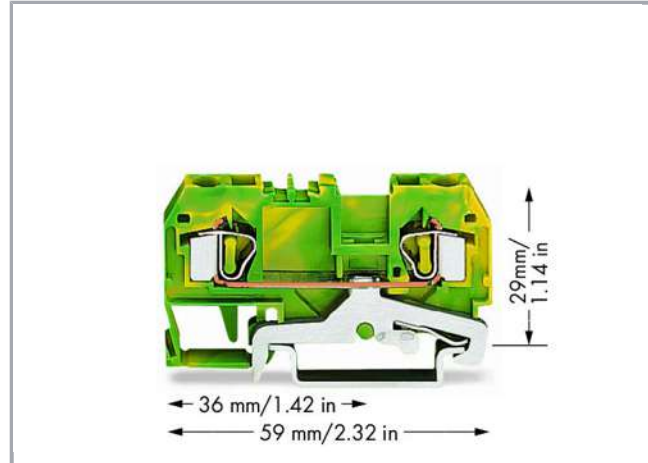


Data sheet | Item number: 281-907/999-950

2-conductor ground terminal block; 4 mm²; suitable for Ex e II applications;
center marking; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 4,00 mm²;
green-yellow



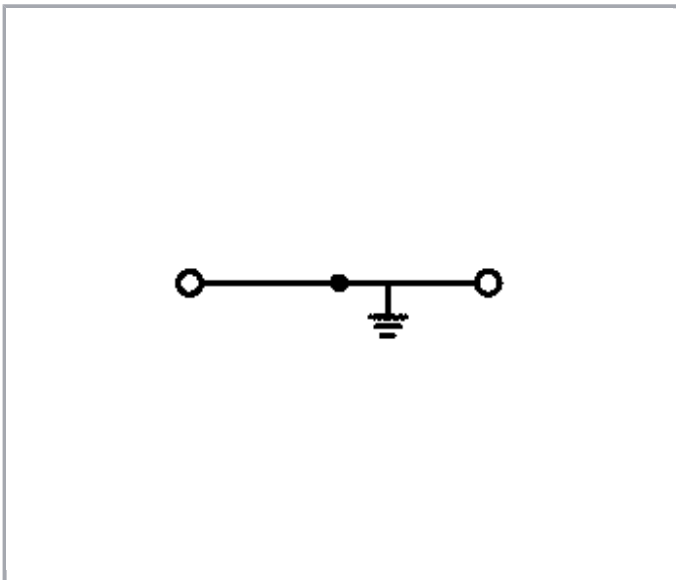
www.wago.com/281-907_999-950



RoHS
Compliant

BOMcheck.net

Color:



Item description

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

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Email: info.de@wago.com | Web: www.wago.com

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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.

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 (14 AWG) = 16 A

4 mm² (12 AWG) = 22 A

Data

Electrical data

Ratings per IEC/EN 60664-1

Ratings per	IEC/EN 60947-7-2
-------------	------------------

Connection data

Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Connectable conductor materials	Copper Aluminum
Solid conductor	0,08 ... 4 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0,08 ... 4 mm ² / 28 ... 12 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inch
Total number of connection points	2
Total number of potentials	1
Number of levels	1
Type of wiring	Front-entry wiring

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

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Geometrical Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-35 rail	29 mm / 1.142 inch
Depth	59 mm / 2.323 inch

Mechanical data

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

Material Data


Color	green-yellow
Insulating material	Polyamide 66 (PA 66)
Fire load	0.127 MJ
Weight	12.6 g

Commercial data


Packaging type	BOX
Country of origin	DE
GTIN	4044918513579
Customs Tariff No.	85369010000

Approvals / Certificates


Ex-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ATEX Physikalisch Technische Bundesanstalt (PTB)	-	PTB 00 ATEX 3110 U (II 2 G EEx e II)





Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
	CCA DEKRA Certification B.V.	EN 60947, IEC 60947	NTR NL- 7454/A1


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

	KEMA/KEUR DEKRA Certification B.V.	EN 60947	71- 107288
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Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	-	20- HG1941090- PDA
	BV Bureau Veritas S.A.	EN 60947	07436/E0 BV
	DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAE00001V2
	LR Lloyds Register	EN 60947	91/20112 (E9)

UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UL UL International Germany GmbH	UL 1059	20190731- E45172

Counterpart




Compatible products

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








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tools
















	Item no.: 210-657 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short	www.wago.com/210-657
	Item no.: 210-658 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; angled; short	www.wago.com/210-658
	Item no.: 210-720 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft	www.wago.com/210-720

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	www.wago.com/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	www.wago.com/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	www.wago.com/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	www.wago.com/210-115
	Item no.: 210-118 Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715	www.wago.com/210-118
	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	www.wago.com/210-196
	Item no.: 210-197 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715	www.wago.com/210-197
	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	www.wago.com/210-198
	Item no.: 210-504 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715	www.wago.com/210-504
	Item no.: 210-505 Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715	www.wago.com/210-505
	Item no.: 210-506 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715	www.wago.com/210-506
	Item no.: 210-508 Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715	www.wago.com/210-508

Marking accessories

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

	Item no.: 2009-115 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-115
	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	www.wago.com/2009-115/000-002
	Item no.: 2009-115/000-006 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-115/000-006
	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	www.wago.com/2009-115/000-007
	Item no.: 2009-115/000-012 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-115/000-012
	Item no.: 2009-115/000-017 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-115/000-017
	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	www.wago.com/2009-115/000-023
	Item no.: 2009-115/000-024 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-115/000-024
	Item no.: 209-140 Group marker carrier; gray	www.wago.com/209-140
	Item no.: 209-141 Group marker carrier; gray	www.wago.com/209-141
	Item no.: 209-142 Group marker carrier; gray	www.wago.com/209-142
	Item no.: 209-185 Adaptor; gray	www.wago.com/209-185
	Item no.: 249-105 Group marker carrier; gray	www.wago.com/249-105
	Item no.: 793-501 WMB marking card; as card; not stretchable; plain; snap-on type; white	www.wago.com/793-501
	Item no.: 793-501/000-002 WMB marking card; as card; not stretchable; plain; snap-on type; yellow	www.wago.com/793-501/000-002

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



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

www.wago.com/793-501/000-005



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

www.wago.com/793-501/000-006



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

www.wago.com/793-501/000-007



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

www.wago.com/793-501/000-012



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

www.wago.com/793-501/000-017



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

www.wago.com/793-501/000-023



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

www.wago.com/793-501/000-024



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

www.wago.com/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; yellow

www.wago.com/793-5501/000-002



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

www.wago.com/793-5501/000-005



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

www.wago.com/793-5501/000-006



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

www.wago.com/793-5501/000-007



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

www.wago.com/793-5501/000-012



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

www.wago.com/793-5501/000-017

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

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

www.wago.com/793-5501/000-023**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

www.wago.com/793-5501/000-024**ferrule****Item no.: 216-106**Ferrule; Sleeve for 2.5 mm² / AWG 14; uninsulated; electro-tin platedwww.wago.com/216-106**Item no.: 216-201**Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; whitewww.wago.com/216-201**Item no.: 216-202**Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; graywww.wago.com/216-202**Item no.: 216-203**Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; redwww.wago.com/216-203**Item no.: 216-204**Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; blackwww.wago.com/216-204**Item no.: 216-205**Ferrule; Sleeve for 2.08 mm² / AWG 14; insulated; electro-tin plated; yellowwww.wago.com/216-205**Item no.: 216-206**Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; bluewww.wago.com/216-206**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; whitewww.wago.com/216-241**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; graywww.wago.com/216-242**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; redwww.wago.com/216-243**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; blackwww.wago.com/216-244**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; bluewww.wago.com/216-246**Item no.: 216-301**Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellowwww.wago.com/216-301**Item no.: 216-302**Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; greenwww.wago.com/216-302

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

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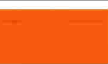







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Jumper

	Item no.: 249-123 Push-in type wire jumper; insulated; wire length 180 mm; Conductor cross section 0.75 mm ²	www.wago.com/249-123
	Item no.: 249-125 Push-in type wire jumper; insulated; wire length 60 mm; Conductor cross section 0.75 mm ²	www.wago.com/249-125
	Item no.: 249-126 Push-in type wire jumper; insulated; wire length 110 mm; Conductor cross section 0.75 mm ²	www.wago.com/249-126
	Item no.: 249-127 Push-in type wire jumper; insulated; wire length 250 mm; Conductor cross section 0.75 mm ²	www.wago.com/249-127
	Item no.: 281-402 Adjacent jumper; insulated; IN = IN terminal block; gray	www.wago.com/281-402
	Item no.: 281-409 Alternate jumper; insulated; IN = IN terminal block; gray	www.wago.com/281-409
	Item no.: 281-422 Adjacent jumper; insulated; IN = IN terminal block; yellow-green	www.wago.com/281-422
	Item no.: 281-482 Comb-style jumper bar; insulated; 2-way; IN = IN terminal block; gray	www.wago.com/281-482
	Item no.: 281-483 Comb-style jumper bar; insulated; 3-way; IN = IN terminal block; gray	www.wago.com/281-483
	Item no.: 281-485 Comb-style jumper bar; insulated; 5-way; IN = IN terminal block; gray	www.wago.com/281-485
	Item no.: 281-490 Comb-style jumper bar; insulated; 10-way; IN = IN terminal block; gray	www.wago.com/281-490
	Item no.: 281-492 Alternate comb-style jumper bar; insulated; 2-way; IN = IN terminal block; gray	www.wago.com/281-492
	Item no.: 709-110 Wire commoning chain; insulated; 4 connections; 3 x 110 mm; black	www.wago.com/709-110
	Item no.: 709-111 Wire commoning chain; insulated; 3 connections; 2 x 120 mm; black	www.wago.com/709-111
	Item no.: 709-112 Wire commoning chain; insulated; 3 connections; 2 x 170 mm; black	www.wago.com/709-112
	Item no.: 781-452 Staggered jumper; insulated; from 1 to 2; Spacing: 6 mm; gray	www.wago.com/781-452
	Item no.: 781-453 Staggered jumper; insulated; from 1 to 3; Spacing: 6 mm; gray	www.wago.com/781-453
	Item no.: 781-454 Staggered jumper; insulated; from 1 to 4; Spacing: 6 mm; gray	www.wago.com/781-454

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

	Item no.: 781-455 Staggered jumper; insulated; from 1 to 5; Spacing: 6 mm; gray	www.wago.com/781-455
	Item no.: 781-456 Staggered jumper; insulated; from 1 to 6; Spacing: 6 mm; gray	www.wago.com/781-456
End plate		
	Item no.: 209-190 Separator for Ex e/Ex i applications; 3 mm thick; 90 mm wide; orange	www.wago.com/209-190
	Item no.: 209-191 Separator for Ex e/Ex i applications; 3 mm thick; 120 mm wide; orange	www.wago.com/209-191
	Item no.: 209-192 Separator for Ex e/Ex i applications; 3 mm thick; 125.5 mm wide; orange	www.wago.com/209-192
	Item no.: 281-328 End and intermediate plate; 2.5 mm thick; gray	www.wago.com/281-328
	Item no.: 281-329 End and intermediate plate; 2.5 mm thick; orange	www.wago.com/281-329
	Item no.: 281-330 Separator plate; 2 mm thick; oversized; gray	www.wago.com/281-330
	Item no.: 281-331 Separator plate; 2 mm thick; oversized; orange	www.wago.com/281-331
	Item no.: 281-349 End and intermediate plate; 2.5 mm thick; light gray	www.wago.com/281-349
	Item no.: 281-350 Separator plate; 2 mm thick; oversized; light gray	www.wago.com/281-350
Protective Warning Marker		
	Item no.: 281-415 Protective warning marker; with high-voltage symbol, black; for 5 terminal blocks; yellow	www.wago.com/281-415
assembling		
	Item no.: 209-106 Mounting carrier; for isolated mounting on DIN 35 rails; gray	www.wago.com/209-106
	Item no.: 709-153 Cover; Type 1; suitable for cover carrier, type 1; 1 m long; transparent	www.wago.com/709-153
Insulation stop		
	Item no.: 281-470 Insulation stop; 0.08 - 0.2 mm ² "s" (0.14 mm ² "f-st"); 5 pieces/strip; white	www.wago.com/281-470
	Item no.: 281-471 Insulation stop; 0.25 - 0.5 mm ² ; 5 pieces/strip; light gray	www.wago.com/281-471
	Item no.: 281-472	

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



Insulation stop; 0.75 - 1.5 mm²; 5 pieces/strip; dark gray

www.wago.com/281-472

Downloads

Documentation

Bid Text

281-907/999-950 doc - Datei	Feb 28, 2017	doc 24.6 kB	Download
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281-907/999-950 X81 - Datei	Feb 19, 2019	xml 3.2 kB	Download
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Additional Information

Technical explanations	Apr 3, 2019	pdf 2.1 MB	Download
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CAD/CAE-Data

CAD data

2D/3D Models 281-907/999-950	URL	Download
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CAE data

EPLAN Data Portal 281-907/999-950	URL	Download
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WSCAD Universe 281-907/999-950	URL	Download
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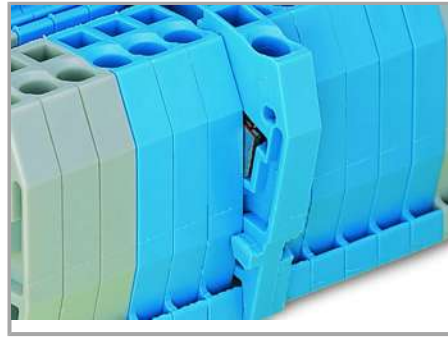
Installation Notes

Assembly

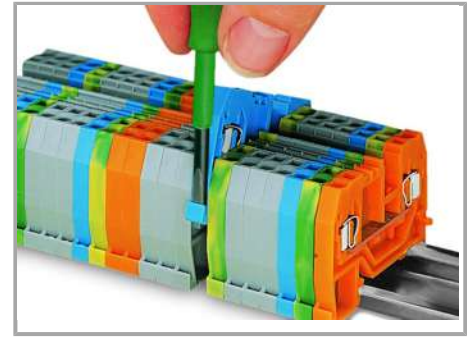
Subject to changes. Please also observe the further product documentation!



By snapping a ground conductor terminal block onto the carrier rail, a direct electrical connection is automatically made to the rail.



Quick assembly keys prevent reverse mounting.



Removing a terminal block from the assembly.

Inserting a conductor



CAGE CLAMP® connection

Inserting a conductor.



CAGE CLAMP® connection

Inserting a conductor.



CAGE CLAMP® connection
Removing a conductor.

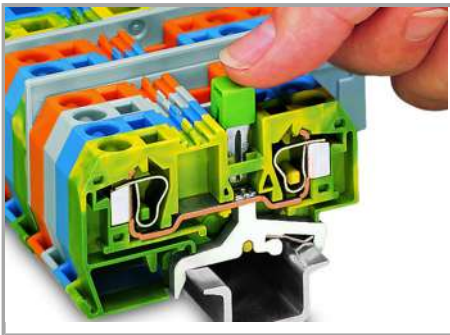
With ferruled conductors, it is necessary to use a terminal block one size larger than the conductor's nominal cross-section.

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

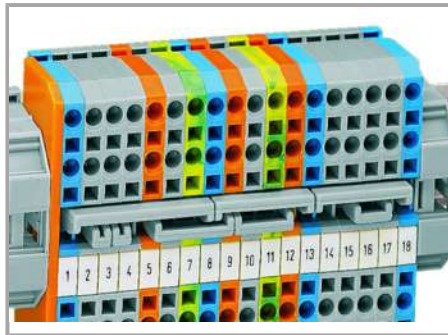


Inserting insulation stops.

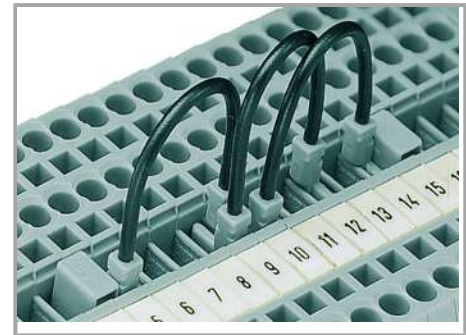
Jumpered



Commoning ground conductor terminal blocks with through terminal blocks is possible in one direction only (via rear side of terminal block) using adjacent jumpers. In addition to the required marking of these blocks, use yellow-green adjacent jumpers.



Staggered jumpers for sophisticated circuit requirements – push jumpers down until fully inserted.



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:

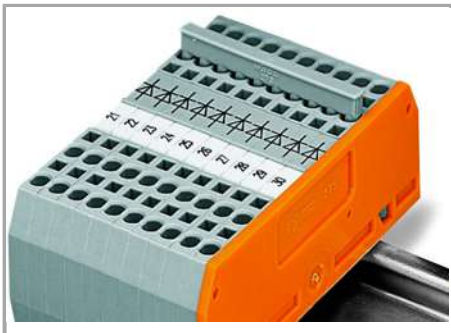
- 279 Series (1.5 mm²/16 AWG),
-
- 280/775/780 Series (2.5 mm²/14 AWG)

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

-
- 281/769/776/777/781 and 880 Series (4 mm²/12 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).

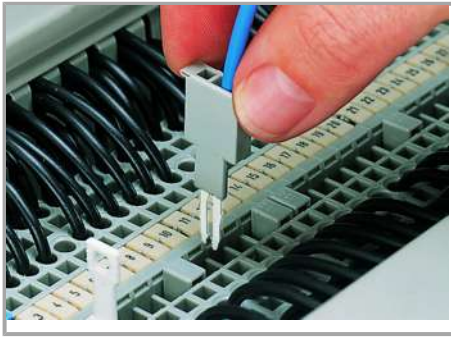
Compared with the 279 Series, the 280/775/780 and 281/776/777/781 Series can also accommodate two wire jumpers, allowing the use of commoning chains. Furthermore, the 280/769/775/780/880 and 281/776/777/781 Series allow both wire jumper and adjacent jumper to be simultaneously plugged into a same terminal block.



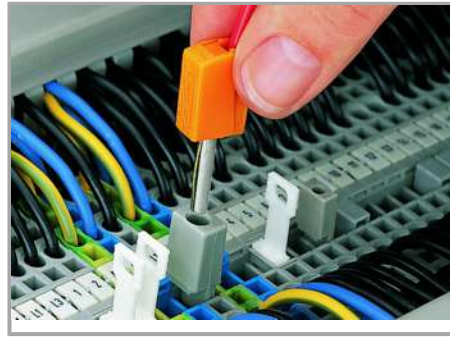
Commoning using comb-style jumper bars.
Push comb-style jumper bars down until fully inserted.

Testing

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



Testing with a test plug

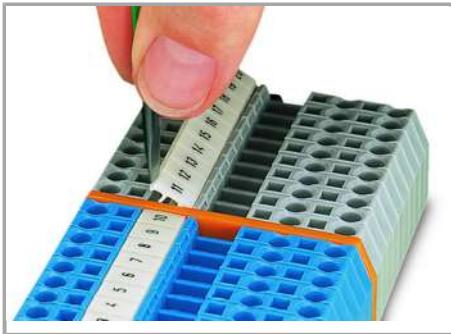


Testing with a test plug

(picture shows a test plug fitted with CAGE CLAMP®).

(picture shows 209-170 Test Plug Adapter).

Marking



Marking via WMB Multi Marking System.

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