

Color: ■ orange



Similar to illustration

Through terminal block, 780 Series, orange

Easily, quickly and safely connect conductors with this through terminal block (item number 780-654). Ensure that the strip lengths are 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 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 through terminal block is suitable 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 orange housing is made of polyamide (PA66) for insulation. These installation rail-mount terminal blocks are mounted using DIN-35 rails..

Electrical data

Ratings per			IEC/EN 60947-7-1			Power Loss		
Overvoltage category	III	III	II			Power loss, per pole (potential)	0.7661 W	
Pollution degree	3	2	2			Rated current I_N for specified power loss	24 A	
Nominal voltage	1000 V	-	-			Resistance value for specified, current-dependent power loss	0.00133 Ω	
Rated surge voltage	8 kV	-	-					
Rated current	24 A	-	-					

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 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 2.5 mm ² / 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	77 mm / 3.031 inches
Depth from upper-edge of DIN-rail	43.5 mm / 1.713 inches

Mechanical data

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

Material data

Note (material data)	Information on material specifications can be found here
Color	orange
Material group	I
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.177 MJ
Weight	9.2 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)	50 pcs
Packaging type	Box
Country of origin	DE
GTIN	4044918544665
Customs tariff number	85369010000

Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
CCA DEKRA Certification B.V.	EN 60947	2157201.01
CSA CSA Group	C22.2	1536074
UR 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
DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAE00001V2

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product
Compliance 780-654



Documentation

Additional Information

Technical Section

pdf
2246.92 KB



Bid Text

780-654

19.02.2019

xml
3.31 KB



780-654

02.03.2017

doc
24.50 KB



CAD/CAE-Data

CAD data

2D/3D Models 780-654



CAE data

EPLAN Data Portal
780-654



WSCAD Universe
780-654



ZUKEN Portal 780-654



1 Compatible Products

1.1 Required Accessories

1.1.1 End plate



[Item No.: 780-317](#)

End and intermediate plate; 1.5 mm thick;
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; simi-
lar 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; si-
milar 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

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 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.: 216-131](#)

Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated; silver-colored

[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.: 216-241](#)

Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white

[Item No.: 216-141](#)

Ferrule; Sleeve for 0.5 mm² / 20 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92

[Item No.: 216-101](#)

Ferrule; Sleeve for 0.5 mm² / AWG 22; insulated; electro-tin plated; silver-colored

[Item No.: 216-242](#)

Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray

[Item No.: 216-262](#)

Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray

[Item No.: 216-202](#)

Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray

[Item No.: 216-142](#)

Ferrule; Sleeve for 0.75 mm² / 18 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92

[Item No.: 216-102](#)

Ferrule; Sleeve for 0.75 mm² / AWG 20; insulated; electro-tin plated; silver-colored

[Item No.: 216-243](#)

Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red

[Item No.: 216-263](#)

Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red

[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.: 216-143](#)

Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92

[Item No.: 216-204](#)

Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black

[Item No.: 216-244](#)

Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black

[Item No.: 216-264](#)

Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black

[Item No.: 216-284](#)

Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92; black

[Item No.: 216-144](#)

Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92; silver-colored

[Item No.: 216-104](#)

Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated; silver-colored

[Item No.: 216-205](#)

Ferrule; Sleeve for 2.08 mm² / AWG 14; insulated; electro-tin plated; yellow

[Item No.: 216-206](#)

Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; blue

[Item No.: 216-246](#)

Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue

[Item No.: 216-266](#)

Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue

[Item No.: 216-286](#)

Ferrule; Sleeve for 2.5 mm² / AWG 14; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; blue

[Item No.: 216-106](#)

Ferrule; Sleeve for 2.5 mm² / AWG 14; uninsulated; electro-tin plated; silver-colored

1.2.3 Installation

1.2.3.1 Cover

**Item No.: 709-154**

Cover; Type 2; suitable for cover carrier, type 2; 1 m long; transparent

1.2.3.2 Cover carrier

**Item No.: 709-168**

Cover carrier; Type 2; incl. fixing/retaining screws and knurled nut; suitable for 283 to 285 Series rail-mounted terminal blocks; suitable for 279 to 281 Series double- and triple-deck terminal blocks; suitable for 780 to 785, 775, 776 and 777 Series TOP-JOB® rail-mounted terminal blocks; suitable for 280 Series sensor and actuator terminal blocks; suitable for 282 Series disconnect/test terminal blocks for transformer circuits; 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

1.2.5.1 Jumper



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 Group marker carrier



Item No.: 249-105
Group marker carrier; gray

1.2.6.2 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; 2,50 mm²; gray

1.2.10 Tool

1.2.10.1 Operating tool

[Item No.: 210-720](#)

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

[Item No.: 777-310](#)

Operating tool; Specially designed blade; for TOPJOB® Terminal Blocks; orange

Installation Notes

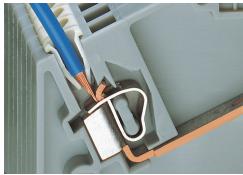
Installation



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

Removing a terminal block from the assembly.

Conductor termination



Insulation stop

Prevents the conductor insulation from being pushed into the clamping unit. (Available for terminal blocks up to 4 mm²/12 AWG)

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.

Commoning



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