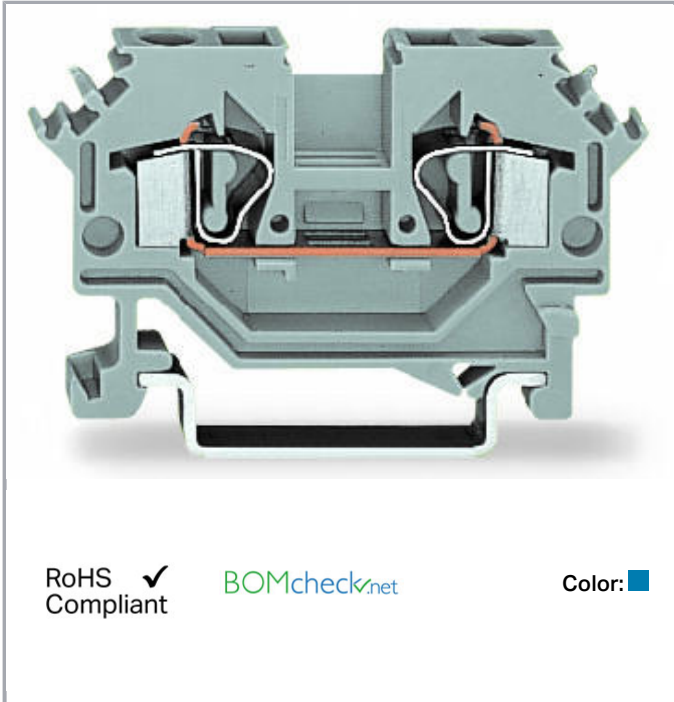


Data sheet | Item number: 281-604

2-conductor through terminal block; 4 mm²; suitable for Ex i applications; lateral marker slots; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 4,00 mm²; blue

www.wago.com/281-604



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.

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

Subject to changes.

WAGO Kontakttechnik GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

Do you have any questions about our products?
We are always happy to take your call at +49 (571) 887-44222.



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

Rated voltage (III / 3)	800 V
Rated impulse voltage (III / 3)	8 kV
Rated current	32 A
Legend (ratings)	(III / 3) ≙ Overvoltage category III / Pollution degree 3

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

Geometrical Data

Width	6 mm / 0.236 inch
Height from upper-edge of DIN-35 rail	29 mm / 1.142 inch
Depth	53 mm / 2.087 inch

Mechanical data

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

Subject to changes.

Material Data




Color	blue
Insulating material	Polyamide 66 (PA 66)
Fire load	0.128 MJ
Weight	6.9 g

Commercial data



Packaging type	BOX
Country of origin	DE
GTIN	4044918500630
Customs Tariff No.	85369010000

Approvals / Certificates

Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
	CCA DEKRA Certification B.V.	EN 60947, IEC 60947	NTR NL-7454/A1
	CSA DEKRA Certification B.V.	C22.2 No. 158	1505034
	KEMA/KEUR DEKRA Certification B.V.	EN 60947	71-107288

Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	-	14-HG1293677-PDA
	BV Bureau Veritas S.A.	EN 60947	07436/E0 BV

Subject to changes.



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
	UR Underwriters Laboratories Inc.	UL 1059	E45172

Compatible products


General accessories

	Item no.: 281-407 Test plug; 6 mm wide; Nominal current 24 A; for 0.08 mm ² - 2.5 mm ² ; 2,50 mm ² ; gray	www.wago.com/281-407
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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 Insulation stop; 0.75 - 1.5 mm ² ; 5 pieces/strip; dark gray	www.wago.com/281-472

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
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Subject to changes.


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


	Item no.: 209-106 Mounting carrier; for isolated mounting on DIN 35 rails; gray	www.wago.com/209-106
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	Item no.: 709-153 Cover; Type 1; suitable for cover carrier, type 1; 1 m long; transparent	www.wago.com/709-153
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check


	Item no.: 209-170 Test plug adapter; 8.3 mm wide; for 4 mm Ø test plugs; suitable for 1.5 mm ² - 10 mm ² tbs; gray	www.wago.com/209-170
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	Item no.: 249-144 L-type test plug module; modular; with spring-loaded contact pin; Center module; 2,50 mm ² ; gray	www.wago.com/249-144
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	Item no.: 249-146 L-type spacer module; modular; e.g., bridging commoned terminal blocks; gray	www.wago.com/249-146
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	Item no.: 249-147 B-type test plug module; modular; 2,50 mm ² ; gray	www.wago.com/249-147
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	Item no.: 249-148 B-type spacer module; modular; e.g., for bridging commoned terminal blocks; gray	www.wago.com/249-148
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	Item no.: 280-404 Test plug adapter; 5 mm wide; for test plug 210-137 (2.3 mm Ø); suitable for 1.5 mm ² - 4 mm ² tbs; gray	www.wago.com/280-404
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	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	www.wago.com/281-418
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	Item no.: 281-419 Spacer module; modular; bridging commoned terminal blocks; gray	www.wago.com/281-419
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ferrule

	Item no.: 216-106 Ferrule; Sleeve for 2.5 mm ² / AWG 14; uninsulated; electro-tin plated	www.wago.com/216-106
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






	Item no.: 216-201 Ferrule; Sleeve for 0.5 mm ² / 20 AWG; insulated; electro-tin plated; white	www.wago.com/216-201
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	Item no.: 216-202 Ferrule; Sleeve for 0.75 mm ² / 18 AWG; insulated; electro-tin plated; gray	www.wago.com/216-202
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Subject to changes.

	Item no.: 216-203 Ferrule; Sleeve for 1 mm ² / AWG 18; insulated; electro-tin plated; red	www.wago.com/216-203
	Item no.: 216-204 Ferrule; Sleeve for 1.5 mm ² / AWG 16; insulated; electro-tin plated; black	www.wago.com/216-204
	Item no.: 216-205 Ferrule; Sleeve for 2.08 mm ² / AWG 14; insulated; electro-tin plated; yellow	www.wago.com/216-205
	Item no.: 216-206 Ferrule; Sleeve for 2.5 mm ² / AWG 14; insulated; electro-tin plated; blue	www.wago.com/216-206
	Item no.: 216-241 Ferrule; Sleeve for 0.5 mm ² / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white	www.wago.com/216-241
	Item no.: 216-242 Ferrule; Sleeve for 0.75 mm ² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray	www.wago.com/216-242
	Item no.: 216-243 Ferrule; Sleeve for 1 mm ² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red	www.wago.com/216-243
	Item no.: 216-244 Ferrule; Sleeve for 1.5 mm ² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black	www.wago.com/216-244
	Item no.: 216-246 Ferrule; Sleeve for 2.5 mm ² / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue	www.wago.com/216-246
	Item no.: 216-301 Ferrule; Sleeve for 0.25 mm ² / AWG 24; insulated; electro-tin plated; yellow	www.wago.com/216-301
	Item no.: 216-302 Ferrule; Sleeve for 0.34 mm ² / 22 AWG; insulated; electro-tin plated; green	www.wago.com/216-302
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-	www.wago.com/210-196
















Subject to changes.

	colored	
	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

	Item no.: 2009-115 WMB-Inline; for Smart Printer; on reel; 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; on reel; 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; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; blue	www.wago.com/2009-115/000-006
	Item no.: 2009-115/000-007 WMB-Inline; for Smart Printer; on reel; 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; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; orange	www.wago.com/2009-115/000-012
	Item no.: 2009-115/000-017 WMB-Inline; for Smart Printer; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; light green	www.wago.com/2009-115/000-017
	Item no.: 2009-115/000-023 WMB-Inline; for Smart Printer; on reel; 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; on reel; stretchable 5 - 5.2 mm; plain; snap-on type; violet	www.wago.com/2009-115/000-024

Subject to changes.

	Item no.: 209-140 Group marker carrier	www.wago.com/209-140
	Item no.: 209-141 Group marker carrier	www.wago.com/209-141
	Item no.: 209-142 Group marker carrier	www.wago.com/209-142
	Item no.: 209-185 Adaptor	www.wago.com/209-185
	Item no.: 249-105 Group marker carrier	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
	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

Subject to changes.



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; 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; 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; 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; 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; stretchable 5 - 5.2 mm; plain; snap-on type; light green

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



Item no.: 793-5501/000-023

WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type; green

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



Item no.: 793-5501/000-024

WMB marking card; as card; stretchable 5 - 5.2 mm; plain; snap-on type; violet

www.wago.com/793-5501/000-024

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.: 281-316

End and intermediate plate; 3 mm thick; gray

www.wago.com/281-316



Item no.: 281-317

End and intermediate plate; 3 mm thick; orange

www.wago.com/281-317



Item no.: 281-327

Separator plate; 2 mm thick; oversized; orange

www.wago.com/281-327



Item no.: 281-337

Separator plate; 2 mm thick; oversized; gray

www.wago.com/281-337

Subject to changes.

WAGO Kontakttechnik GmbH & Co. KG

Hansastr. 27

32423 Minden

Phone: +49571 887-0 | Fax: +49571 887-169

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

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Item no.: 284-334
Step-down cover plate; 1 mm thick; for 2-, 3- and 4-conductor terminal blocks; gray

www.wago.com/284-334



Item no.: 284-344
Step-down cover plate; 1 mm thick; for 2-, 3- and 4-conductor terminal blocks; orange

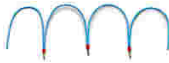
www.wago.com/284-344

Jumper



Item no.: 210-103
Wire commoning chain; insulated; 50 connections; black

www.wago.com/210-103



Item no.: 210-123
Wire commoning chain; insulated; 50 connections

www.wago.com/210-123



Item no.: 249-123
Push-in type wire jumper; insulated; wire length 180 mm; Conductor cross section 0.75 mm²

www.wago.com/249-123



Item no.: 249-125
Push-in type wire jumper; insulated; wire length 60 mm; Conductor cross section 0.75 mm²

www.wago.com/249-125



Item no.: 249-126
Push-in type wire jumper; insulated; wire length 110 mm; Conductor cross section 0.75 mm²

www.wago.com/249-126



Item no.: 249-127
Push-in type wire jumper; insulated; wire length 250 mm; Conductor cross section 0.75 mm²

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.: 283-414
Step-down jumper; insulated; from 16 mm² to 4 mm²; Nominal current 32 A; gray










www.wago.com/283-414



Item no.: 284-413
Step-down jumper; insulated; from 10/6 mm² to 6/4 mm²; Nominal current 30 A; gray

www.wago.com/284-413

Subject to changes.

	<p>Item no.: 284-414 Step-down jumper; insulated; from 10/6 mm² to 4/2.5/1.5 mm²; Nominal current 15 A; gray</p>	www.wago.com/284-414
	<p>Item no.: 709-110 Wire commoning chain; insulated; 4 connections; 3 x 110 mm; black</p>	www.wago.com/709-110
	<p>Item no.: 709-111 Wire commoning chain; insulated; 3 connections; 2 x 120 mm; black</p>	www.wago.com/709-111
	<p>Item no.: 709-112 Wire commoning chain; insulated; 3 connections; 2 x 170 mm; black</p>	www.wago.com/709-112
	<p>Item no.: 781-452 Staggered jumper; insulated; from 1 to 2; Spacing: 6 mm; gray</p>	www.wago.com/781-452
	<p>Item no.: 781-453 Staggered jumper; insulated; from 1 to 3; Spacing: 6 mm; gray</p>	www.wago.com/781-453
	<p>Item no.: 781-454 Staggered jumper; insulated; from 1 to 4; Spacing: 6 mm; gray</p>	www.wago.com/781-454
	<p>Item no.: 781-455 Staggered jumper; insulated; from 1 to 5; Spacing: 6 mm; gray</p>	www.wago.com/781-455
	<p>Item no.: 781-456 Staggered jumper; insulated; from 1 to 6; Spacing: 6 mm; gray</p>	www.wago.com/781-456

Downloads

Documentation

Additional Information

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

CAD data

2D/3D Models 281-604	URL	Download
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CAE data

EPLAN Data Portal 281-604	Download
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WSCAD Universe 281-604	Download
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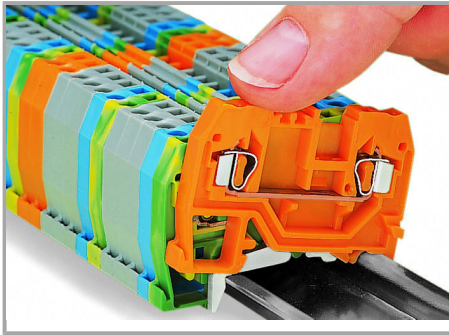
Subject to changes.

WAGO Kontakttechnik GmbH & Co. KG
 Hansastr. 27
 32423 Minden
 Phone: +49571 887-0 | Fax: +49571 887-169
 Email: info.de@wago.com | Web: www.wago.com

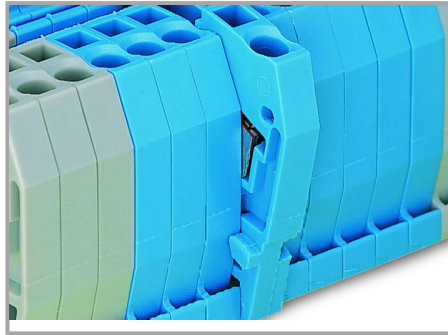
Do you have any questions about our products?
 We are always happy to take your call at +49 (571) 887-44222.

Installation Notes

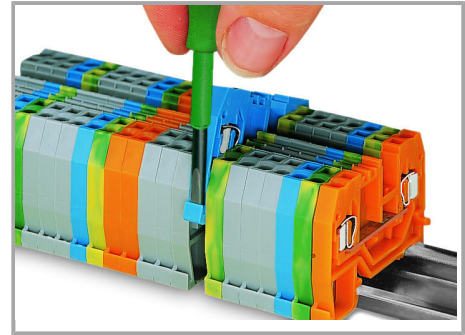
Assembly



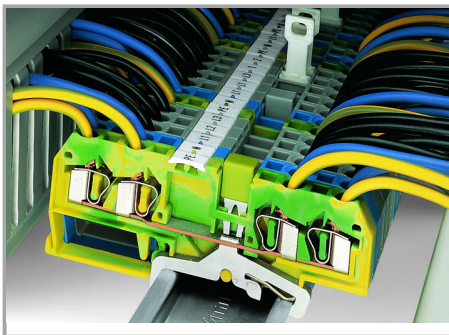
Snapping a terminal block onto the carrier rail.



Quick assembly keys prevent reverse mounting.



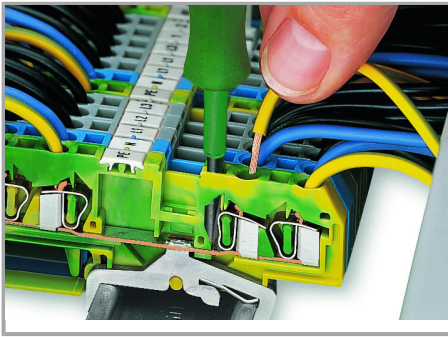
Removing a terminal block from the assembly.



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

Inserting a conductor

Subject to changes.



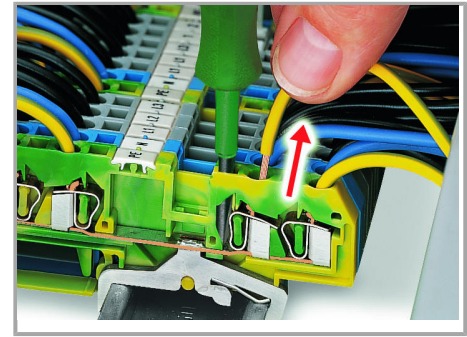
CAGE CLAMP® connection

Inserting a conductor.



CAGE CLAMP® connection

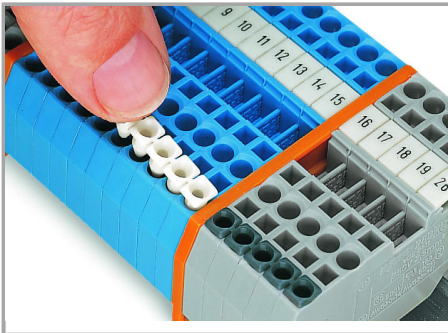
Inserting a conductor.



CAGE CLAMP®-Anschluss

Leiter lösen.

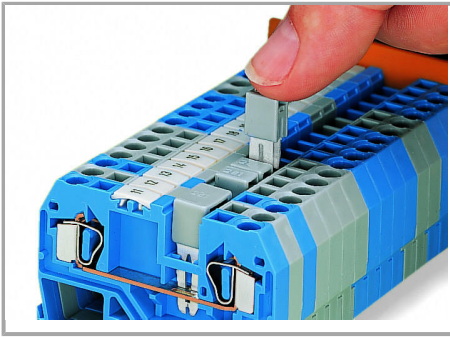
With ferruled conductors, it is necessary to use a terminal block one size larger than the conductor's nominal cross-section.



Inserting insulation stops.

Jumpered

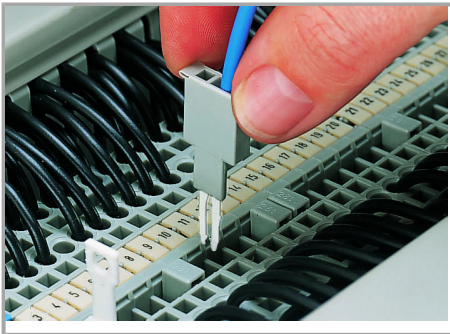
Subject to changes.



Commoning using an adjacent jumper (280-402).

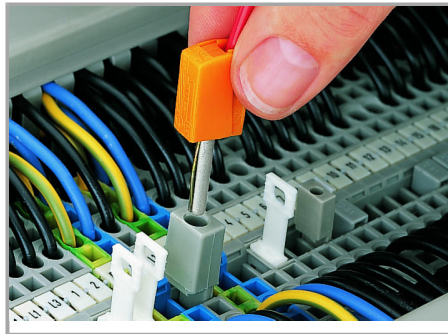
Push jumper down until fully inserted.

Testing



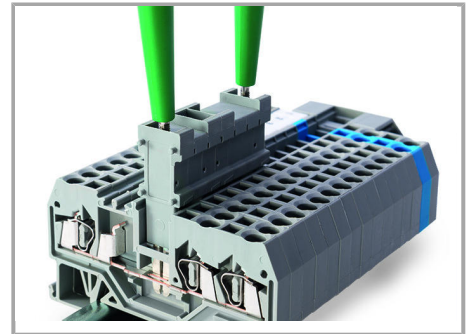
Testing with a test plug

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



Testing with a test plug

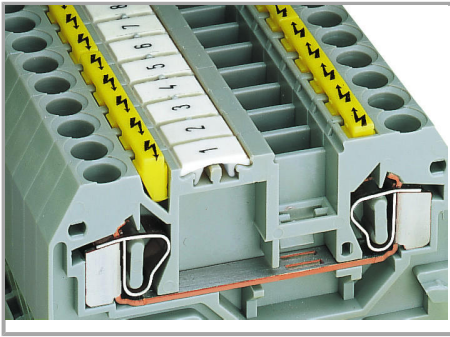
(picture shows 209-170 Test Plug Adapter).



The test plug modules are directly plugged into the jumper contact slot of the current bar.

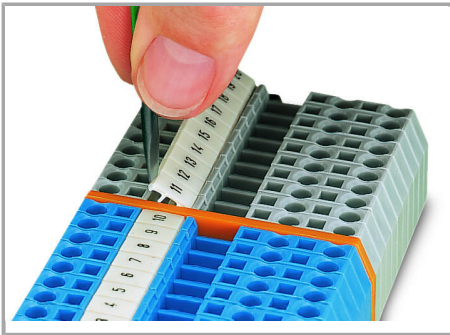
Cover

Subject to changes.



Protective warning markers inserted into the operating slots.

Marking



Marking via WMB Multi Marking System.

Subject to changes.