Data sheet | Item number: 2857-533

Threshold value switches; RTD sensors; 1 make contact; Digital output; Configuration via software; Supply voltage: 24 VDC; 12.5 mm module width

www.wago.com/2857-533
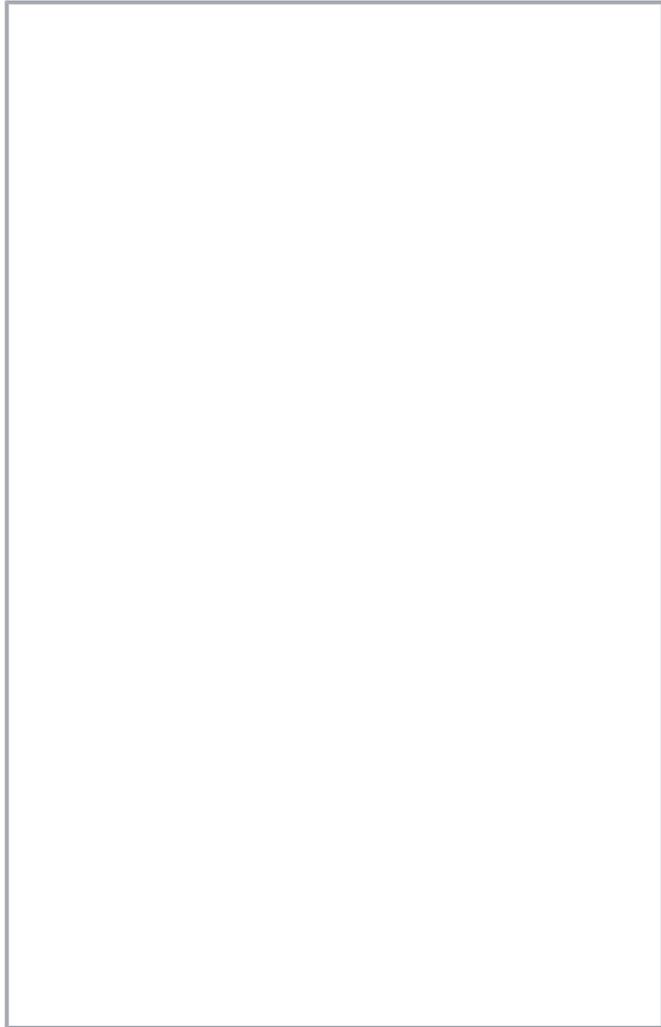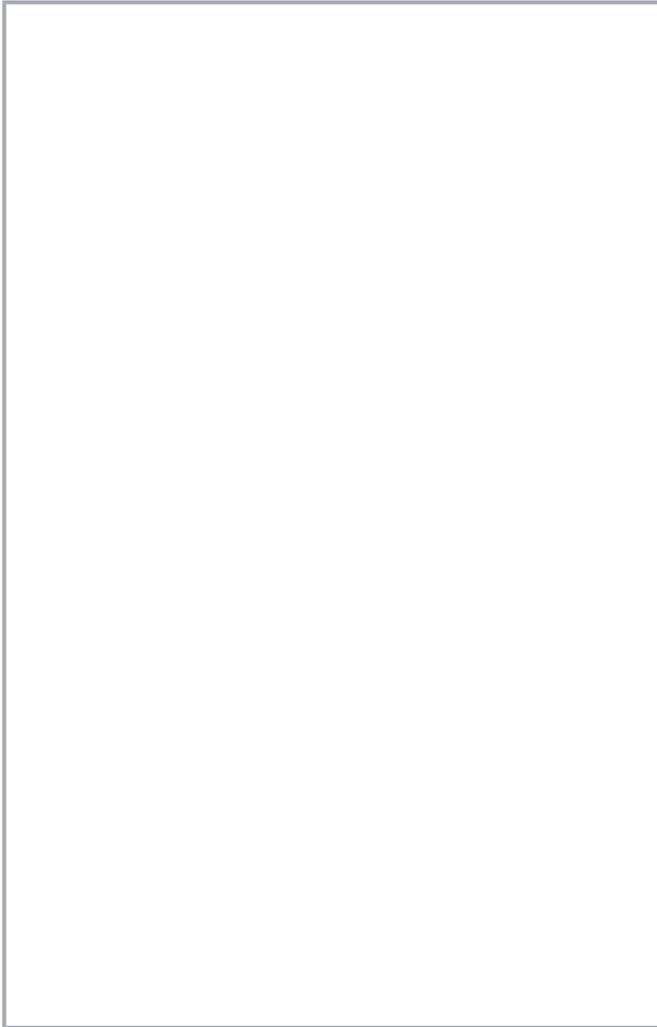
Subject to changes. Please also observe the further product documentation!

Do you have any questions about our products?

We are always happy to take your call at +49 (571) 887-44222.
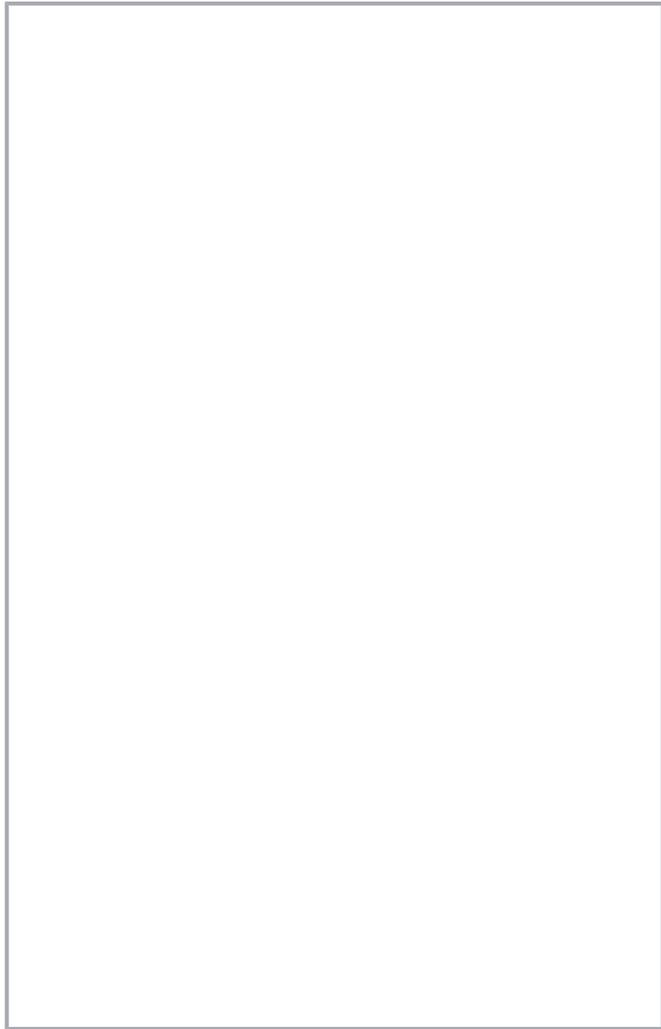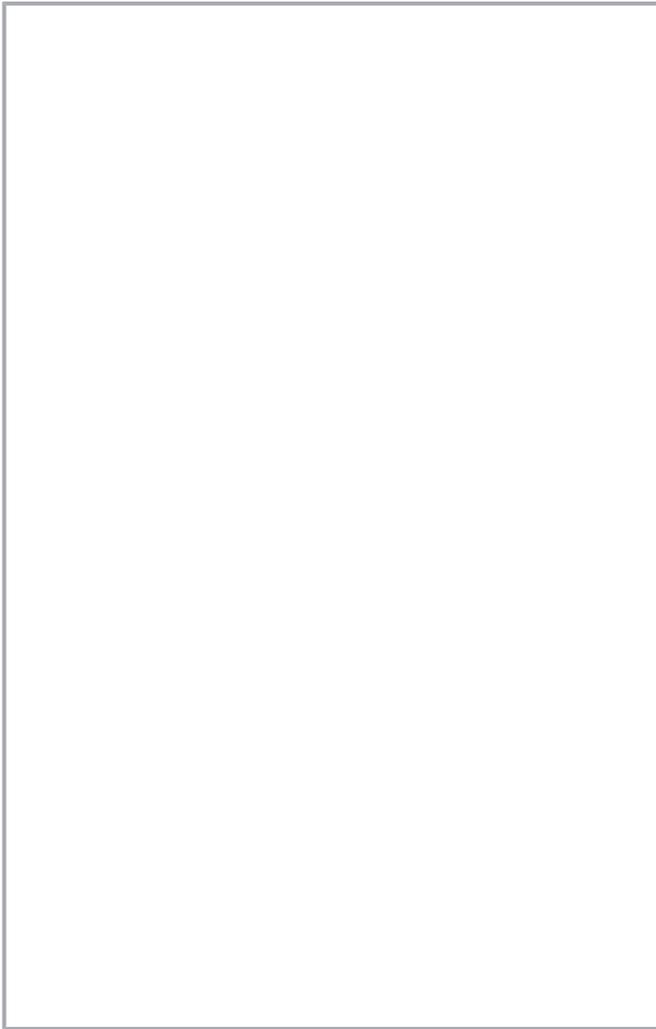
Item description

Short description:

WAGO's RTD threshold value switch for RTD sensors, potentiometers and resistors monitors and reports signals for up to two switching thresholds.

Features:

- Both digital signal output and relay with make contact react to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values).

- Configurable RTD factor

- Adjustable software filter

- Input/output response simulation via configuration display

- Safe three-way isolation with 4 kV test voltage per EN 61010-1

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Data

Notes

Note

■ This product is supplied with 24 VDC, which can be commoned using lateral push-in type jumper bars: (6.1) $U_S{}^+$ (BR) and (6.2) GND 2 (BR). With this variant, it is necessary to ensure that the maximum permissible total current of 2 A is not exceeded.

■ Additional setting options via WAGO Interface Configuration Software or WAGO Interface Configuration App

Technical data

Configuration

Configuration options	DIP switch
	WAGO Interface Configuration Software
	WAGO Interface Configuration App
	WAGO Configuration Display

Input

Input signal type	Potentiometer
	Resistance
	RTD sensors
	Potentiometers
	Resistor

Input (RTD sensors)

Sensor types (RTD)	Pt100
	Pt200
	Pt500
	Pt1000
	Pt5000
	Pt10000
	Pt10 … Pt20000
Sensor connection	2-wire; 3-wire; 4-wire; differential
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 … 850°C

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

Input (resistors)

Input range (resistor)	0 … 100 kΩ
Input range (potentiometer)	0 … 100 kΩ

Output (digital)

Switching voltage (DO) max.	Supply voltage (applied): −0.3 V
Continuous current (DO) max.	100 mA (no internal restriction)
Number of switching thresholds (DO)	1 or 2 (adjustable)
Configurable rise/fall delay time (DO)	0 … 60 s (via software)

Output (relay)

Dielectric strength (open contact) (AC, 1 min)	1 kV$_{rms}$
Number of make/switch-on contacts	1
Contact material (relay)	AgNi + Au
Switching voltage (max.)	AC 250 V
Dielectric strength (open contact) (AC, 1 min)	1 kVrms
Pull-in time (typ.)	8 ms
Drop-out time (typ.)	4 ms
Bounce time (typ.)	8 ms
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 … 60 s (via software)

Signal Processing

Software filter (adjustable)	Moving average value (filter level: 30)
Hysteresis	Adjustable via DIP switch or software
Step response (typ.)	60 ms (2-wire); 360 ms (3-wire); 540 ms (4-wire); 360 ms (Potentiometer)

Measurement Error

Transmission error (max.)	± 1 K
Temperature coefficient	≤ 0.01 %/K

Power supply

Power supply type	24 VDC
Nominal supply voltage U$_S$	DC 24 V

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

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Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA (+ I_{DO})

Safety and protection

Rated voltage	300 V
Rated voltage of the measurement circuit connections per EN 61010-2-030	AC 300 V
Measurement category per EN/UL 61010-2-030	CAT II (input)
Note on insulation parameters	Temperature sensors are not intended for use in dangerous circuits, provided the external temperature sensors used do not have basic insulation in accordance with EN/UL 61010-1 (300 VAC; overvoltage category II; pollution degree 2). The digital output (DO) is at the potential of the supply.
Protection type	IP20

Test voltage

Test voltage (input/relay output/supply)	4 kVAC; 60 Hz; 1 min
Test voltage (input/service interface)	3 kVAC; 60 Hz; 1 min
Test voltage (relay output/service interface)	4 kVAC; 60 Hz; 1 min
Test voltage (supply/service interface)	2.5 kVAC; 60 Hz; 1 min

Insulation coordination (UL)

Overvoltage category	II
Pollution degree	2
Insulation type (input, supply and service interface/relay output)	Reinforced insulation (safe isolation)
Insulation type (input/supply/service interface)	Basic insulation

Connection data

Connection technology	Push-in CAGE CLAMP®
WAGO connector	*picoMAX*® 5.0
Solid conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Fine-stranded conductor	0.2 … 2.5 mm² / 24 … 12 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches

Physical data

Width	12.5 mm / 0.492 inches

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

Height	110 mm / 4.331 inches
Depth from upper-edge of DIN-rail	107 mm / 4.213 inches

Mechanical Data

Mounting type	DIN-35 rail

Material Data

Fire load	1.573 MJ
Weight	86.5 g

Environmental requirements

Ambient temperature (operation)	-40 … +70 °C
Ambient temperature (storage)	-40 … +85 °C
Temperature range of connection cable	$\geq (T_{ambient} + 10\,K)$
Temperature range of connection cable (UL)	80 °C

Standards and specifications

Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3; EN 50121-3-2
EMC emission of interference	EN 61000-6-4; EN 61326-2-3; EN 50121-3-2
Standards/specifications	EN 50121-3-2
	EN 61010-1
	EN 61373

Commercial data

Product Group	6 (INTERFACE ELECTRONIC)
eCl@ss 10.0	27-37-18-10
eCl@ss 9.0	27-37-18-10
ETIM 8.0	EC001446
ETIM 7.0	EC001446
PU (SPU)	1 pcs
Packaging type	bag
Country of origin	DE
GTIN	4050821676973
Customs tariff number	90303370000

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

Environmental Product Compliance

CAS-No.	1303-86-2
	1317-36-8
	7439-92-1
	75980-60-8
	79-94-7
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol
	Diboron trioxide
	Lead
	Lead monoxide
	Perfluorobutane sulfonic acid (PFBS) and its salts
	Phosphine oxide, diphenyl(2,4,6-trimethylbenzoyl)-
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	6(c)
	7(a)
	7(c)-I
	7(c)-II
SCIP notification number (Austria)	5dacf9f1-acec-4030-a576-2066861dd611
SCIP notification number (Belgium)	93a2e53f-f28c-4be6-803b-f05ac560dbc3
SCIP notification number (Bulgaria)	2674e09f-f188-47ca-907f-6da7555f3cbe
SCIP notification number (Czech Republic)	53482b4c-731d-46d7-978a-76349083b4ae
SCIP notification number (Denmark)	bd15bcb7-0805-48fd-804d-7c2b0575624e
SCIP notification number (Finland)	f95a8eb7-dda8-4f0f-a6a7-71055557790a
SCIP notification number (France)	a95114a5-e653-4a5c-9d8d-4217bd36673b
SCIP notification number (Germany)	5058fdd7-a366-4ffa-9b3b-8dc6348e2b84
SCIP notification number (Hungary)	53cffea9-5596-4742-9f5a-4a850f720b5b
SCIP notification number (Italy)	d49bce73-6715-4d98-b444-679711c15ee3
SCIP notification number (Netherlands)	0175bf0f-8d9e-4f18-afd7-43d4440d1d8d
SCIP notification number (Poland)	07e60571-bb7b-447a-90ca-0a5fc4588e2a
SCIP notification number (Romania)	b18f85a9-7d9d-48f3-824e-f73837ce0f15
SCIP notification number (Sweden)	e18be451-767b-4edb-abbc-451ebe189c33

Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	Certificate name
	EAC Brjansker Zertifizierungsstelle	TP TC 020/2011	EAC_Certificate_RU_C-DE.AM02.B.00115_19
	EAC Brjansker Zertifizierungsstelle	TP TC 004/2011	EAC RU C-DE.AM02.B.00122/19
	UL Underwriters Laboratories Inc. (ORDINARY)	UL 61010-2-201	E175199

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

WAGO GmbH & Co. KG
Hansastr. 27
32423 Minden
Phone: +49571 887-0 | Fax: +49571 887-169
Email: info.de@wago.com | Web: www.wago.com

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LOCATIONS)

Declarations of conformity and manufacturer's declarations

Logo	Approval	Additional Approval Text	Certificate name
	EU-Declaration of Conformity	-	-
	WAGO GmbH & Co. KG		

Optional accessories

Relay module

Relay module

Item no.: 857-304		www.wago.com/857-304
Relay module; Nominal input voltage: 24 VDC; 1 changeover contact; Limiting continuous current: 6 A; Yellow status indicator; Module width: 6 mm; 2,50 mm²; gray		

Terminal blocks

Supply module

Item no.: 857-979	www.wago.com/857-979
Supply and through module	

Marking accessories

Marking strip

Item no.: 2009-110	www.wago.com/2009-110
Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white	

Marker

Item no.: 2009-115	www.wago.com/2009-115
WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	
Item no.: 793-501	www.wago.com/793-501
WMB marking card; as card; not stretchable; plain; snap-on type; white	
Item no.: 793-502	www.wago.com/793-502
WMB marking card; as card; MARKED; 1 … 10 (10x); not stretchable; Horizontal marking; snap-on type; white	
Item no.: 793-503	www.wago.com/793-503
WMB marking card; as card; MARKED; 11 … 20 (10x); not stretchable; Horizontal marking; snap-on type; white	
Item no.: 793-504	www.wago.com/793-504
WMB marking card; as card; MARKED; 21 … 30 (10x); not stretchable; Horizontal marking; snap-on type; white	
Item no.: 793-505	www.wago.com/793-505
WMB marking card; as card; MARKED; 31 … 40 (10x); not stretchable; Horizontal marking; snap-on type; white	
Item no.: 793-506	www.wago.com/793-506
WMB marking card; as card; MARKED; 41 … 50 (10x); not stretchable; Horizontal marking; snap-on type; white	

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

Item no.: 793-566 WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-566
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	www.wago.com/793-5501
Item no.: 2009-141 Micro-WSB-Inline; 2000 pieces on roll; plain; snap-on type; white	www.wago.com/2009-141

Communication

Bluetooth

Item no.: 750-921 Bluetooth® Adapter	www.wago.com/750-921

Configuration display

Item no.: 2857-900 Configuration display	www.wago.com/2857-900

Communication cable

Item no.: 750-923 Configuration cable; USB connector; Length: 2.5 m	www.wago.com/750-923
Item no.: 750-923/000-001 Configuration cable; USB connector; Length: 5 m	www.wago.com/750-923 /000-001

Jumpers

Jumper

Item no.: 281-482 Jumper; 2-way; insulated; gray	www.wago.com/281-482
Item no.: 859-402/000-029 Jumper; for jumper slot; 2-way; insulated; yellow	www.wago.com/859-402 /000-029
Item no.: 859-402/000-006 Jumper; for jumper slot; 2-way; insulated; blue	www.wago.com/859-402 /000-006
Item no.: 859-402 Jumper; for jumper slot; 2-way; insulated; light gray	www.wago.com/859-402
Item no.: 859-402/000-005 Jumper; for jumper slot; 2-way; insulated; red	www.wago.com/859-402 /000-005

Testing and measuring

Testing accessories

Item no.: 735-500 WAGO Test pin; 1 mm Ø; 30 V AC / 60 V DC; CAT0; 1 A; 6 mm uninsulated; Test lead for soldering up to 0,5mm²	www.wago.com/735-500

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

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Power supplies

Power supply unit

Item no.: 787-2852 Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 A output current	www.wago.com/787-2852

Mounting

Mounting accessories

Item no.: 249-116 Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray	www.wago.com/249-116
Item no.: 249-117 Screwless end stop; 10 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray	www.wago.com/249-117
Item no.: 249-197 Screwless end stop; 14 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray	www.wago.com/249-197

Tool

Operating tool

Item no.: 210-720 Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured	www.wago.com/210-720

Downloads
Documentation

Manual

WAGO Threshold Value Switches HTML		URL	Download

Bid Text

2857-533 docx - Datei	2019 年2月20日	docx 19.3 kB	Download
2857-533 X81 - Datei	2019 年2月19日	xml 6.8 kB	Download

Instruction Leaflet

Signal Conditioner RTD Threshold Value Switch	V 2.0.0 2020 年9月30日	pdf 2.9 MB	Download

Additional Information

Disposal and Recycling Electrical and electronic equipment, Batteries, Packaging	V 1.1.0 2022 年8月18日	pdf 2.2 MB	Download

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

Engineering-Software

Configuration and Commissioning Software

WAGO Interface Configuration Software G2 SMALL	1.00.10.01	exe	Download
The full setup only includes the WAGO Interface Configuration Software G2.	2022 年1月20日	31.0 MB	
WAGO Interface Configuration Software G2 FULL	1.00.10.01	exe	Download
The full setup, in addition to the WAGO Interface Configuration Software G2, includes the installation for the Microsoft .NET Framework.	2022 年1月20日	114.9 MB	

Runtime Software

Firmware

WAGO_FW2857-0533_V02.00.00	txt 889.8 kB	Download

CAD/CAE-Data

CAD data

2D/3D Models 2857-533	URL	Download

CAE data

WSCAD Universe 2857-533	URL	Download
EPLAN Data Portal 2857-533	URL	Download
ZUKEN Portal 2857-533	URL	Download

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 2857-533	URL	Download
Threshold value switches; RTD sensors; 1 make contact; Digital output; Configuration via software; Supply voltage: 24 VDC; 12.5 mm module width		

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

Installation Notes

Configuring

Configuration via DIP switch

Configuration via WAGO Interface Configuration Software

Configuration via WAGO Interface Configuration App
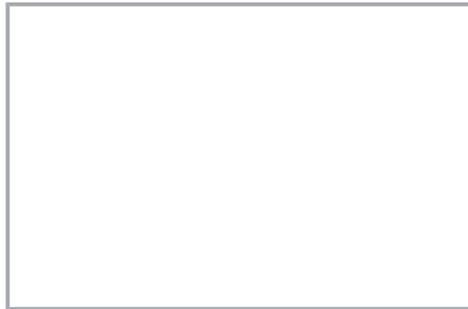
Configuration via WAGO Configuration Display

Conductor termination
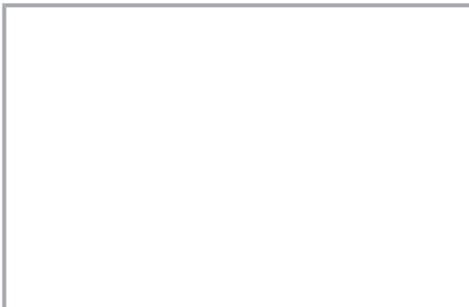
Pluggable connection technology
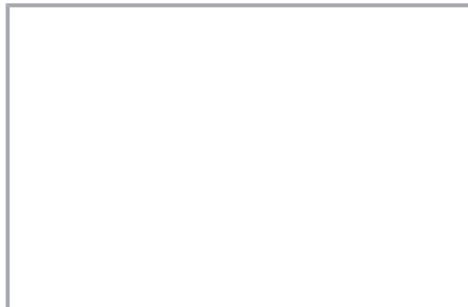
Commoning, not discrete wiring – Same outline allows use of a single in-line, push-in jumper.

Security

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

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Lock-out seal option

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

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