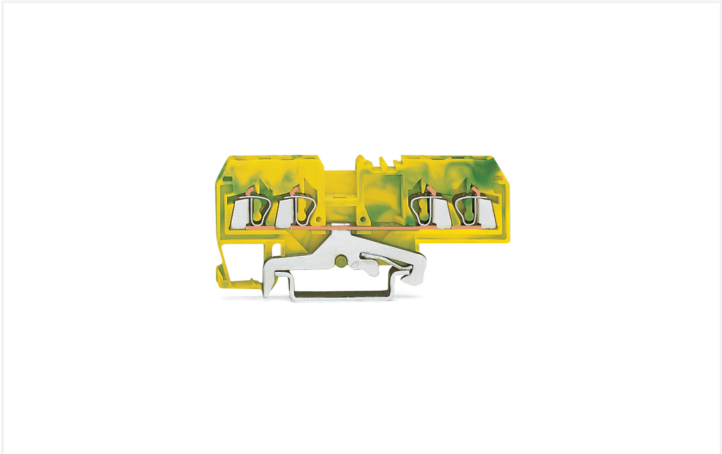
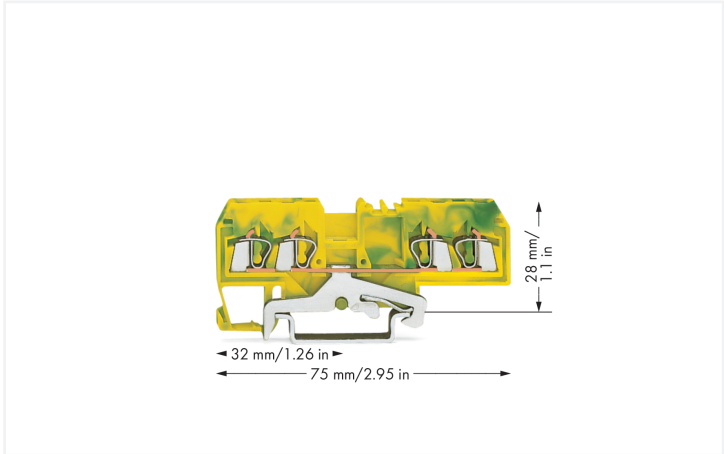




Color: ■ green-yellow

Ground terminal block, 280 Series, operating tool

Our ground terminal block (item number 280-677) makes connecting wires quick and easy. Ensure that the strip lengths are between 8 and 9 mm when connecting conductors to this ground terminal block. Our ground terminal blocks allow you to connect electrical conductors directly to the mounting rail thanks to an integrated contact foot. This connection ensures both electrical and mechanical stability between the conductors and the mounting adapter. This product features conductor terminals and utilizes CAGE CLAMP®. Our highly-rated and maintenance-free CAGE CLAMP® connection makes it easy to connect all conductor types without having to prepare the conductor. For example, you don't need to crimp ferrules. Depending on the conductor type, this ground terminal block is designed for conductor cross sections ranging from 0.08 mm² to 2.5 mm².

An operating tool is used to operate this through rail-mount terminal block.

Electrical data					General information	
Ratings per		IEC/EN 60947-7-2			Wiring direction	
Overvoltage category		III	III	II	Front-entry wiring	
Pollution degree		3	2	2		
Nominal voltage		-	-	-		
Rated impulse withstand voltage		-	-	-		
Rated current		-	-	-		

Connection Data		Connection 1	
Clamping units	4	Connection technology	CAGE CLAMP®
Total number of potentials	1	Actuation type	Operating tool
Number of levels	1	Connectable conductor materials	Copper Aluminum

Connectable conductor materials (note)

WAGO Spring-Clamp Terminal Blocks are suitable for solid aluminum conductors up to 4 mm²/12 AWG if WAGO Aluminum Contact Paste [249-130](#) is used for termination.

- 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 aluminum contact paste.

It is also possible to apply WAGO Aluminum Contact Paste **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::

$$4 \text{ mm}^2 = 22 \text{ A}$$

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

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

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

Note (material data)	Information on material specifications can be found here
Color	green-yellow
Material group	I
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.114 MJ
Weight	12.9 g

Environmental requirements	
Processing temperature	-35 ... +85 °C
Continuous operating temperature	-60 ... +105 °C

Commercial data	
PU (SPU)	100 pcs
Packaging type	Box
Country of origin	PL
GTIN	4045454100124
Customs tariff number	85369010000

Product Classification	
UNSPSC	39121410
eCl@ss 10.0	27-14-11-41
eCl@ss 9.0	27-14-11-41
ETIM 9.0	EC000901
ETIM 10.0	EC000901
ECCN	NO US CLASSIFICATION

Environmental Product Compliance	
CAS-No.	7439-92-1
REACH Candidate List Substance	Lead
RoHS Compliance Status	Compliant, No Exemption
SCIP notification number (Austria)	cbc34508-55a4-438b-9c3e-92c55b7384a3
SCIP notification number (Belgium)	7096740a-4d11-4967-9b19-9ffdeca87c3b
SCIP notification number (Bulgaria)	5a1cd21f-01db-41ba-9031-296d1b899701
SCIP notification number (Czech Republic)	a1894330-d1d7-4d57-8139-ecd27f9fad29
SCIP notification number (Denmark)	b96c602f-fc5b-44f0-94cf-300be5b2390a
SCIP notification number (Finland)	a46e6c11-22ea-4b17-b4cc-2e2cfee74f1b
SCIP notification number (France)	ab9895e1-25ef-47b1-af94-9912c21f6394
SCIP notification number (Germany)	060dbd04-84aa-4ad8-a059-eed832151b89
SCIP notification number (Hungary)	182bcced-f5ed-4990-9423-4ace7ab4cc5b
SCIP notification number (Italy)	86c00150-0407-45ff-ad8b-13b6c7a79e92
SCIP notification number (Netherlands)	c264cfe7-8e84-4310-a0de-436a0b307950
SCIP notification number (Poland)	a2f68a63-a794-4196-93a9-838e2832babe
SCIP notification number (Romania)	09f90dac-bf11-4d23-a6c2-e1bc09b9294e
SCIP notification number (Sweden)	259056bd-67a3-40f7-b257-475051e53cf1

Approvals / Certificates		
General approvals		Declarations of conformity and manufacturer's declarations
		
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 Inc.	UL 1059	20190731-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 Lloyd	-	TAE00001V2

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 280-677



CAD/CAE-Data

CAD data
2D/3D Models 280-677



CAE data
EPLAN Data Portal 280-677
WSCAD Universe 280-677
ZUKEN Portal 280-677



1 Compatible Products

1.1 Required Accessories

1.1.1 End plate

1.1.1.1 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

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

Item No.: 280-335
Separator plate; 2 mm thick; oversized; or-
ange

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; unslopped; similar to EN 60715; silver-colored


Item No.: 210-198

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


Item No.: 210-508

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


Item No.: 210-506

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


Item No.: 210-118

Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslopped; according to EN 60715; silver-colored


Item No.: 210-115

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


Item No.: 210-505

Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslopped; 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 / 18 AWG; uninsulated; electro-tin plated; silver-colored


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


Item No.: 709-153

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

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 DIN-rail 35 x 15 and 35 x 7.5; gray

1.2.4 Insulation stop

1.2.4.1 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

1.2.5 Jumper

1.2.5.1 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.: 280-409
Jumper; insulated; gray



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



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.: 210-103
Wire commoning chain; 0.5 mm²; insulated; black



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.: 210-123
Wire commoning chain; insulated; blue

1.2.6 Marking

1.2.6.1 Double marker carrier



Item No.: 209-128

Adaptor; gray

1.2.6.2 Group marker carrier



Item No.: 209-140

Group marker carrier; gray



Item No.: 209-141

Group marker carrier; gray



Item No.: 209-142

Group marker carrier; gray



Item No.: 249-105

Group marker carrier; gray

1.2.6.3 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



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

1.2.7 Protective warning marker

1.2.7.1 Cover



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

1.2.8 Push-in type wire jumper

1.2.8.1 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

1.2.9 Test and measurement

1.2.9.1 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



Item No.: 249-142
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 Ø); 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

1.2.10 Tool

1.2.10.1 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



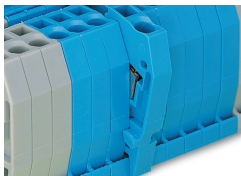
Item No.: 210-657
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured

Installation Notes

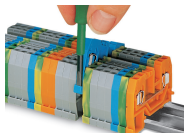
Installation



Snapping a ground conductor block onto the DIN-rail automatically makes a direct electrical connection to the rail.

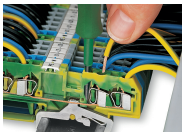


Quick assembly keys prevent reverse mounting.

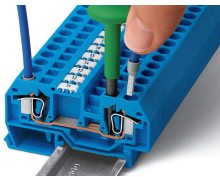


Removing a terminal block from the assembly.

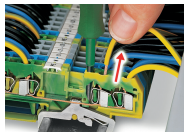
Conductor termination



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.

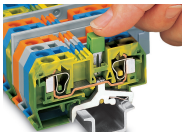


CAGE CLAMP® connection
Removing a solid conductor.

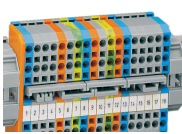


Inserting insulation stops.

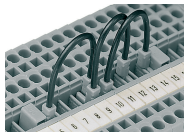
Commoning



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



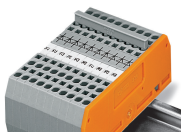
Staggered jumpers are suitable for sophisticated circuit requirements. Push jumpers down until fully inserted!



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 touch-proof, push-in type wire jumpers are the ideal solution.

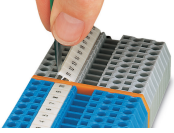
These jumpers are compatible with the following rail-mount terminal blocks:
- 279 Series (1.5 mm²/16 AWG),
- 280/775/780 Series (2.5 mm²/14 AWG)
- 281/769/776/777/781 and 880 Series (4 mm²/12 AWG)
They are available in three conductor lengths (60, 110 and 250 mm), allowing up to 60 terminal blocks to 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.



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

Marking



Labeling via WMB Multi Marking System.