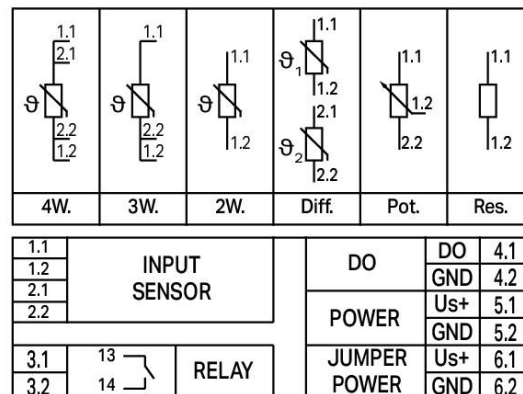
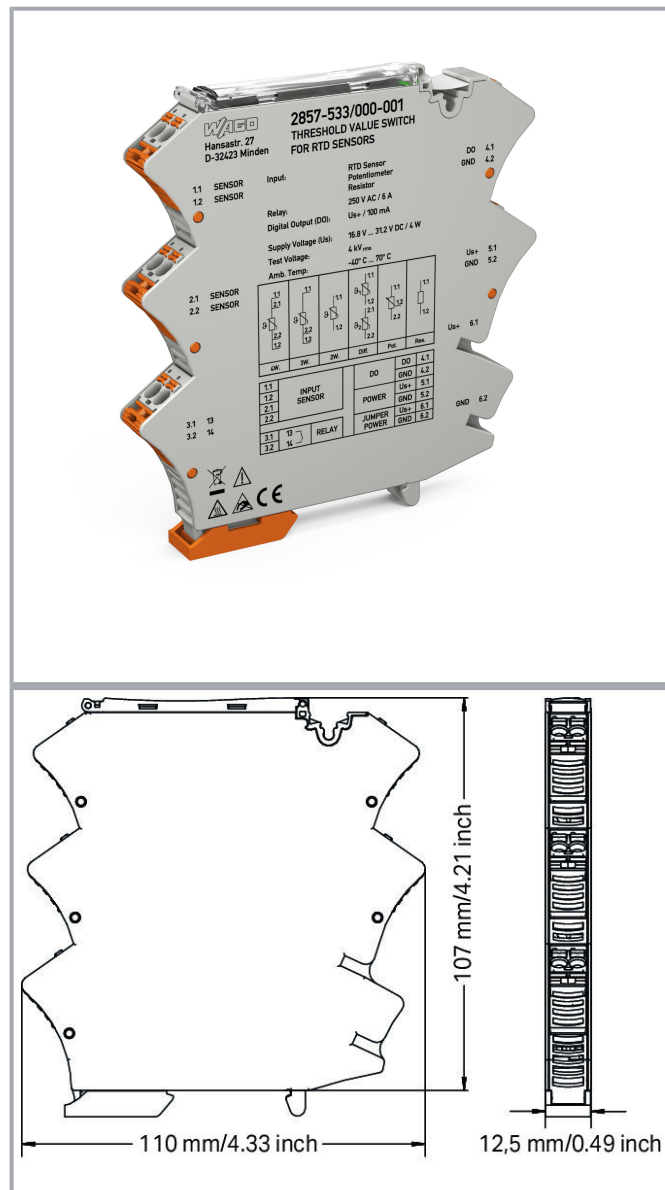


Data sheet | Item number: 2857-533/000-001

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



www.wago.com/2857-533/000-001



Item description

Short description:

The WAGO RTD Threshold Value Switch for RTD sensors, potentiometers and resistors monitors and reports signals for up to two switching

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

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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
- Simulation of input/output response via WAGO Configuration Display or WAGO Interface Configuration Software
- Safe 3-way isolation with 4 kV test voltage per EN 61010-1
- For railway applications

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.
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Technical data

Configuration

Configuration options	WAGO Interface Configuration Software WAGO Configuration Display WAGO Interface Configuration Software WAGO Configuration Display
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Input

Input signal type	RTD sensors Potentiometers Resistor
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Input – RTD sensors

Sensor types (RTD)	Pt100 Pt200 Pt500 Pt1000 Pt5000 Pt10000 Pt10 ... Pt20000
Sensor connection	2-wire; 3-wire; 4-wire; differential

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Sensor power supply (RTD) (max.)	≤ 0.5 mA
Measurement range, temperature (RTD)	-200 ... 850°C

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

Number of make/switch-on contacts	1
Contact material (relay)	AgNi + Au
Switching voltage (max.)	AC 250 V
Limiting continuous current (relay; module assembly)	6 A (≤ 60 °C); 3 A (60 ... 70 °C)
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)
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

Supply

Power supply type	24 VDC
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Subject to changes. Please also observe the further product documentation!



Nominal supply voltage U_S	DC 24 V (SELV)
Supply voltage range	$\pm 30\%$
Power consumption at nominal supply voltage	$\leq 40\text{ mA (+ } I_{DO})$

Safety and protection

Rated voltage of the measurement circuit connections per EN 61010-2-030	AC 300 V
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 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 parameters per EN 61010-1

Line-to-neutral conductor voltage (AC) max.	300 V
Overvoltage category	II
Pollution degree	2
Insulation type (input, supply and service interface/relay output)	Reinforced insulation
Insulation type (input/supply/service interface)	Basic insulation

Connection data

Connection technology	Push-in CAGE CLAMP®
WAGO Connector	<i>picoMAX</i> ® 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 inch

Physical data

Width	12.5 mm / 0.492 inch
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Subject to changes. Please also observe the further product documentation!



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

Mechanical data

Mounting type	DIN-35 rail
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Material data

Fire load	1.374 MJ
Weight	86 g

Environmental requirements

Surrounding air temperature (operation)	-40 ... 70 °C
Surrounding air temperature (storage)	-40 ... 85 °C
Temperature range of the connecting cable according to EN 61010-2-201	$\geq (T_{\text{surrounding air}} + 30 \text{ K})$
Relative humidity	5 ... 95 %
Operating altitude (max.)	2000 m

Environmental conditions per DIN EN 50155:2018-05

Altitude	A1
Operating temperature class	OT3
Extended operating temperature at switch-on	ST1
Quick temperature changes	H1
Power supply interruptions	S1
Power supply switching classes	C2
Service life	L4 at 40 °C (max.)
Protective coatings for populated PCBs	PC2
Temporary supply voltage dips	Criterion B

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 61010-1 EN 61373

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

Commercial data

PU (SPU)	1 Stück
Packaging type	bag
Country of origin	DE
GTIN	4055144001570
Customs tariff number	90303370000

Optional accessories

Cables and pluggable connectors

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

Marking accessories

Marking strip		
	Item no.: 2009-110 Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white	www.wago.com/2009-110
Marker		
	Item no.: 2009-115 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	www.wago.com/2009-115
	Item no.: 793-501 WMB marking card; as card; not stretchable; plain; snap-on type; white	www.wago.com/793-501
	Item no.: 793-502 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-502
	Item no.: 793-503 WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-503
	Item no.: 793-504 WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-504
	Item no.: 793-505 WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-505
Item no.: 793-506		

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



WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; www.wago.com/793-506
white

**Item no.: 793-566**

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; www.wago.com/793-566
white

**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

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

Terminal blocks

Through terminal block

**Item no.: 857-979**

Supply and through module

www.wago.com/857-979

Power supplies

Power supply

**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

Jumpers

Jumper

**Item no.: 281-482**

Jumper; insulated; gray

www.wago.com/281-482



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**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**

Test pin; 1 mm Ø; with solder connection for test wire

www.wago.com/735-500**Downloads****Documentation****Instruction Leaflet**

RTD-Grenzwertschalter	V 1.0.0 2020. 8. 20.	pdf 2.6 MB	Download
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Additional Information

Disposal; Electrical and electronic equipment, Packaging	V 1.0.0	pdf 265.8 kB	Download
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Engineering-Software**Software for Interface-Products**

WAGO Interface Configuration Software G2 SMALL	1.0.7.9	exe	Download
The full setup only includes the WAGO Interface Configuration Software G2.	2021. 4. 8.	30.0 MB	
WAGO Interface Configuration Software G2 FULL	1.0.7.9	exe	Download
The full setup, in addition to the WAGO Interface Configuration Software G2, includes the installation for the Microsoft .NET Framework.	2021. 4. 8.	114.0 MB	

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Environmental Product Compliance

Compliance Search

Environmental Product Compliance 2857-533/000-001

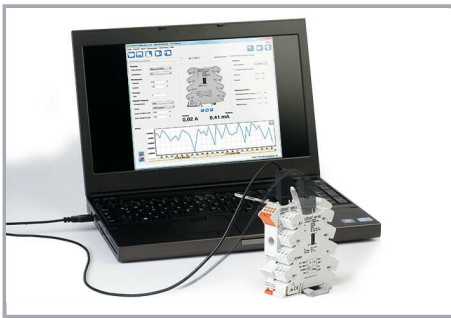
URL

Download

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

Installation Notes

Configuration



Configuration via WAGO Interface Configuration Software



Configuration via WAGO Configuration Display

Conductor termination



Pluggable connection technology



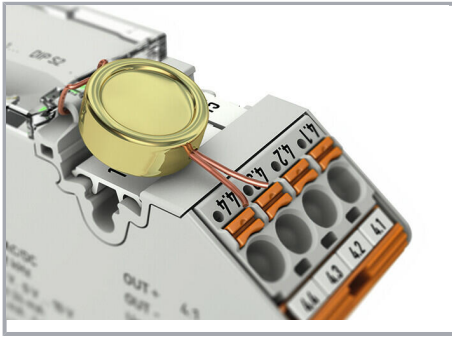
Commoning, not discrete wiring – Same outline allows use of a single in-line, push-in jumper.

Safety

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Lock-out seal option

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