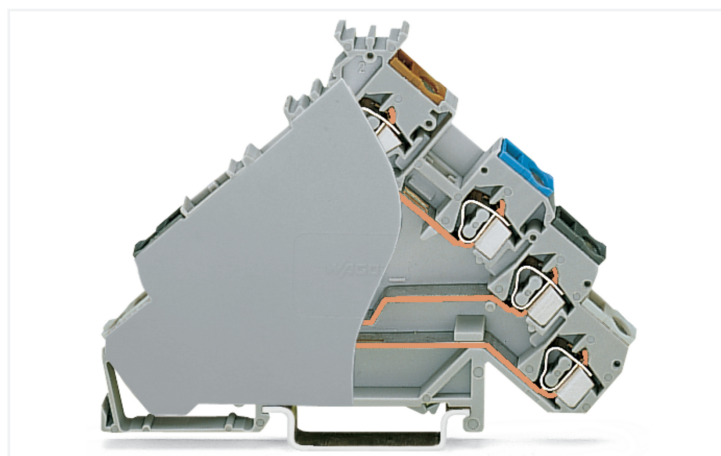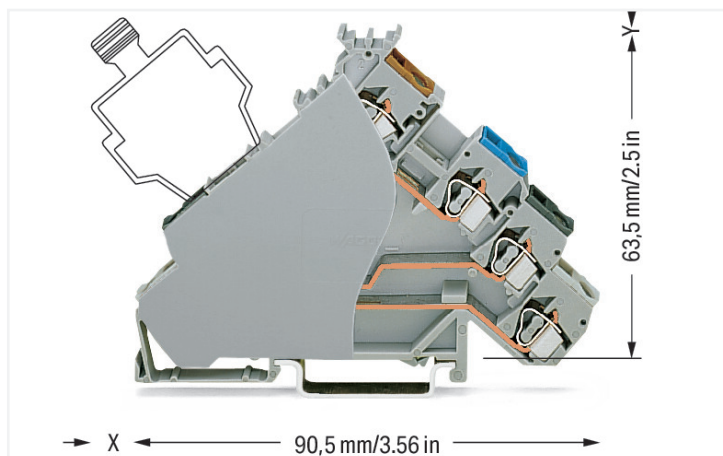# Data Sheet | Item Number: 280-588/280-320

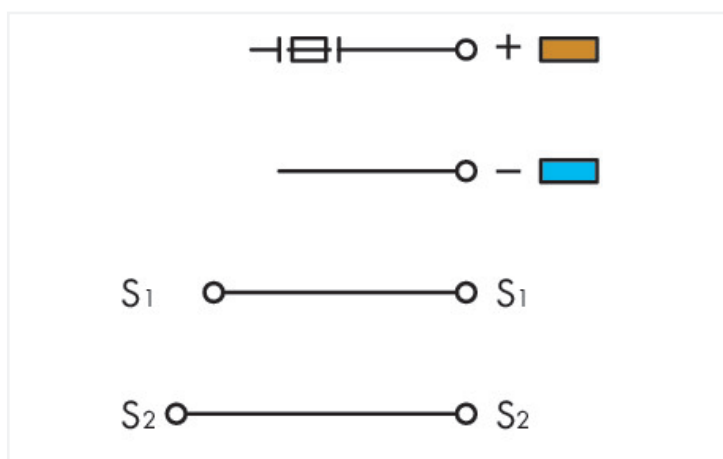## 4-conductor sensor terminal block; for PNP (positive) switching sensors; for fuse plugs; with gray end plate; with colored conductor entries; 2.5 mm²; CAGE CLAMP®; 2,50 mm²; gray

https://www.wago.com/280-588/280-320

Color: ■ gray

Sensor terminal block, 280 Series, operating tool

This sensor terminal block (item number 280-588/280-320) simplifies electrical installations. Conductors should only be connected to this sensor terminal block if their strip length is between 8 mm and 9 mm. This product features conductor terminals and utilizes CAGE CLAMP®. Our trusted universal connection known as CAGE CLAMP® leads the way when it comes to connection technology and electrical interconnections. This sensor terminal block is suitable for conductor cross sections ranging from 0.08 mm² to 2.5 mm². It has four levels. You can connect five potentials using the six clamping points. The gray housing is made of polyamide (PA66) for insulation. These function terminal blocks are mounted using DIN-35 rails..

Electrical data

Ratings per IEC/EN

Nominal voltage (III/3)	125 V
Rated current	5 A
Legend (ratings)	(III / 3) ≙ Overvoltage category III / Pollution degree 3

Ratings per IEC/EN – Notes

Ratings (note)	Electrical ratings are given by the fuse plug or empty component plug housing.

Ratings per IEC/EN 2

Rated voltage (III/3)	250 V
Rated current	6.3 A

Power Loss

Power loss, per pole (potential)	0.0333 W
Rated current I_N for specified power loss	5 A
Resistance value for specified, current-dependent power loss	0.00133 Ω

General information

LED schaltend für	PNP

Connection data

Clamping units	6
Total number of potentials	5
Number of levels	4

Connection 1

Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Connectable conductor materials	Copper Aluminum
Connectable conductor materials (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 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 mm² = 16 A 4 mm² = 22 A
Solid conductor	0.08 … 2.5 mm² / 28 … 12 AWG
Fine-stranded conductor	0.08 … 2.5 mm² / 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	6 mm / 0.236 inches
Height	90.5 mm / 3.563 inches
Depth from upper-edge of DIN-rail	63.5 mm / 2.5 inches

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Mechanical data

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

Material data

Note (material data)	Information on material specifications can be found here
Color	gray
Material group	I
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.44 MJ
Weight	21 g

Environmental requirements

Processing temperature	-35 … +85 ℃
Continuous operating temperature	-60 … +105 ℃

Commercial data

Product Group	1 (Rail Mounted Terminal Blocks)
eCl@ss 10.0	27-14-11-28
eCl@ss 9.0	27-14-11-28
ETIM 9.0	EC000900
ETIM 8.0	EC000900
PU (SPU)	50 pcs
Packaging type	Box
Country of origin	DE
GTIN	4045454559489
Customs tariff number	85369010000

Environmental Product Compliance

RoHS Compliance Status	Compliant,No Exemption

Approvals / Certificates

General approvals

KEMA KEUR   UL

Approval	Standard	Certificate Name
CCA DEKRA Certification B.V.	EN 60947	2160584.53
UR Underwriters Laboratories Inc.	UL 1059	E45172

Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

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Approvals for marine applications

Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	EN 60947	20-HG1941090-PDA

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 280-588/280-320	↓

Documentation

Additional Information

Technical Section	pdf 2246.92 KB	↓

Bid Text

280-588/280-320	19.02.2019	xml 3.53 KB	↓
280-588/280-320	14.03.2017	doc 25.00 KB	↓

CAD/CAE-Data

CAD data

2D/3D Models 280-588/280-320	↓

CAE data

EPLAN Data Portal 280-588/280-320	↓
WSCAD Universe 280-588/280-320	↓
ZUKEN Portal 280-588/280-320	↓

1 Compatible Products

1.1 Optional Accessories

1.1.1 DIN-rail

1.1.1.1 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

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1.1.1.1 Mounting accessories

Item No.: 210-112	**Item No.: 210-504**	**Item No.: 210-113**	**Item No.: 210-505**
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	Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; silver-colored	Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored	Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715; silver-colored

1.1.2 Ferrule

1.1.2.1 Ferrule

Item No.: 216-301	**Item No.: 216-302**	**Item No.: 216-201**	**Item No.: 216-101**
Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow	Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise	Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; acc. to DIN 46228, Part 4/09.90; white	Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated; silver-colored
Item No.: 216-202	**Item No.: 216-102**	**Item No.: 216-203**	**Item No.: 216-103**
Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray	Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin plated; silver-colored	Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red	Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated
Item No.: 216-204	**Item No.: 216-104**		
Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black	Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated; silver-colored		

1.1.3 Installation

1.1.3.1 Cover

Item No.: 709-154
Cover; Type 2; suitable for cover carrier, type 2; 1 m long; transparent

1.1.3.2 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

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1.1.3.3 Mounting accessories

Item No.: 249-116
Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

1.1.4 Insulation stop

1.1.4.1 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; black

1.1.5 Jumper

1.1.5.1 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.: 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.: 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

1.1.6 Marking

1.1.6.1 Marker

Item No.: 793-5501/000-006
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; blue

Item No.: 793-5501/000-007
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; gray

Item No.: 793-5501/000-023
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; green

Item No.: 793-5501/000-017
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; light green

Item No.: 793-5501/000-012
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; orange

Item No.: 793-5501/000-005
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; red

Item No.: 793-5501/000-024
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; violet

Item No.: 793-5501
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white

1.1.6.1 Marker

Item No.: 793-5501/000-002
WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; yellow

Item No.: 793-501/000-006
WMB marking card; as card; not stretchable; plain; snap-on type; blue

Item No.: 793-501/000-007
WMB marking card; as card; not stretchable; plain; snap-on type; gray

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

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

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

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

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

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

Item No.: 793-501/000-002
WMB marking card; as card; not stretchable; plain; snap-on type; yellow

Item No.: 2009-115/000-006
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue

Item No.: 2009-115/000-007
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray

Item No.: 2009-115/000-023
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green

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

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

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

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

Item No.: 2009-115/000-002
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow

1.1.7 Plug

1.1.7.1 Empty component plug housing

Item No.: 280-801
Empty component plug housing; gray

1.1.7.2 Fuse plug

Item No.: 281-512/281-418
Fuse plug; with pull-tab; for miniature metric fuses 5 x 20 mm and 5 x 25 mm; with blown fuse indication by neon lamp; 120 V; 6 mm wide; gray

Item No.: 281-512/281-417
Fuse plug; with pull-tab; for miniature metric fuses 5 x 20 mm and 5 x 25 mm; with blown fuse indication by neon lamp; 230 V; 6 mm wide; gray

Item No.: 281-512/281-501
Fuse plug; with pull-tab; for miniature metric fuses 5 x 20 mm and 5 x 25 mm; with LED indicator; 24 V AC/DC; 6 mm wide; gray

Item No.: 281-512
Fuse plug; with pull-tab; for miniature metric fuses 5 x 20 mm and 5 x 25 mm; with port for LED; 6 mm wide; gray

Item No.: 281-511
Fuse plug; with pull-tab; for miniature metric fuses 5 x 20 mm and 5 x 25 mm; without blown fuse indication; 6 mm wide; gray

Item No.: 280-854
Fuse plug; with soldered miniature fuse; 1 A FF; 5 mm wide; gray

Item No.: 280-856
Fuse plug; with soldered miniature fuse; 2 A FF; 5 mm wide; gray

Item No.: 280-850
Fuse plug; with soldered miniature fuse; 250 mA FF; 5 mm wide; gray

Item No.: 280-852
Fuse plug; with soldered miniature fuse; 500 mA FF; 5 mm wide; gray

Item No.: 280-854/281-415
Fuse plug; with soldered miniature fuse; with indicator lamp; LED (red); AC 15 - 30 V; 1 A FF; 5 mm wide; gray

Item No.: 280-856/281-415
Fuse plug; with soldered miniature fuse; with indicator lamp; LED (red); AC 15 - 30 V; 2 A FF; 5 mm wide; gray

Item No.: 280-850/281-415
Fuse plug; with soldered miniature fuse; with indicator lamp; LED (red); AC 15 - 30 V; 250 mA FF; 5 mm wide; gray

Item No.: 280-852/281-415
Fuse plug; with soldered miniature fuse; with indicator lamp; LED (red); AC 15 - 30 V; 500 mA FF; 5 mm wide; gray

Item No.: 280-854/281-413
Fuse plug; with soldered miniature fuse; with indicator lamp; LED (red); DC 15 - 30 V; 1 A FF; 5 mm wide; gray

Item No.: 280-856/281-413
Fuse plug; with soldered miniature fuse; with indicator lamp; LED (red); DC 15 - 30 V; 2 A FF; 5 mm wide; gray

Item No.: 280-850/281-413
Fuse plug; with soldered miniature fuse; with indicator lamp; LED (red); DC 15 - 30 V; 250 mA FF; 5 mm wide; gray

1.1.7.2 Fuse plug

Item No.: 280-852/281-413
Fuse plug; with soldered miniature fuse; with indicator lamp; LED (red); DC 15 - 30 V; 500 mA FF; 5 mm wide; gray

Item No.: 280-854/281-414
Fuse plug; with soldered miniature fuse; with indicator lamp; LED (red); DC 30 - 65 V; 1 A FF; 5 mm wide; gray

Item No.: 280-856/281-414
Fuse plug; with soldered miniature fuse; with indicator lamp; LED (red); DC 30 - 65 V; 2 A FF; 5 mm wide; gray

Item No.: 280-850/281-414
Fuse plug; with soldered miniature fuse; with indicator lamp; LED (red); DC 30 - 65 V; 250 mA FF; 5 mm wide; gray

Item No.: 280-852/281-414
Fuse plug; with soldered miniature fuse; with indicator lamp; LED (red); DC 30 - 65 V; 500 mA FF; 5 mm wide; gray

1.1.8 Protective warning marker

1.1.8.1 Cover

Item No.: 280-415
Protective warning marker; for 5 terminal blocks; with high-voltage symbol, black; yellow

1.1.9 Push-in type wire jumper

1.1.9.1 Jumper

Item No.: 249-126
Push-in type wire jumper; 0.75 mm²; insulated; 110 mm long; black

Item No.: 249-123
Push-in type wire jumper; 0.75 mm²; insulated; 180 mm long; black

Item No.: 249-127
Push-in type wire jumper; 0.75 mm²; insulated; 250 mm long; black

Item No.: 249-125
Push-in type wire jumper; insulated; 60 mm long; black

1.1.10 Test and measurement

1.1.10.1 Testing accessories

Item No.: 209-170
Test plug adapter; 8.3 mm wide; for 4 mm Ø test plugs; suitable for 1.5 mm² - 10 mm² tbs; gray

1.1.11 Tool

1.1.11.1 Operating tool

Item No.: 210-658
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; angled; short; multicoloured
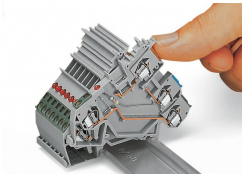
Item No.: 210-720
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

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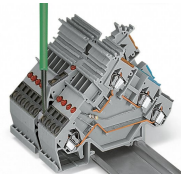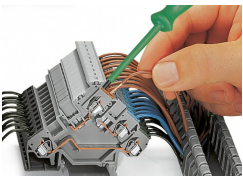
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Installation Notes

Installation

Snapping a terminal block onto the DIN-rail.
Terminal blocks with a grounding foot automatically establish a direct contact to the rail.
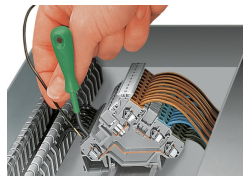
Removing the terminal block from DIN-rail.
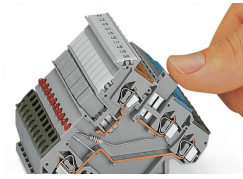Notice: Remove jumper contacts first!

Conductor termination

CAGE CLAMP® connection
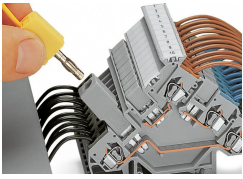Inserting a conductor via straight operating tool (210-720).

CAGE CLAMP® connection
Inserting a conductor via angled operating tool (210-658).
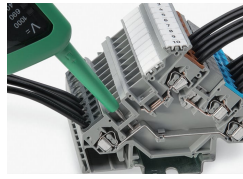
Commoning

Commoning using an adjacent jumper (280-402).
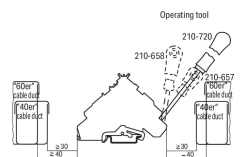Push jumper down until fully inserted.

Testing

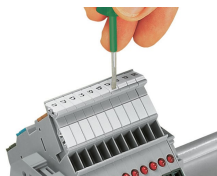Testing via banana plug and test plug adapter (209-170).

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!

Current addresses can be found at:: www.wago.com

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