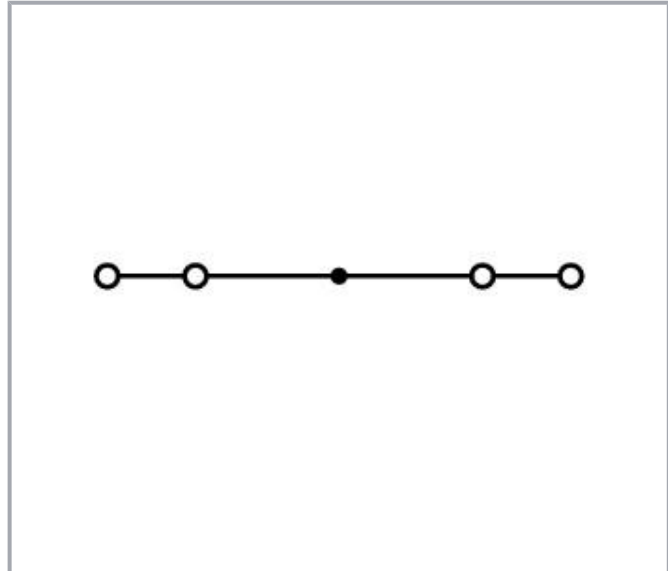
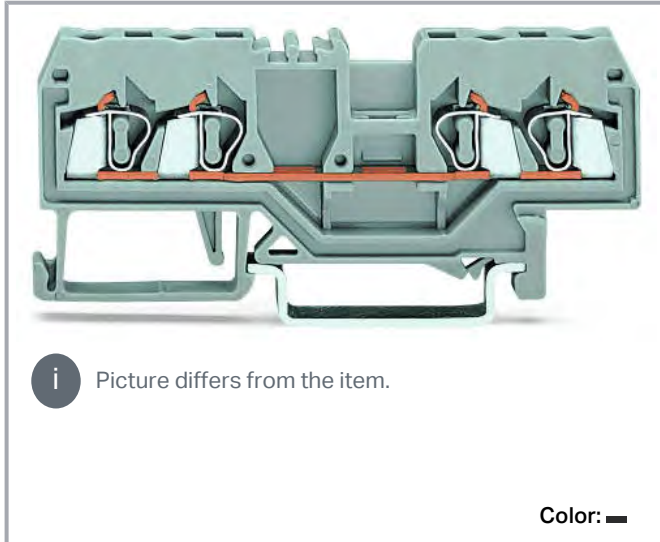


Data sheet | Item number: 280-831

4-conductor through terminal block; 2.5 mm²; center marking; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 2,50 mm²; black



Data

Electrical data

Ratings per	IEC/EN 60947-7-1
Rated voltage (III / 3)	800 V
Rated surge voltage (III/3)	8 kV
Rated current	20 A
Legend (ratings)	(III / 3) ≙ Overvoltage category III / Pollution degree 3

Connection data

Total number of connection points	4
Total number of potentials	1
Number of levels	1
Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Connectable conductor materials	Copper Aluminum
Anschließbare Leiterwerkstoffe Hinweis	

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



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.

For spring clamp connections with PUSH WIRE® connection technology, **WAGO recommends that the aluminum conductor first be cleaned** and then immediately inserted into the clamping unit 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 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG
Note (conductor cross-section)	12 AWG: THHN, THWN
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Wiring direction	Front-entry wiring

Physical data

Width	5 mm / 0.197 inch
Height	75 mm / 2.953 inch
Depth from upper edge of DIN-rail	28 mm / 1.102 inch

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

Mechanical data

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

Material data

Color	black
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.141 MJ
Weight	9.2 g

Commercial data

PU (SPU)	100 Stück
Packaging type	box
Country of origin	DE
GTIN	4044918311229
Customs tariff number	8536904000

Approvals / Certificates

Country specific Approvals

Logo	Approval	Additional Approval Text	Certificate name
	CCA DEKRA Certification B.V.	EN 60947	2157201.01
	CSA DEKRA Certification B.V.	C22.2	1536071

Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
	ABS American Bureau of Shipping	EN 60947	20- HG1941090- PDA

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



BV
Bureau Veritas S.A.

EN 60947

07436/F0 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 Underwriters Laboratories Inc.	UL 1059	E45172

Required accessories

End plates

End plate



Item no.: 280-314
End and intermediate plate; 2.5 mm thick; gray



Item no.: 280-315
End and intermediate plate; 2.5 mm thick; orange

Optional accessories

Tools

Operating tool



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



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

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

Carrier rail

Mounting accessories


Item no.: 210-197

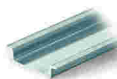
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored


Item no.: 210-198

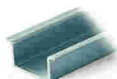
Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored


Item no.: 210-504

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


Item no.: 210-505

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according 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.: 210-508

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


Item no.: 210-113

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according 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.: 210-112

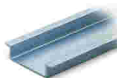
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm; silver-colored


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.: 210-115

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


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

Ferrules

Ferrule


Item no.: 216-101

Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated; silver-colored


Item no.: 216-104

Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated; silver-colored


Item no.: 216-102

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

Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin plated; silver-colored

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

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

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

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

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

 **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

Protective warning marker

Cover



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

End plates

End plate



Item no.: 284-336
Step-down cover plate; 1 mm thick; for 4-conductor 279-831, 280-833 and 281-652 terminal blocks; gray



Item no.: 284-346
Step-down cover plate; 1 mm thick; for 4-conductor 279-831, 280-833 and 281-652 terminal blocks; orange



Item no.: 280-335
Separator plate; 2 mm thick; oversized; orange



Item no.: 280-334
Separator plate; 2 mm thick; oversized; gray

Mounting

Mounting accessories



Item no.: 209-106
Mounting carrier; for isolated mounting on DIN 35 rails; gray



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

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

**Item no.: 709-153**

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

**Item no.: 709-167**

Cover carrier; Type 1; incl. fixing/retaining screws and knurled nut; suitable for 279 to 282 and 880 Series rail-mounted terminal blocks; suitable for 264 Series miniature rail-mounted terminal blocks; suitable for 270 Series sensor and actuator terminal blocks; gray

Testing accessories

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**Item no.: 281-407**Test plug; 6 mm wide; Nominal current 24 A; for 0.08 mm² - 2.5 mm²; 2,50 mm²; gray**Item no.: 249-106**B-type test plug module; modular; 1,50 mm²; gray**Item no.: 249-107**

B-type spacer module; modular; e.g., for bridging commoned terminal blocks; gray

**Item no.: 249-141**L-type test plug module; modular; with spring-loaded contact pin; Center module; 1,50 mm²; gray**Item no.: 249-143**

L-type spacer module; modular; e.g., bridging commoned terminal blocks; gray

**Item no.: 249-142**L-type end module; modular; with rigid contact pin; End module; 1,50 mm²; gray**Item no.: 280-418**

Test plug module; modular; suitable for all WAGO 280 and 780 Series rail-mounted terminal blocks with jumper slots in the current bar; gray

**Item no.: 280-404**Test plug adapter; 5 mm wide; for test plug (2.3 mm Ø); suitable for 1.5 mm² - 4 mm² tbs; gray**Item no.: 280-419**

Spacer module; modular; bridging commoned terminal blocks; gray

Push-in type wire jumper

Jumper

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

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



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

Insulations stops

Insulation stop



Item no.: 280-472

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



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

Marking accessories

Double marker carrier



Item no.: 209-128

Adaptor; gray

Marker



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.: 793-501

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



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

Group marker carrier



Item no.: 209-142

Group marker carrier; gray



Item no.: 209-141

Group marker carrier; gray



Item no.: 209-140

Group marker carrier; gray



Item no.: 249-105

Group marker carrier; gray

Plugs

Neon indicator module



Item no.: 280-803/281-417

Component plug; 2-pole; 10 mm wide; gray

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

**Item no.: 280-803/281-418**

Component plug; 2-pole; 10 mm wide; gray

Diode plug

**Item no.: 280-803/281-420**

Diode plug; with 1N4007 recovery diode; red LED; 10 mm wide; 24 VDC

**Item no.: 280-803/281-421**

Diode plug; with 1N4007 recovery diode; red LED; 10 mm wide; 48 VDC

LED plug

**Item no.: 280-803/281-411**

Diode plug; with diode 1N4007; 10 mm wide

**Item no.: 280-803/281-414**

LED plug; with red LED; 10 mm wide; 48 VDC

**Item no.: 280-803/281-413**

LED plug; with red LED; 10 mm wide; 24 VDC

**Item no.: 280-803/281-415**

LED plug; with red LED; 10 mm wide; 24 V AC/DC

**Item no.: 280-803/281-416**

LED plug; with red LED; 10 mm wide; AC/DC 48 V

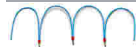
Empty component plug housing

**Item no.: 280-803**

Empty component plug housing; 10 mm wide; Type 4; 2-pole; gray

Jumpers

Jumper

**Item no.: 210-123**

Wire commoning chain; insulated; blue

**Item no.: 280-402**

Jumper; insulated; gray

**Item no.: 210-103**

Wire commoning chain; insulated; black

**Item no.: 280-492**

Jumper; 2-way; insulated; gray

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



Item no.: 280-409
Jumper; insulated; gray



Item no.: 280-422
Jumper; insulated; yellow-green



Item no.: 280-482
Jumper; 2-way; insulated; gray



Item no.: 280-484
Jumper; 4-way; insulated; gray



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



Item no.: 280-485
Jumper; 5-way; insulated; gray



Item no.: 280-483
Jumper; 3-way; insulated; gray



Item no.: 284-414
Step-down jumper; from 284/282 to 281/280/279 series; insulated; gray



Item no.: 709-110
Wire commoning chain; 2.5 mm²; insulated; black



Item no.: 709-112
Wire commoning chain; 2.5 mm²; insulated; black



Item no.: 709-111
Wire commoning chain; 2.5 mm²; insulated; black



Item no.: 780-454
Staggered jumper; from 1 to 4; 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.: 780-457
Staggered jumper; from 1 to 7; insulated; gray



Item no.: 780-456
Staggered jumper; from 1 to 6; insulated; gray



Item no.: 780-455
Staggered jumper; from 1 to 5; insulated; gray

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



Item no.: 780-458

Staggered jumper; from 1 to 8; insulated; gray

Downloads

Documentation

Bid Text

280-831	Feb 19, 2019	xml
X81 - Datei		3.3 kB

280-831	Feb 28, 2017	doc
doc - Datei		24.6 kB

Additional Information

Technical explanations	Apr 3, 2019	pdf
		2.2 MB

CAD files

CAD data

2D/3D Models 280-831

CAE data

EPLAN Data Portal 280-831

WSCAD Universe 280-831

ZUKEN Portal 280-831

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 280-831

4-conductor through terminal block; 2.5 mm²; center marking; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 2,50 mm²; black

Installation Notes

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

Installation



Snapping a terminal block onto the DIN-rail.



Quick assembly keys prevent reverse mounting.



Removing a terminal block from the assembly.



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

Conductor termination



CAGE CLAMP® connection

Inserting a conductor.

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



CAGE CLAMP® connection

Inserting a conductor.

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



Inserting insulation stops.



CAGE CLAMP® connection

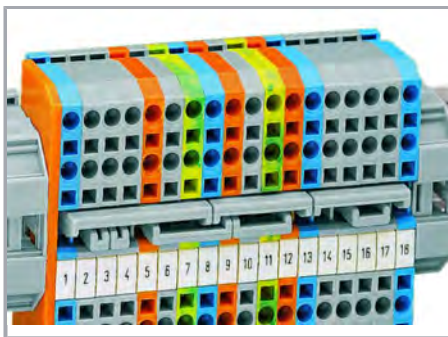
Removing a solid conductor.

Commoning



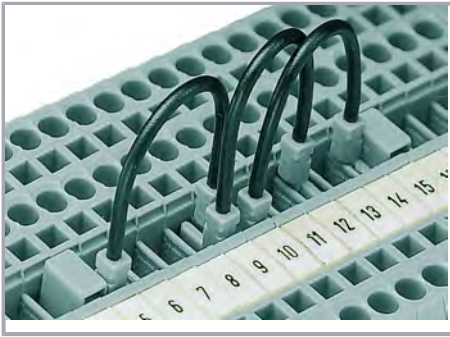
Commoning using an adjacent jumper (280-402).

Push jumper down until fully inserted!



Staggered jumpers are suitable for sophisticated circuit requirements. Push jumpers down until fully inserted!

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



Push-In Type 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)
- 281/769/776/777/781 and 880 Series (4 mm²/12 AWG)

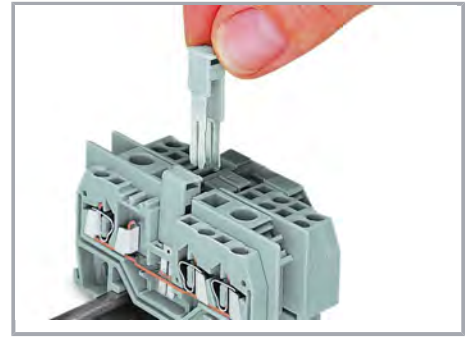
They are available in three conductor lengths (60, 110 and 250 mm), allowing up to 60 terminal blocks to be commoned depending on their width (see table on the right).

The 280/775/780 and 281/776/777/781 Series Terminal Blocks accept 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.

Testing

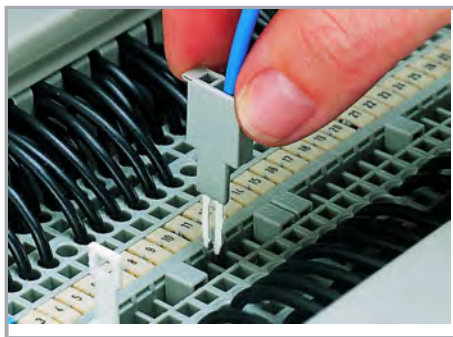


Commoning using comb-style jumper bars: Push comb-style jumper bars down until fully inserted.



Commoning terminal blocks of different sizes via step-down jumpers.

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



Testing with a test plug.

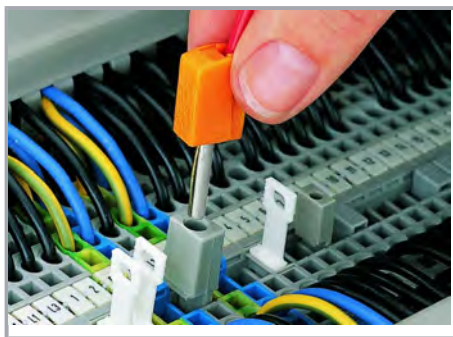
Picture shows a test plug fitted with CAGE CLAMP®.



L-type test plug modules fitted with CAGE CLAMP®

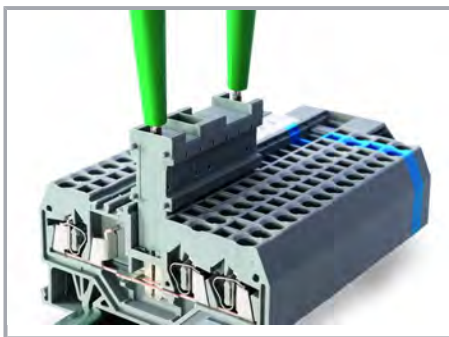


B-type test plug modules fitted with CAGE CLAMP®



Testing with a test plug.

Picture shows a test plug adapter (209-170).



Test plugs modules are directly plugged into the jumper contact slot of the current bar.

Cover



Protective warning markers inserted into the operating slots

Marking

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



Labeling via WMB Multi Marking System.



Terminal block marking with double marker carriers (209-128)

Terminal blocks with side marking

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