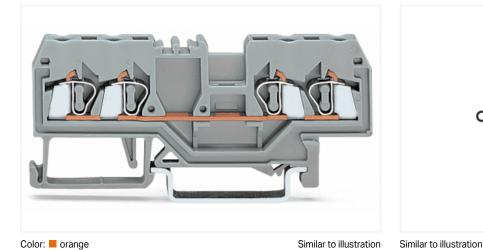
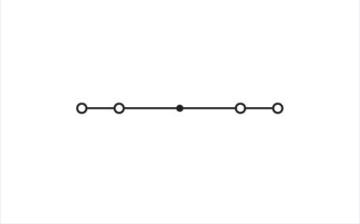
4-conductor through terminal block; 2.5 mm²; center marking; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 2,50 mm²; orange



https://www.wago.com/280-835





Through terminal block, 280 Series, operating tool

Our through terminal block (item number 280-835) ensures effortless electrical installations. Whether in industrial or building applications, our railmount through terminal blocks are the perfect solution to quickly and securely connect electrical conductors. Depending on the model, you can use them for either typical through-wiring or potential distribution. Our through rail-mount terminal block is rated for 800 V and is designed to handle a rated current of up to 20 A. Ensure that the strip lengths are between 8 mm and 9 mm when connecting conductors to this through terminal block. This product incorporates conductor terminals and utilizes CAGE CLAMP®. Our CAGE CLAMP® connection provides a dependable and maintenance-free way to connect all types of conductors. You do not need to prepare the conductor in any way, such as crimping ferrules. Depending on the type of conductor, this through terminal block is ideal for conductor cross sections ranging from 0.08 mm2 to 2.5 mm2. It comes with one level and four clamping points that you can use to connect a single potential. The orange housing is made of polyamide (PA66) for insulation. An operating tool is used to operate this through rail-mount terminal block. These through rail-mount terminal blocks are mounted using DIN-35 rails.. The front-entry wiring means you can connect copper, aluminum conductors.

Electrical data			
Ratings per	IEC/	'EN 60947-	7-1
Overvoltage category	III	III	II
Pollution degree	3	2	2
Nominal voltage	800 V	-	-
Rated impulse withstand voltage	8 kV	-	-
Rated current	20 A	-	-

Approvals per		UL 1059	
Use group	В	С	D
Rated voltage	-	600 V	-
Rated current	-	20 A	-

Approvals per	С	SA 22.2 No 15	8
Use group	В	С	D
Rated voltage	-	600 V	-
Rated current	-	24 A	-

Power Loss	
Power loss, per pole (potential)	0.532 W
Rated current \boldsymbol{I}_{N} for power loss specification	20 A
Resistance value for specified, current- dependent power loss	0.00133 Ω

Connection data		
Clamping units	4	
Total number of potentials	1	
Number of levels	1	

Connection 1	
Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Connectable conductor materials	Copper Aluminum

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Connection 1

Connectable conductor materials (note)

Terminating Aluminum ConductorsWAGO 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 ter-

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

Mechanical data	
Mounting type	DIN-35 rail
Marking level	Center marking

Material data	
Note (material data)	Information on material specifications can be found here
Color	orange
Material group	1
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	VO
Fire load	0.205 MJ
Weight	9 g

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Environmental requirements

Processing temperature $-35 \dots +85 \,^{\circ}\text{C}$ Continuous operating temperature $-60 \dots +105 \,^{\circ}\text{C}$

Commercial data		
PU (SPU)	100 pcs	
Packaging type	Box	
Country of origin	DE	
GTIN	4044918311441	
Customs tariff number	85369010000	

Product Classification	
UNSPSC	39121410
eCl@ss 10.0	27-14-11-20
eCl@ss 9.0	27-14-11-20
ETIM 9.0	EC000897
ETIM 8.0	EC000897
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

RoHS Compliance Status Compliant,No Exemption

Approvals / Certificates

General approvals







Approval	Standard	Certificate Name
CSA DEKRA Certification B.V.	C22.2	1536071
KEMA/KEUR DEKRA Certification B.V.	EN 60947	71-154769
UL Underwriters Laboratories	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	-	-

Approvals for marine applications





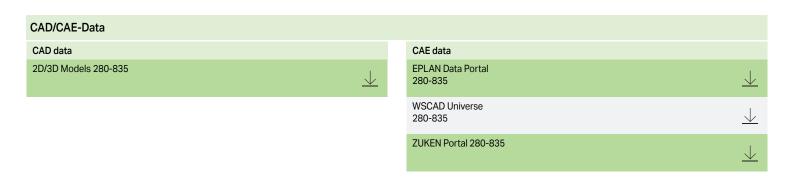


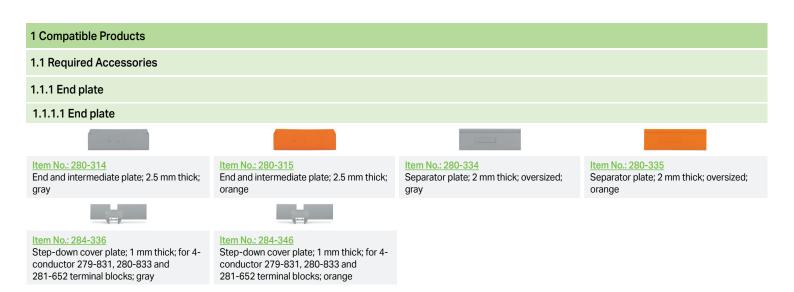
Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	EN 60947	24-0152298-PDA
BV Bureau Veritas S.A.	EN 60947	07436/G0 BV
DNV GL Det Norske Veritas, Ger- manischer Llovd	-	TAE00001V2



Downloads Environmental Product Compliance Compliance Search Environmental Product Compliance 280-835

Documentation			
Bid Text			
280-835	19.02.2019	xml 3.19 KB	$\overline{\downarrow}$
280-835	28.02.2017	doc 24.00 KB	$\underline{\downarrow}$





https://www.wago.com/280-835



1.2 Optional Accessories

1.2.1 DIN-rail

1.2.1.1 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

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.: 210-504

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

Item No.: 210-113

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

Item No.: 210-505

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

1.2.2 Ferrule

1.2.2.1 Ferrule

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; light turquoise

Item No.: 216-201

Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; acc. to DIN 46228, Part 4/09.90; white

Item No.: 216-101

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

Item No.: 216-202

Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray

Item No.: 216-102

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

Item No.: 216-203

Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red

Item No.: 216-103

Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated

Item No.: 216-204

Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black

Item No.: 216-104

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

1.2.3 Installation

1.2.3.1 Cover



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

https://www.wago.com/280-835



1.2.3.2 Cover carrier



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

1.2.3.3 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 DINrail 35 x 15 and 35 x 7.5; gray

1.2.4 Insulation stop

1.2.4.1 Insulation stop



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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

1.2.5 Jumper

1.2.5.1 Jumper



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.: 280-409

Jumper; insulated; gray

<u>Item No.: 280-422</u> Jumper; insulated; yellow-green Item No.: 780-452

Item No.: 780-456

Staggered jumper; from 1 to 2; insulated; gray

Item No.: 780-453

Staggered jumper; from 1 to 3; insulated; gray

<u>Item No.: 780-454</u>

Staggered jumper; from 1 to 4; insulated; gray

Item No.: 780-455

Staggered jumper; from 1 to 5; insulated; gray

B-

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

T.

Item No.: 284-414

Step-down jumper; from 284/282 to 281/280/279 series; insulated; gray

1 1 1

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

Item No.: 709-111

Wire commoning chain; 2.5 mm²; insulated; black

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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

https://www.wago.com/280-835



1.2.6 Marking

1.2.6.1 Double marker carrier



Item No.: 209-128 Adaptor; gray

1.2.6.2 Group marker carrier









Group marker carrier; gray

Item No.: 209-141 Group marker carrier; gray

Group marker carrier; gray

Item No.: 249-105 Group marker carrier; gray

1.2.6.3 Marker

Item No.: 209-140





Item No.: 793-501



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

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

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

1.2.7 Plug

1.2.7.1 Component module with diode









Item No.: 280-803/281-411

Component plug; 2-pole; with diode 1N4007; 10 mm wide; gray

Item No.: 280-803/281-420

Component plug; 2-pole; with rectifier diode and LED; 10 mm wide; gray

Item No.: 280-803/281-421

Component plug; 2-pole; with rectifier diode and LED; 10 mm wide; gray

1.2.7.2 Component module with LED









Item No.: 280-803/281-415

Component plug; 2-pole; LED (red); 10 mm wide; gray

Item No.: 280-803/281-416

Component plug; 2-pole; LED (red); 10 mm wide; gray

Item No.: 280-803/281-413

Component plug; 2-pole; LED (red); 24 VDC; 10 mm wide; gray

Item No.: 280-803/281-414 Component plug; 2-pole; LED (red); 48 VDC; 10 mm wide; gray



Component plug; 2-pole; with rectifier diode and LED; 10 mm wide; gray

Item No.: 280-803/281-421

Component plug; 2-pole; with rectifier diode and LED; 10 mm wide; gray

1.2.7.3 Empty component plug housing



Item No.: 280-803

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

https://www.wago.com/280-835



1.2.7.4 Neon indicator module



Item No.: 280-803/281-417

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

Item No.: 280-803/281-418

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

1.2.8 Protective warning marker

1.2.8.1 Cover



Item No.: 280-415

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

1.2.9 Push-in type wire jumper

1.2.9.1 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

1.2.10 Test and measurement

1.2.10.1 Testing accessories



Item No.: 249-107

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

Item No.: 249-106

B-type test plug module; modular; 1,50 mm²; gray

Item No.: 249-147

B-type test plug module; modular; 2,50 mm²; gray

<u>Item No.: 249-142</u>

L-type end module; modular; with rigid contact pin; End module; 1,50 mm²; gray

Item No.: 249-143

L-type spacer module; modular; e.g., 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.: 280-419

Spacer module; modular; bridging commoned terminal blocks; gray

Item No.: 280-404

Test plug adapter; 5 mm wide; for test plug (2.3 mm \emptyset); suitable for 1.5 mm² - 4 mm² tbs; gray

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.: 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.: 281-407

Test plug; 6 mm wide; Nominal current 24 A; for 0.08 mm² - 2.5 mm²; gray



1.2.11 Tool

1.2.11.1 Operating tool



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

Installation Notes

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.



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.

W/AGO

Commoning



Commoning using an adjacent jumper. Push jumper down until fully inserted!



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



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 touchproof, 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



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.

Testing



Testing with a test plug.
Picture shows a test plug fitted with CAGE



L-type test plug modules fitted with CA-GE CLAMP®



B-type test plug modules fitted with CAGE CLAMP $^{\! \odot}$



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.

https://www.wago.com/280-835



Cover



Protective warning markers inserted into the operating slots

Marking







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

 $\label{thm:condition} \textbf{Subject to changes. Please also observe the further product documentation!}$

Current addresses can be found at:: $\underline{www.wago.com}$