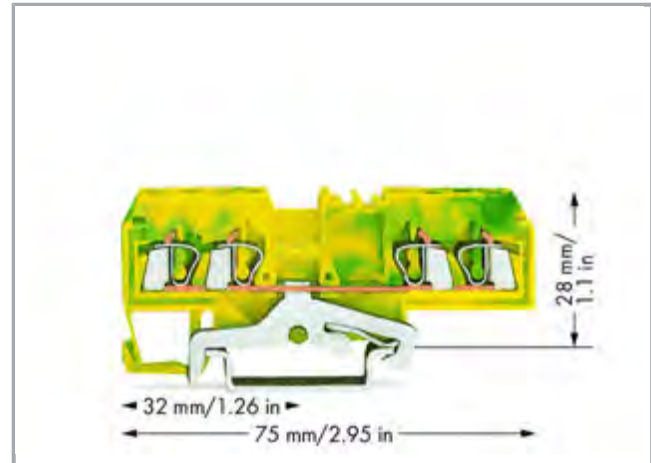


Data sheet | Item number: 280-677

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



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.

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

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

**Data****Electrical data****Ratings per IEC/EN 60664-1**

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

Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Connectable conductor materials	Copper Aluminum
Solid conductor	0.08 ... 2.5 mm² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 2.5 mm² / 28 ... 12 AWG
Strip length	8 ... 9 mm / 0.31 ... 0.35 inch
Total number of connection points	4
Total number of potentials	1
Number of levels	1
Wiring type	Front-entry wiring
Note (conductor cross-section)	12 AWG: THHN, THWN

Geometrical Data

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

Mechanical data

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

Material Data

Color	green-yellow
Insulation material	Polyamide 66 (PA66)
Fire load	0.132 MJ
Weight	12.8 g

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

Commercial data

Packaging type	BOX
Country of origin	DE
GTIN	4045454100124
Customs tariff number	85369010000

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
	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

Certificate

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

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

Compatible products

check

	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.: 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.: 249-142 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.: 280-404 Test plug adapter; 5 mm wide; for test plug 210-137 (2.3 mm Ø); suitable for 1.5 mm² - 4 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.: 280-419 Spacer module; modular; bridging commoned terminal blocks; 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

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

tools

**Item no.: 210-657**

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short

**Item no.: 210-658**

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; angled; short

**Item no.: 210-720**

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft

Marking accessories

**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

**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.: 2009-115/000-012**

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange

**Item no.: 2009-115/000-017**

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; light green

**Item no.: 2009-115/000-023**

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green

**Item no.: 2009-115/000-024**

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet

**Item no.: 209-128**

Adaptor; gray

**Item no.: 209-140**

Group marker carrier; gray

**Item no.: 209-141**

Group marker carrier; gray

**Item no.: 209-142**

Group marker carrier; gray

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

**Item no.: 209-185**

Adaptor; gray

**Item no.: 249-105**

Group marker carrier; gray

**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.: 793-501/000-005**

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

**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.: 793-501/000-012**

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

**Item no.: 793-501/000-017**

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

**Item no.: 793-501/000-023**

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

**Item no.: 793-501/000-024**

WMB marking card; as card; not stretchable; 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.: 793-5501/000-005**

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.: 793-5501/000-006



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.: 793-5501/000-012

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.: 793-5501/000-017

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.: 793-5501/000-023

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; light green



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

Push-In type wire jumper



Item no.: 249-123

Push-in type wire jumper; 0.75 mm²; insulated; 180 mm long; black



Item no.: 249-125

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



Item no.: 249-126

Push-in type wire jumper; 0.75 mm²; insulated; 110 mm long; black



Item no.: 249-127

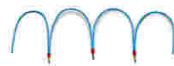
Push-in type wire jumper; 0.75 mm²; insulated; 250 mm long; black

Jumper



Item no.: 210-103

Wire commoning chain; insulated; black



Item no.: 210-123

Wire commoning chain; insulated; blue



Item no.: 280-402

Jumper; insulated; gray



Item no.: 280-409

Jumper; insulated; gray



Item no.: 280-422

Jumper; insulated; yellow-green

Item no.: 280-482

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



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.: 280-490

Jumper; 10-way; insulated; gray



Item no.: 280-492

Jumper; 2-way; insulated; gray



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.: 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

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



Item no.: 210-113

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

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

**Item no.: 210-114**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715

**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

**Item no.: 210-118**

Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715

**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.: 210-197**

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

**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

**Item no.: 210-505**

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

**Item no.: 210-506**

Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715

**Item no.: 210-508**

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

Protective Warning Marker**Item no.: 280-415**

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

assembling**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

**Item no.: 709-153**

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

End plate**Item no.: 280-334**

Separator plate; 2 mm thick; oversized; gray

**Item no.: 280-335**

Separator plate; 2 mm thick; oversized; orange

Insulation stop

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

**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**ferrule****Item no.: 216-101**Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated**Item no.: 216-102**Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; electro-tin plated**Item no.: 216-103**Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated**Item no.: 216-104**Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated**Item no.: 216-201**Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white**Item no.: 216-202**Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray**Item no.: 216-203**Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red**Item no.: 216-204**Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black**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**Downloads****Documentation****Additional Information**

Technical explanations

CAD/CAE-Data**CAD data**

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

2D/3D Models 280-677

CAE data

EPLAN Data Portal 280-677

WSCAD Universe 280-677

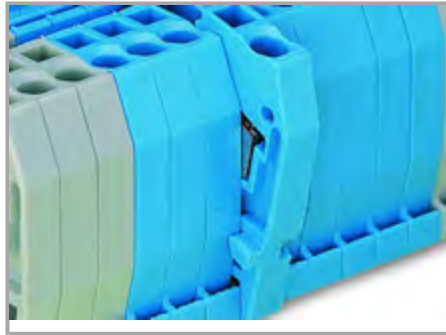
ZUKEN Portal 280-677

Installation Notes

Installation



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.

Conductor termination

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



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.



Inserting insulation stops.

Commoning

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



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)
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.

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.

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



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

Testing



Testing with a test plug



L-type test plug modules fitted with CAGE CLAMP®



B-type test plug modules fitted with CAGE CLAMP®

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

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



Testing with a test plug

(picture shows 209-170 Test Plug Adapter).

Marking



Marking via WMB Multi Marking System.

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