Data Sheet | Item Number: 280-653

3-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; red

https://www.wago.com/280-653

Color: ■ red

Similar to illustration

Through terminal block, 280 Series, operating tool

This through terminal block (item number 280-653) streamlines wire connections, making them both quick and easy. Whether for use in industry or building installations, our rail-mount through terminal blocks make it easy to quickly and securely connect electrical conductors. They're perfect for either classic through-wiring or distributing potential, depending on the variant. Rated current and voltage are important parameters when choosing a through rail-mount terminal block, as they determine the product's suitability for different applications. This product has a rated voltage of 800 V and a rated current of 24 A. Strip lengths must be 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 offers 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 designed for conductor cross sections ranging from 0.08 mm² to 2.5 mm². It comes with one level and three clamping points for connecting a single potential. The red 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 surge voltage	8 kV	-	-
Rated current	24 A	-	-

Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	-	600 V	-
Rated current	-	20 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_N for specified power loss	24 A
Resistance value for specified, current-dependent power loss	0.00133 Ω

Connection data

Clamping units	3
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	64 mm / 2.52 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	red
Material group	I
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.123 MJ
Weight	7.6 g

Environmental requirements

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

Commercial data

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	DE
GTIN	4044918391184
Customs tariff number	85369010000

Environmental Product Compliance

RoHS Compliance Status	Compliant,No Exemption

Approvals / Certificates

General approvals

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

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 Shipping	EN 60947	20-HG1941090-PDA
BV Bureau Veritas S.A.	EN 60947	07436/F0 BV

Approvals for marine applications

Approval	Standard	Certificate Name
DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAE00001V2
LR Lloyds Register	EN 60947	91/20112 (E9)

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 280-653	↓

Documentation

Additional Information

Technical Section	pdf 2246.92 KB	↓

Bid Text

280-653	19.02.2019	xml 3.19 KB	↓
280-653	28.02.2017	doc 24.00 KB	↓

CAD/CAE-Data

CAD data

2D/3D Models 280-653	↓

CAE data

EPLAN Data Portal 280-653	↓
WSCAD Universe 280-653	↓
ZUKEN Portal 280-653	↓

1 Compatible Products

1.1 Required Accessories

1.1.1 End plate

1.1.1.1 End plate

Item No.: 280-324
End and intermediate plate; 2.5 mm thick; gray

Item No.: 280-326
End and intermediate plate; 2.5 mm thick; orange

Item No.: 280-344
Separator plate; 2 mm thick; oversized; gray

Item No.: 280-346
Separator plate; 2 mm thick; oversized; orange

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

WAGO

1.2.1.1 Mounting accessories

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 End plate

1.2.2.1 End plate

Item No.: 284-334
Step-down cover plate; 1 mm thick; for 2-, 3- and 4-conductor terminal blocks; gray

Item No.: 284-344
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

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-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 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
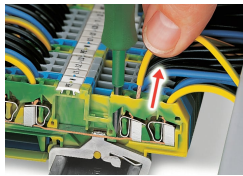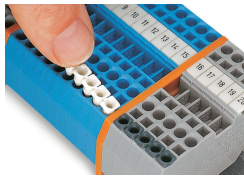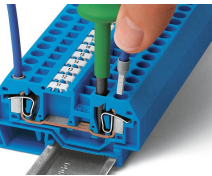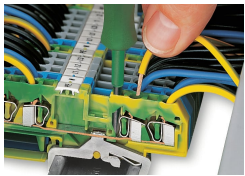
Installation Notes

Installation
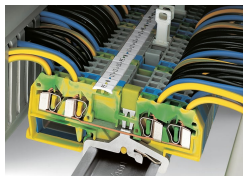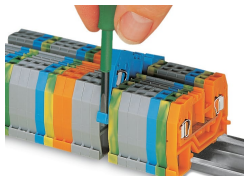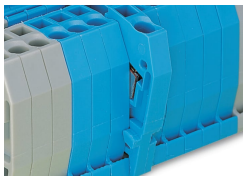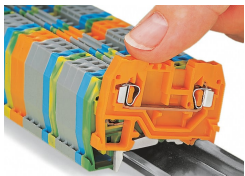
Snapping a terminal block onto the DIN-rail.

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.

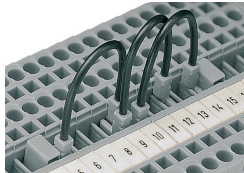**CAGE CLAMP® connection**
Removing a solid conductor.

Commoning
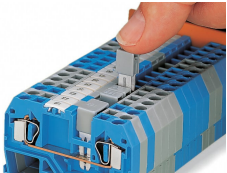
Commoning using an adjacent jumper.
Push jumper down until fully inserted!
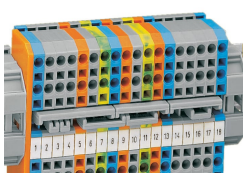
Staggered jumpers are suitable for sophisticated circuit requirements. Push jumpers down until fully inserted!


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 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.
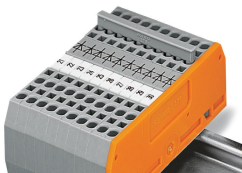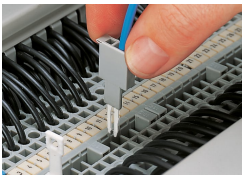

Commoning using comb-style jumper bars:
Push comb-style jumper bars down until fully inserted.
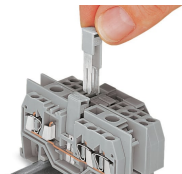
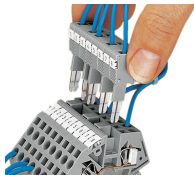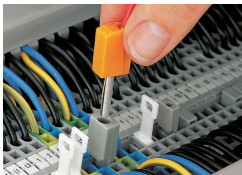Commoning terminal blocks of different sizes via step-down jumpers.

Testing

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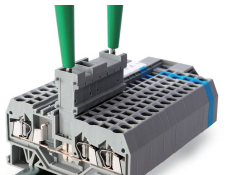Picture shows a test plug fitted with CAGE CLAMP®.

L-type test plug modules fitted with CAGE CLAMP®

B-type test plug modules fitted with CAGE CLAMP®
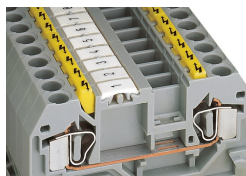

Testing with a test plug.
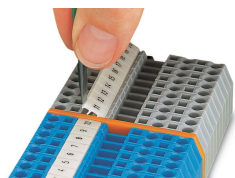Picture shows a test plug adapter (209-170).

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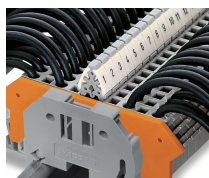
Cover

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

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

Current addresses can be found at:: www.wago.com

Page 11/11   Version 13.02.2025