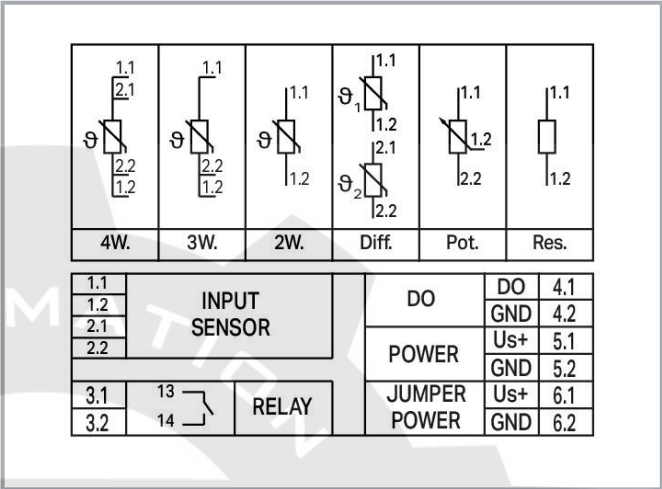
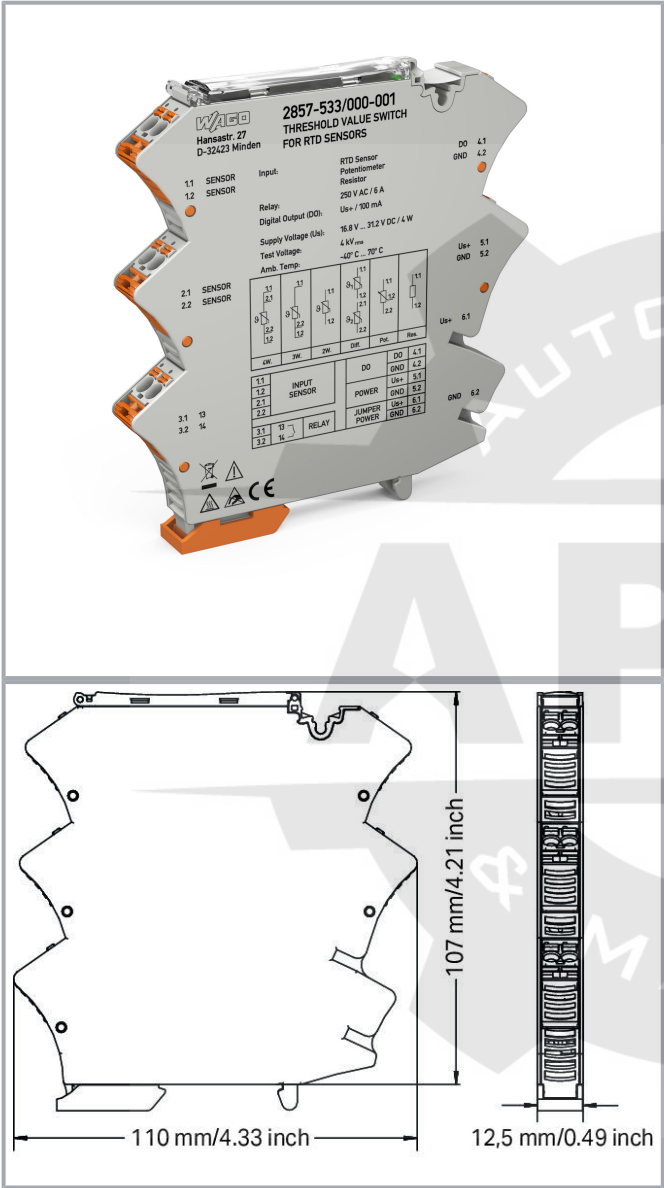


Data sheet | Item number: 2857-533/000-001



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

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.

Data

Technical data

Configuration

Configuration options

WAGO Interface Configuration Software
WAGO Configuration Display

Input

Input signal type

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

Measurement range, temperature (RTD)

-200 ... 850°C

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Input – resistors

Input range (resistor)	0 ... 100 k Ω
Input range (potentiometer)	0 ... 100 k Ω

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 ($\leq 60^{\circ}\text{C}$); 3 A ($60 \dots 70^{\circ}\text{C}$)
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.)	$\pm 1\text{ K}$
Temperature coefficient	$\leq 0,01\text{ \%/K}$

Supply

Power supply type	24 VDC
Nominal supply voltage U_S	DC 24 V (SELV)

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



Supply voltage range	±30 %
Power consumption at nominal supply voltage	≤ 40 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	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 inch

Physical data

Width	12.5 mm / 0.492 inch
Height from upper-edge of DIN-rail	107 mm / 4.213 inch

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Depth	110 mm / 4.331 inch
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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

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Commercial data

Packaging type	bag
Country of origin	DE
GTIN	4055144001570
Customs tariff number	8543704500

Optional accessories

Cables and pluggable connectors

	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

	Item no.: 281-482 Jumper; insulated; gray	www.wago.com/281-482
	Item no.: 859-402 Push-in type jumper bar; Light gray; Insulated; 18 A; 2-position	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
	Item no.: 859-402/000-006 Jumper; for jumper slot; 2-way; insulated; blue	www.wago.com/859-402/000-006
	Item no.: 859-402/000-029 Jumper; for jumper slot; 2-way; insulated; yellow	www.wago.com/859-402/000-029

Testing accessories

	Item no.: 735-500 Test pin; 1 mm Ø; with solder connection for test wire	www.wago.com/735-500
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Tools

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

	Item no.: 2009-110 Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white	www.wago.com/2009-110
	Item no.: 2009-115	

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

	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.: 2009-141 Micro-WSB-Inline; 2000 pieces on roll; plain; snap-on type; white	www.wago.com/2009-141
	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 WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-506
Mounting		
	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
Power supplies		
	Item no.: 787-2852 EPSITRON® / JUMPFLEX® power supply; single-phase; 24 VDC; 1 A	www.wago.com/787-2852
Clamps		
	Item no.: 857-979 JUMPFLEX® supply and through module	www.wago.com/857-979
General accessories		
	Item no.: 2857-900 Setup unit	www.wago.com/2857-900
	Item no.: 750-921 Bluetooth® Adapter	www.wago.com/750-921
	Item no.: 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	www.wago.com/857-304

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Downloads

Documentation

Instruction Leaflet

RTD-Grenzwertschalter	V 1.0.0 Aug 20, 2020	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 The full setup only includes the WAGO Interface Configuration Software G2.	1.0.6.18 Apr 8, 2021	exe 30.0 MB	Download
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WAGO Interface Configuration Software G2 FULL The full setup, in addition to the WAGO Interface Configuration Software G2, includes the installation for the Microsoft .NET Framework.	1.0.6.18 Apr 8, 2021	exe 113.9 MB	Download
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Environmental Product Compliance

Compliance Search

Environmental Product Compliance 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	URL	Download
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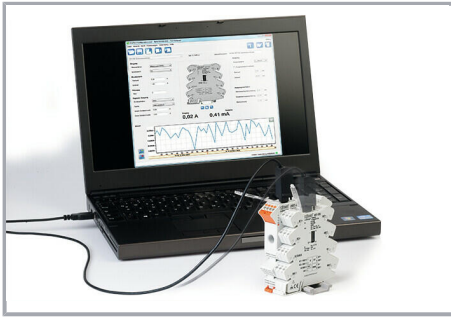
Installation Notes

Configuration

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

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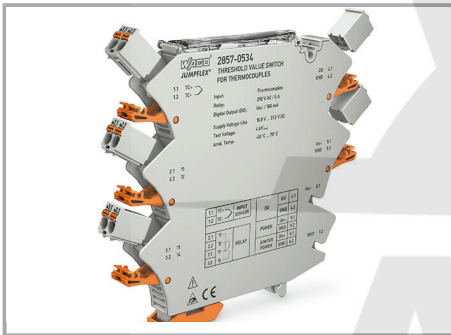


Configuration via WAGO Interface
Configuration Software

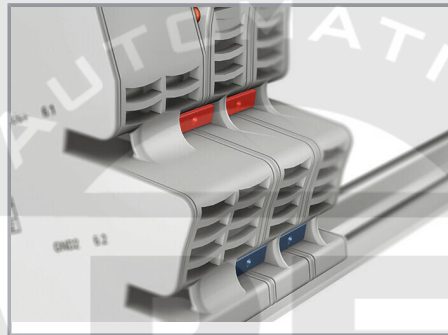


Configuration via WAGO Configuration
Display

Conductor termination



Pluggable connection technology



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

Safety



Lock-out seal option

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