation



Min. mounting distance – terminal blocks to cable duct

Marking



Labeling via WMB Multi Marking System.

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