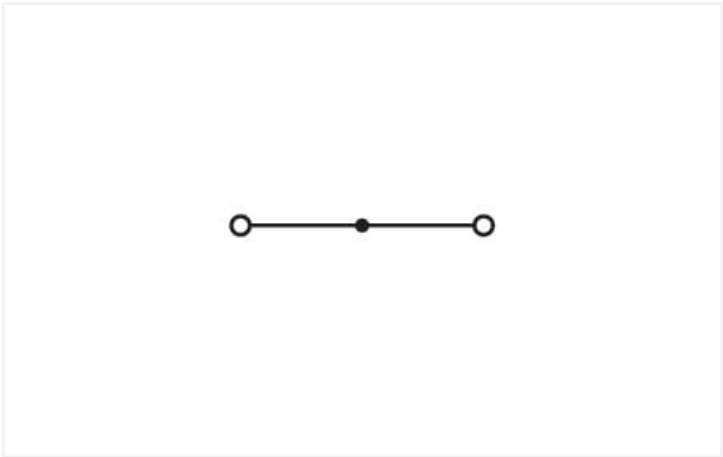
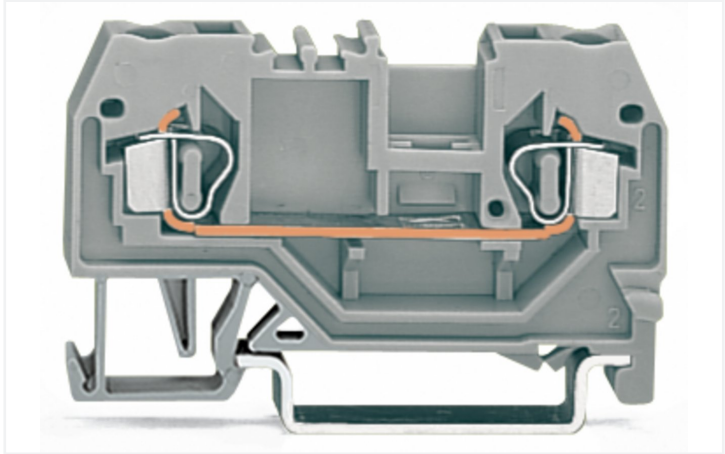


Color: ■ gray



Similar to illustration

Through terminal block, 280 Series, operating tool

Our through terminal block (item number 280-901) makes connections quick and easy. Whether for industrial or building applications, you can use our through terminal blocks to connect electrical conductors quickly and safely. We offer variants for both classic through-wiring and potential distribution. Our through rail-mount terminal block is rated for 800 V and is designed to handle a rated current of up to 24 A. Ensure that the strip lengths are between 8 mm and 9 mm when connecting conductors to this through terminal block. This product features conductor terminals and utilizes CAGE CLAMP®. Our highly-rated and maintenance-free CAGE CLAMP® connection makes it easy to connect all types of conductors without having to prepare the conductor. For example, you don't need to crimp ferrules. Depending on the type of conductor, this through terminal block is suitable for conductor cross sections ranging from 0.08 mm<sup>2</sup> to 2.5 mm<sup>2</sup>. It comes with one level and two clamping points that you can use to connect a single potential. The gray 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			Approvals per	
		UL 1059				
Overvoltage category	III	III	II	Use group	B	C
Pollution degree	3	2	2	Rated voltage	-	600 V
Nominal voltage	800 V	-	-	Rated current	-	20 A
Rated surge voltage	8 kV	-	-			
Rated current	24 A	-	-			

Approvals per		CSA 22.2 No 158		
Use group	B	C	D	
Rated voltage	-	600 V	-	
Rated current	-	24 A	-	

Power Loss	
Power loss, per pole (potential)	0.7661 W
Rated current I <sub>N</sub> for specified power loss	24 A
Resistance value for specified, current-dependent power loss	0.00133 Ω

Connection data

Clamping units	2
Total number of potentials	1
Number of levels	1

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

Connectable conductor materials (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 [249-130](#) 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 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	53 mm / 2.087 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)	<a href="#">Information on material specifications can be found here</a>
Color	gray
Material group	I
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.096 MJ
Weight	5.4 g

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





Commercial data	
Product Group	1 (Rail Mounted Terminal Blocks)
eCl@ss 10.0	27-14-11-20
eCl@ss 9.0	27-14-11-20
ETIM 9.0	EC000897
ETIM 8.0	EC000897
PU (SPU)	100 pcs
Packaging type	Box
Country of origin	PL
GTIN	4044918391726
Customs tariff number	85369010000

Environmental Product Compliance	
RoHS Compliance Status	Compliant,No Exemption

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 Underwriters Laboratories Inc.	UL 1059	E45172
Approval	Standard	Certificate Name
EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-
UK-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-




Approvals for marine applications




			
Approval	Standard	Certificate Name	
ABS American Bureau of Ship- ping	EN 60947	20-HG1941090-PDA	
BV Bureau Veritas S.A.	EN 60947	07436/F0 BV	
DNV GL Det Norske Veritas, Ger- manischer Lloyd	-	TAE00001V2	
LR Lloyds Register	EN 60947	91/20112 (E9)	

Downloads





Environmental Product Compliance

Compliance Search	
Environmental Product Compliance 280-901	























Documentation

Additional Information			Bid Text		
Technical Section	pdf 2246.92 KB		280-901	19.02.2019	xml 3.27 KB 
			280-901	28.02.2017	doc 24.00 KB 

CAD/CAE-Data

CAD data		CAE data	
2D/3D Models 280-901		EPLAN Data Portal 280-901	
		WSCAD Universe 280-901	
		ZUKEN Portal 280-901	



1 Compatible Products			
1.1 Required Accessories			
1.1.1 End plate			
1.1.1.1 End plate			
			
<b>Item No.: 280-308</b> End and intermediate plate; 2.5 mm thick; gray	<b>Item No.: 280-309</b> End and intermediate plate; 2.5 mm thick; orange	<b>Item No.: 280-310</b> Separator plate; 2 mm thick; oversized; gray	<b>Item No.: 280-311</b> Separator plate; 2 mm thick; oversized; orange
1.2 Optional Accessories			
1.2.1 DIN-rail			
1.2.1.1 Mounting accessories			
			
<b>Item No.: 210-196</b> Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored	<b>Item No.: 210-198</b> Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored	<b>Item No.: 210-508</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-colored	<b>Item No.: 210-197</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored
			
<b>Item No.: 210-506</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; similar to EN 60715; silver-colored	<b>Item No.: 210-114</b> Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored	<b>Item No.: 210-118</b> Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored	<b>Item No.: 210-115</b> 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
			
<b>Item No.: 210-112</b> 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	<b>Item No.: 210-504</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; silver-colored	<b>Item No.: 210-113</b> Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored	<b>Item No.: 210-505</b> 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 End plate			
1.2.2.1 End plate			
			
<b>Item No.: 284-334</b> Step-down cover plate; 1 mm thick; for 2-, 3- and 4-conductor terminal blocks; gray	<b>Item No.: 284-344</b> Step-down cover plate; 1 mm thick; for 2-, 3- and 4-conductor terminal blocks; orange		
1.2.3 Ferrule			
1.2.3.1 Ferrule			
			
<b>Item No.: 216-301</b> Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow	<b>Item No.: 216-302</b> Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise	<b>Item No.: 216-201</b> Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; acc. to DIN 46228, Part 4/09.90; white	<b>Item No.: 216-101</b> Ferrule; Sleeve for 0.5 mm² / AWG 22; un-insulated; electro-tin plated; silver-colored



1.2.3.1 Ferrule



**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-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

1.2.4 Installation

1.2.4.1 Cover



**Item No.: 709-153**  
Cover; Type 1; suitable for cover carrier, type 1; 1 m long; transparent

1.2.4.2 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

1.2.4.3 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

1.2.5 Insulation stop

1.2.5.1 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



1.2.6 Jumper

1.2.6.1 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.: 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.: 709-111](#)  
Wire commoning chain; 2.5 mm²; insulated; black



[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

1.2.7 Marking

1.2.7.1 Double marker carrier



[Item No.: 209-128](#)  
Adaptor; gray

1.2.7.2 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

1.2.7.3 Marker



[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.: 793-501](#)  
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

1.2.8 Plug

1.2.8.1 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

1.2.8.2 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



[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

1.2.8.3 Empty component plug housing



[Item No.: 280-803](#)  
Empty component plug housing; 10 mm wide; Type 4; 2-pole; gray

1.2.8.4 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

1.2.9 Protective warning marker

1.2.9.1 Cover



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



1.2.10 Push-in type wire jumper

1.2.10.1 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

1.2.11 Test and measurement

1.2.11.1 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; 2,50 mm²; gray

1.2.12 Tool

1.2.12.1 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



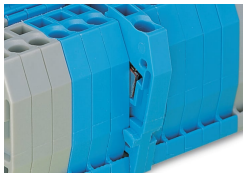
**Item No.: 210-657**  
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured

Installation Notes

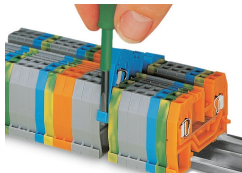
Installation



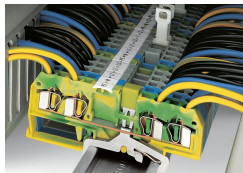
Snapping a terminal block onto the DIN-rail.



Quick assembly keys prevent reverse mounting.

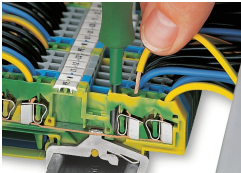


Removing a terminal block from the assembly.

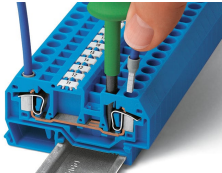


Steel DIN-rails are not suited for PEN (ground and N-conductor) applications per EN 60947-7-2 (VDE 0611, Part 3).

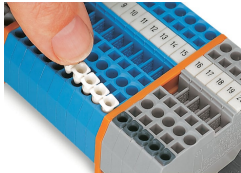
Conductor termination



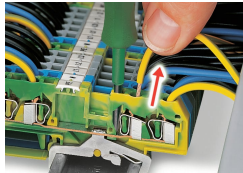
**CAGE CLAMP® connection**  
Inserting a conductor.



**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.

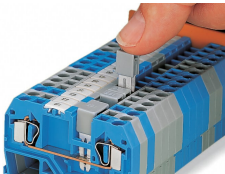


Inserting insulation stops.

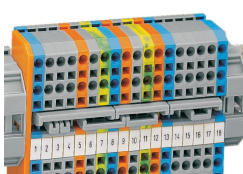


**CAGE CLAMP® connection**  
Removing a solid conductor.

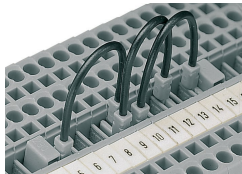
Commoning



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!



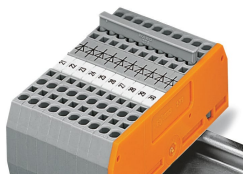
**Push-In Type Wire Jumpers**  
When installing machines or control systems, it is often necessary to make an additional connection between two terminal blocks that are not next to each other on the rail. In such cases, WAGO's touch-proof, push-in type wire jumpers are the ideal solution.

These jumpers are compatible with the following rail-mount terminal blocks:

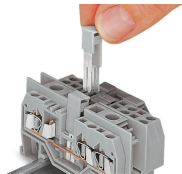
- 279 Series (1.5 mm<sup>2</sup>/16 AWG),
- 280/775/780 Series (2.5 mm<sup>2</sup>/14 AWG)
- 281/769/776/777/781 and 880 Series (4 mm<sup>2</sup>/12 AWG)

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.

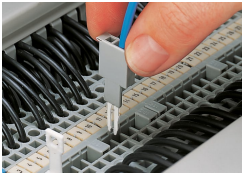


Commoning using comb-style jumper bars:  
Push comb-style jumper bars down until fully inserted.



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

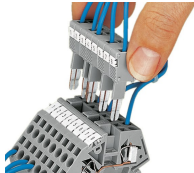
Testing



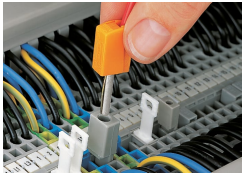
Testing with a test plug.  
Picture shows a test plug fitted with CAGE CLAMP®.



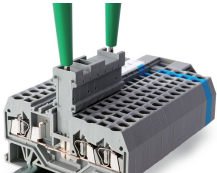
L-type test plug modules fitted with CA-GE CLAMP®



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

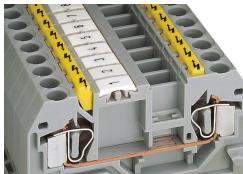


Testing with a test plug.  
Picture shows a test plug adapter (209-170).



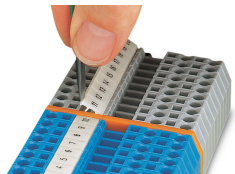
Test plugs modules are directly plugged into the jumper contact slot of the current bar.

Cover

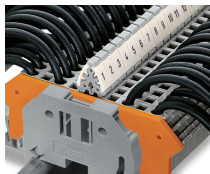


Protective warning markers inserted into the operating slots

Marking



Labeling via WMB Multi Marking System.



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