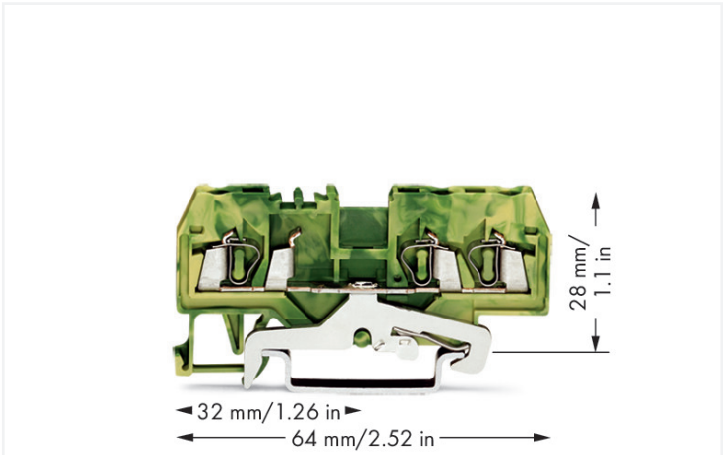


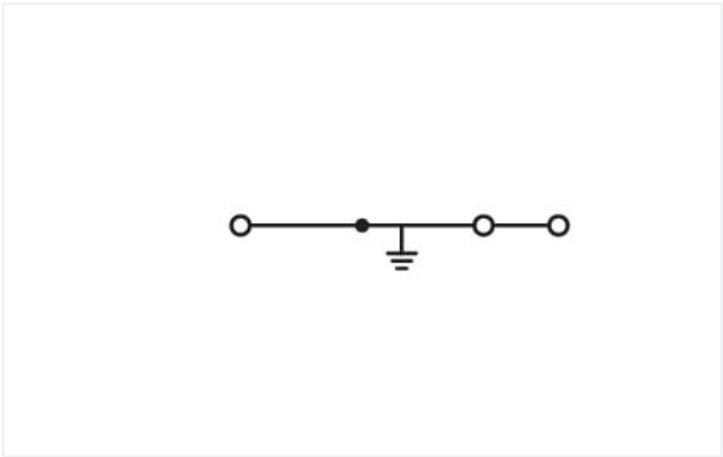
Data Sheet | Item Number: 280-687/999-950
3-conductor ground terminal block; 2.5 mm²; suitable for Ex e II applications; center marking; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 2,50 mm²; green-yellow
<https://www.wago.com/280-687/999-950>



Color: ■ green-yellow Similar to illustration



Similar to illustration



Similar to illustration

Ground terminal block, 280 Series, operating tool

This ground terminal block (item number 280-687/999-950) is designed for simple and secure connections. Our ground terminal blocks create a direct connection between the mounting rail and the electrical conductors thanks to an integrated mounting foot. This connection ensures both electrical and mechanical stability between the conductors and the mounting adapter. Conductors can only be connected to this ground terminal block if their strip length is between 8 mm and 9 mm. This product incorporates conductor terminals and utilizes CAGE CLAMP®. Our CAGE CLAMP® connection offers a secure 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. This ground terminal block is suitable for conductor cross sections ranging from 0.08 mm² to 2.5 mm². It has one level. You can connect a single potential using the three clamping points. The green-yellow 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 makes it possible to connect copper conductors.

Electrical data					Ex information	
Ratings per		IEC/EN 60947-7-2			Reference hazardous areas	See application instructions in section "Knowledge and Downloads – Documentation – Additional Information: Technical Section; Technical Explications"
Overvoltage category		III	III	II		
Pollution degree		3	2	2		
Nominal voltage		-	-	-		
Rated surge voltage		-	-	-		
Rated current		-	-	-		



Connection data																		
Clamping units	3	Connection 1 <table><tr><td>Connection technology</td><td>CAGE CLAMP®</td></tr><tr><td>Actuation type</td><td>Operating tool</td></tr><tr><td>Connectable conductor materials</td><td>Copper</td></tr><tr><td>Solid conductor</td><td>0.08 ... 2.5 mm² / 28 ... 12 AWG</td></tr><tr><td>Fine-stranded conductor</td><td>0.08 ... 2.5 mm² / 28 ... 12 AWG</td></tr><tr><td>Note (conductor cross-section)</td><td>12 AWG: THHN, THWN</td></tr><tr><td>Strip length</td><td>8 ... 9 mm / 0.31 ... 0.35 inches</td></tr><tr><td>Wiring direction</td><td>Front-entry wiring</td></tr></table>	Connection technology	CAGE CLAMP®	Actuation type	Operating tool	Connectable conductor materials	Copper	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
Connection technology	CAGE CLAMP®																	
Actuation type	Operating tool																	
Connectable conductor materials	Copper																	
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																	
Total number of potentials	1																	
Number of levels	1																	

Physical data		
Width	5 mm / 0.197 inches	
Height	64 mm / 2.52 inches	
Depth from upper-edge of DIN-rail	28 mm / 1.102 inches	

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

Material data		
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	0.11 MJ	
Weight	11.3 g	

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

Commercial data		
eCl@ss 10.0	27-14-11-41	
eCl@ss 9.0	27-14-11-41	
ETIM 9.0	EC000901	
ETIM 8.0	EC000901	
PU (SPU)	100 pcs	
Packaging type	Box	
Country of origin	DE	
GTIN	4045454103699	
Customs tariff number	85369010000	



Environmental Product Compliance	
CAS-No.	7439-92-1
REACH Candidate List Substance	Lead
RoHS Compliance Status	Compliant, No Exemption
SCIP notification number (Austria)	540e1b77-6be6-45c3-81f1-25302aa590e5
SCIP notification number (Belgium)	8b2b24a4-f6c6-4d82-97eb-5db16bb4f1da
SCIP notification number (Bulgaria)	fb1d7084-846f-4d4a-bde5-b8146954b8a6
SCIP notification number (Czech Republic)	50fdd956-311c-429f-b6ca-aa0c64472554
SCIP notification number (Denmark)	dac0b1ef-dc85-4202-91f1-47dda46bf7ba
SCIP notification number (Finland)	5721a350-303b-4b4f-bac3-34d7485881e1
SCIP notification number (France)	503faa1a-65f2-4e0d-9ba4-5f32826aedc8
SCIP notification number (Germany)	57f67cd6-db5f-4c40-abd8-99386c59c048
SCIP notification number (Hungary)	88632bdf-6748-4aa5-a4de-ab1a9778416d
SCIP notification number (Italy)	044674b2-0c6f-45ff-a2e5-3787784d2b3e
SCIP notification number (Netherlands)	45f8f177-2872-43bc-95fc-473308d6d7be
SCIP notification number (Poland)	b6b29117-2f8f-428e-8ded-efbc742e689f
SCIP notification number (Romania)	4dca28de-a1eb-4417-83b5-dbc11622ae68
SCIP notification number (Sweden)	9cc055e3-1328-4c60-a5c5-bd6def814387

Approvals / Certificates														
General approvals		Declarations of conformity and manufacturer's declarations												
  														
Approval	Standard	Certificate Name												
CCA DEKRA Certification B.V.	EN 60947	2157201.01												
CSA DEKRA Certification B.V.	C22.2	1536071												
UL UL International Germany GmbH	UL 1059	E45172												
		<table><tr><th>Approval</th><th>Standard</th><th>Certificate Name</th></tr><tr><td>ATEX-Attestation of Conformity WAGO GmbH & Co. KG</td><td>-</td><td>-</td></tr><tr><td>EU-Declaration of Conformity WAGO GmbH & Co. KG</td><td>-</td><td>-</td></tr><tr><td>UK-Declaration of Conformity WAGO GmbH & Co. KG</td><td>-</td><td>-</td></tr></table>	Approval	Standard	Certificate Name	ATEX-Attestation of Conformity WAGO GmbH & Co. KG	-	-	EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-	UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-
Approval	Standard	Certificate Name												
ATEX-Attestation of Conformity WAGO GmbH & Co. KG	-	-												
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 Shipping	EN 60947	20-HG1941090-PDA
BV Bureau Veritas S.A.	EN 60947	07436/F0 BV
DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAE00001V2

Approvals for hazardous areas		
  		
Approval	Standard	Certificate Name
AEx UL International Germany GmbH c/o Physikalisch Technische Bundesanstalt	UL 60079	E185892 (AEx e II resp. Ex e II)
ATEX Physikalisch Technische Bundesanstalt	IEC 60079-0	PTB 99 ATEX 3109 U (Ex eb IIC, IM 2 Ex eb IMb)
IECEx Physikalisch Technische Bundesanstalt	IEC 60079-0	IECEx PTB 03.0004U (Ex eb IIC Gb or Ex eb I Mb)



Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance
280-687/999-950

↓

Documentation

Additional Information

Technical Sectionpdf
2246.92 KB

↓

Bid Text

280-687/999-95019.02.2019xml
3.19 KB

↓

280-687/999-95028.02.2017doc
24.00 KB

↓

CAD/CAE-Data

CAD data

2D/3D Models
280-687/999-950

↓

CAE data

EPLAN Data Portal
280-687/999-950

↓

WSCAD Universe
280-687/999-950

↓

ZUKEN Portal
280-687/999-950

↓

1 Compatible Products

1.1 Required Accessories

1.1.1 End plate

1.1.1.1 End plate



Item No.: 280-358
End and intermediate plate; 2.5 mm thick; light gray



Item No.: 209-191
Separator for Ex e/Ex i applications; 3 mm thick; 120 mm wide; orange



Item No.: 280-359
Separator plate; 2 mm thick; oversized; light gray

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



1.2.1.1 Mounting accessories



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; un-insulated; 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; un-insulated; 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; un-insulated; 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; un-insulated; 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.: 280-484
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

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 Tool

1.2.9.1 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



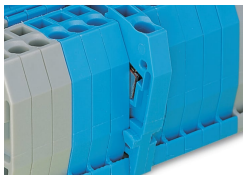
Item No.: 210-657
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured

Installation Notes

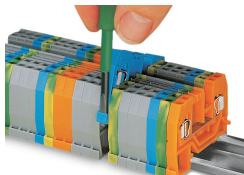
Installation



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

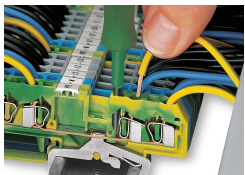


Quick assembly keys prevent reverse mounting.

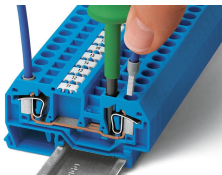


Removing a terminal block from the assembly.

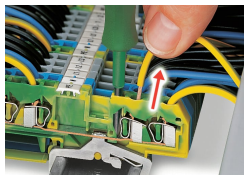
Conductor termination



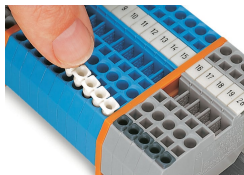
CAGE CLAMP® connection
Inserting a conductor.



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.

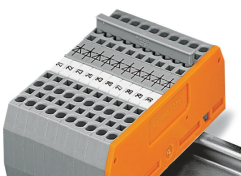
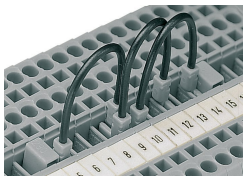
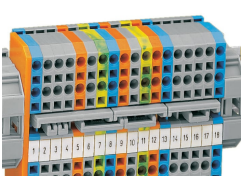
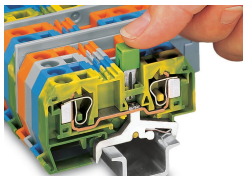


CAGE CLAMP® connection
Removing a solid conductor.



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:

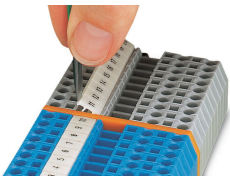
- 279 Series (1.5 mm²/16 AWG),
- 280/775/780 Series (2.5 mm²/14 AWG)
- 281/769/776/777/781 and 880 Series (4 mm²/12 AWG)

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.

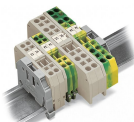
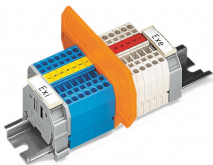
Commoning using comb-style jumper bars: Push comb-style jumper bars down until fully inserted.

Marking



Labeling via WMB Multi Marking System.

Ex application



Separator plate for Ex e/Ex i applications
According to EN 50020, a minimum distance of 50 mm must be kept between live parts of Ex e and Ex i circuits. The use of Ex e/Ex i separators is a space-saving solution when Ex e and Ex i terminal blocks are mounted on a common DIN-rail.
For 279 ... 282 Series:
209-190 for 2-conductor terminal blocks
209-191 for 2-, 3-, 4-conductor terminal blocks

End and intermediate plate
In order to meet creepage and clearance requirements for Ex e applications, it is necessary to insert an end or intermediate plate between a through and a ground conductor terminal block.

