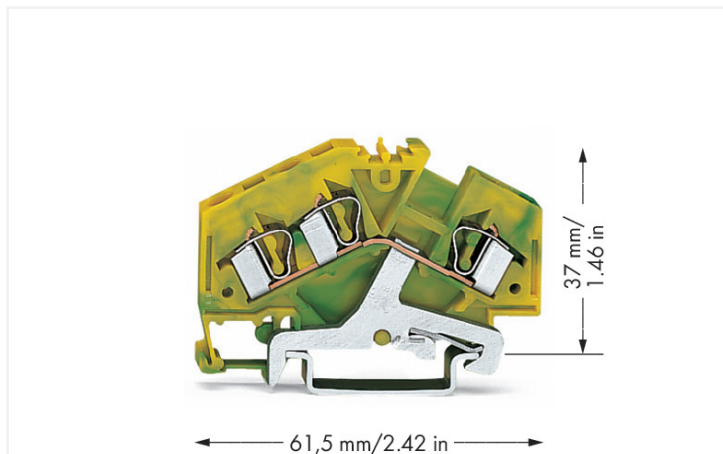


**Data Sheet | Item Number: 281-637/999-950**

3-conductor ground terminal block; 4 mm<sup>2</sup>; suitable for Ex e II applications; center marking; for DIN-rail 35 x 15 and 35 x 7.5; CAGE CLAMP®; 4,00 mm<sup>2</sup>; green-yellow

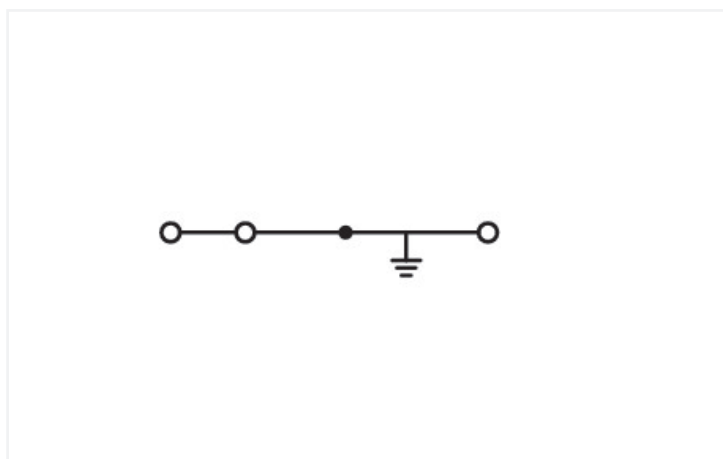
<https://www.wago.com/281-637/999-950>



Color: ■ green-yellow

Similar to illustration

Similar to illustration



Similar to illustration

**Ground terminal block, 281 Series, green-yellow**

Quick and easy connections are guaranteed with this ground terminal block (item number 281-637/999-950). Strip lengths must be between 9 and 10 mm when connecting conductors to this ground terminal block. Ground terminal blocks connect directly to the mounting rail via an integrated contact foot. This creates an electrical and mechanical connection between the electrical conductors and the mounting adapter. Featuring conductor terminals along with CAGE CLAMP®, this connector outperforms the competition. Our reliable and maintenance-free CAGE CLAMP® connection makes it easy to connect all conductor types without having to prepare the conductor. For example, you don't need to crimp ferrules. Depending on the type of conductor, this ground terminal block is suitable for conductor cross sections ranging from 0.08 mm<sup>2</sup> to 4 mm<sup>2</sup>.

An operating tool is used to operate this through rail-mount terminal block.

## Electrical data

Ratings per	IEC/EN 60947-7-2		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Nominal voltage	-	-	-
Rated impulse withstand voltage	-	-	-
Rated current	-	-	-

## Ex information

Reference to hazardous areas	See application instructions in section "Knowledge and Downloads – Documentation – Additional Information: Technical Section; Technical Explanations"
------------------------------	---

## General information

Wiring direction	Front-entry wiring, angled
------------------	----------------------------

## 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
Solid conductor	0.08 ... 4 mm <sup>2</sup> / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 4 mm <sup>2</sup> / 28 ... 12 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inches
Wiring direction	Front-entry wiring, angled

## Physical data

Width	6 mm / 0.236 inches
Height	61.5 mm / 2.421 inches
Depth from upper-edge of DIN-rail	37 mm / 1.457 inches

## Mechanical data

Design	angled
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	green-yellow
Material group	I
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.182 MJ
Weight	15.9 g

### Environmental requirements

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

### Commercial data

PU (SPU)	100 pcs
Packaging type	Box
Country of origin	DE
GTIN	4045454087197
Customs tariff number	85369010000

### Product Classification

UNSPSC	39121410
eCl@ss 10.0	27-14-11-41
eCl@ss 9.0	27-14-11-41
ETIM 9.0	EC000901
ETIM 10.0	EC000901
ECCN	NO US CLASSIFICATION

### Environmental Product Compliance

CAS-No.	7439-92-1
REACH Candidate List Substance	Lead
RoHS Compliance Status	Compliant, No Exemption
SCIP notification number (Austria)	25ad157a-3390-41a5-b7b2-0a2c8ad3940e
SCIP notification number (Belgium)	dd9443ce-c568-47b2-bfe0-1f89eafc6a3e
SCIP notification number (Bulgaria)	1c9b4b7b-a377-41fe-9bac-3e88d8544c15
SCIP notification number (Czech Republic)	fc89dfbc-1809-437e-9b2e-2a895a68977f
SCIP notification number (Denmark)	dba73efa-05b9-4593-b027-5f5a4a75ac79
SCIP notification number (Finland)	e2493f02-860f-44c2-b199-6affe5a80ab8
SCIP notification number (France)	414c1cc9-44f9-4337-abfd-ae2f5c041c66
SCIP notification number (Germany)	8f17c409-4893-464f-8f41-0d32e3c7b352
SCIP notification number (Hungary)	503e4d2c-b4f4-4c5d-a38f-b79ce0ffe88f
SCIP notification number (Italy)	3c411669-7f2e-48f7-8df6-6c4d7e99e3c6
SCIP notification number (Netherlands)	b12388dc-483a-4ac3-b056-ea3dffa4eb0b
SCIP notification number (Poland)	b573f2c5-79f6-484c-a35d-b140e0491267
SCIP notification number (Romania)	f521cfbf-df53-483b-8f41-e4202f146043
SCIP notification number (Sweden)	b01f5373-31d3-4918-8035-241cce88c59a

### Approvals / Certificates

#### General approvals



Approval	Standard	Certificate Name
KEMA/KEUR DEKRA Certification B.V.	EN 60947	71-107288
UL UL International Germany GmbH	UL 1059	E45172

#### Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
ATEX-Attestation of Con- formity WAGO GmbH & Co. KG	-	-
EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-

Approvals for marine applications



Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	-	24-0152298-PDA
BV Bureau Veritas S.A.	EN 60947	07436/G0 BV
DNV GL Det Norske Veritas, Ger- manischer Lloyd	-	TAE00001V2
PRS Polski Rejestr Statków	-	TE/1094/880590/23

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 (PTB)	-	PTB 00 ATEX 3110 U (II 2 G Ex eb IIC Gb bzw. I M 2 Ex eb I Mb)
CCC CNEX	GB/T 3836.3	2020312313000232 (Ex eb IIC Gb, Ex eb I Mb)
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 281-637/999-950	<a href="#">↓</a>

Documentation

Bid Text			
281-637/999-950	19.02.2019	xml 3.09 KB	<a href="#">↓</a>
281-637/999-950	28.02.2017	doc 24.00 KB	<a href="#">↓</a>

CAD/CAE-Data

CAD data	
2D/3D Models 281-637/999-950	<a href="#">↓</a>

CAE data	
EPLAN Data Portal 281-637/999-950	<a href="#">↓</a>
WSCAD Universe 281-637/999-950	<a href="#">↓</a>
ZUKEN Portal 281-637/999-950	<a href="#">↓</a>

## 1 Compatible Products

### 1.1 Required Accessories

#### 1.1.1 End plate

##### 1.1.1.1 End plate



**Item No.: 281-357**  
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.: 209-192**  
Separator for Ex e/Ex i applications; 3 mm thick; 125.5 mm wide; orange



**Item No.: 281-358**  
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; 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



**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.: 216-241**  
Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white



**Item No.: 216-242**  
Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray



**Item No.: 216-243**  
Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red



**Item No.: 216-244**  
Ferrule; Sleeve for 1.5 mm<sup>2</sup> / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black



**Item No.: 216-246**  
Ferrule; Sleeve for 2.5 mm<sup>2</sup> / 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 mm<sup>2</sup> / AWG 14; 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.: 281-470**

Insulation stop; 0.08 - 0.2 mm<sup>2</sup> "s" (0.14 mm<sup>2</sup> "f-st"); 5 pieces/strip; white



**Item No.: 281-471**

Insulation stop; 0.25 - 0.5 mm<sup>2</sup>; 5 pieces/strip; light gray



**Item No.: 281-472**

Insulation stop; 0.75 - 1.5 mm<sup>2</sup>; 5 pieces/strip; dark gray

### 1.2.5 Jumper

#### 1.2.5.1 Jumper



**Item No.: 281-490**

Jumper; 10-way; insulated; gray



**Item No.: 281-482**

Jumper; 2-way; insulated; gray



**Item No.: 281-492**

Jumper; 2-way; insulated; gray



**Item No.: 281-483**

Jumper; 3-way; insulated; gray



**Item No.: 281-485**

Jumper; 5-way; insulated; gray



**Item No.: 281-402**

Jumper; insulated; gray



**Item No.: 281-409**

Jumper; insulated; gray



**Item No.: 281-422**

Jumper; insulated; yellow-green



**Item No.: 781-452**

Staggered jumper; from 1 to 2; insulated; gray



**Item No.: 781-453**

Staggered jumper; from 1 to 3; insulated; gray



**Item No.: 781-454**

Staggered jumper; from 1 to 4; insulated; gray



**Item No.: 781-455**

Staggered jumper; from 1 to 5; insulated; gray



**Item No.: 781-456**

Staggered jumper; from 1 to 6; insulated; gray

1.2.6 Marking

1.2.6.1 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

1.2.6.2 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.: 281-415**

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 mm<sup>2</sup>; insulated; 110 mm long; black



**Item No.: 249-123**

Push-in type wire jumper; 0.75 mm<sup>2</sup>; insulated; 180 mm long; black



**Item No.: 249-127**

Push-in type wire jumper; 0.75 mm<sup>2</sup>; 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**

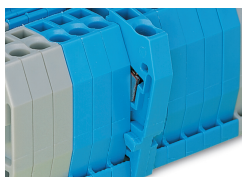
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured

## Installation Notes

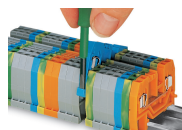
### Installation



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



Quick assembly keys prevent reverse mounting.

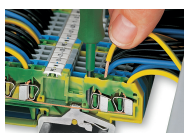


Removing a terminal block from the assembly.

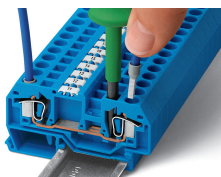


Steel DIN-rails are not suited for PEN (ground and N-conductor) applications per EN 60947-7-2 (VDE 0611, Part 3).

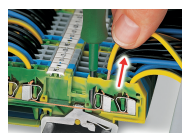
## Conductor termination



**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.

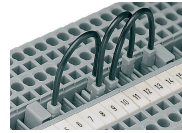
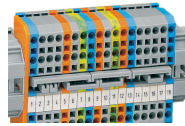


**CAGE CLAMP® connection**  
Removing a solid conductor.



Inserting insulation stops.

**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:

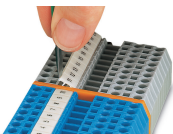
- 279 Series (1.5 mm<sup>2</sup>/16 AWG),
- 280/775/780 Series (2.5 mm<sup>2</sup>/14 AWG)
- 281/769/776/777/781 and 880 Series (4 mm<sup>2</sup>/12 AWG)

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.

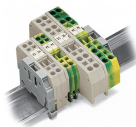
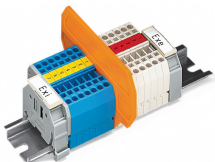
4-conductor through terminal blocks, angled type, formation of groups with 3-way, comb-style jumper bars

**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.

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

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Current addresses can be found at: [www.wago.com](http://www.wago.com)