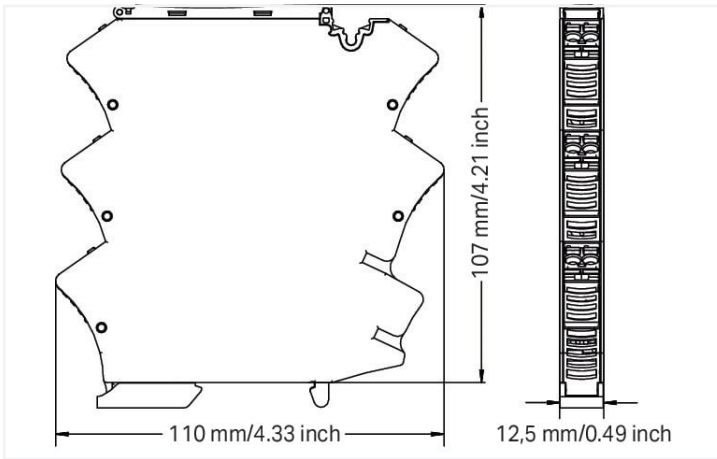
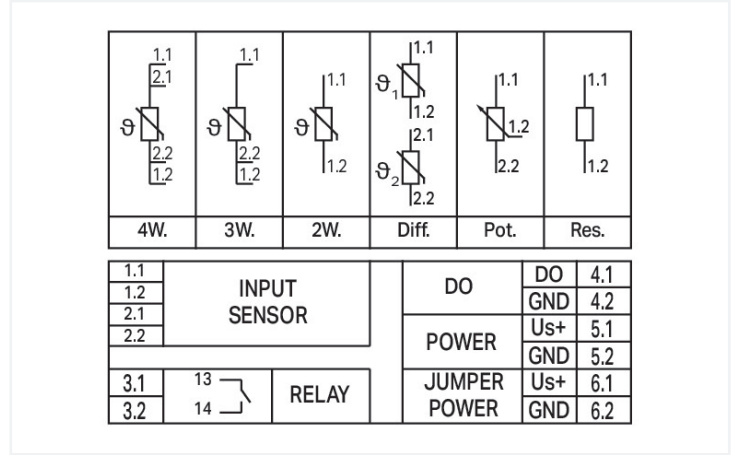
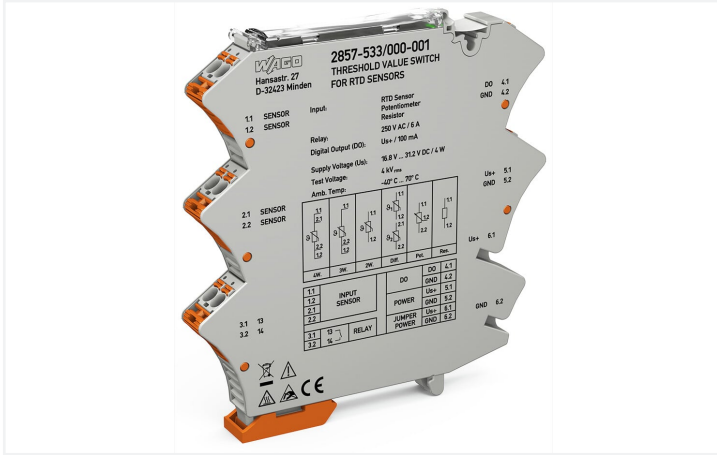


# Data Sheet | Item Number: 2857-533/000-001

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



<https://www.wago.com/2857-533/000-001>



Dimensions in mm

## 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
- For railway applications

## Notes

Note

This product is supplied with 24 VDC, which can be commoned using lateral push-in type jumper bars: (6.1) U<sub>s</sub>+ (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.

## Technical data

### Configuration

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

Input signal type	RTD sensors Potentiometer Resistance
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### Input (RTD sensors)

Sensor types (RTD)	Pt100 Pt200 Pt500 Pt1000 Pt5000 Pt10000 Pt10 ... Pt20000
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (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
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
Nominal supply voltage $U_s$	DC 24 V (SELV)
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
Note on insulation parameters	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

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	<i>picoMAX</i> ® 5.0
Solid conductor	0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG
Fine-stranded conductor	0.2 ... 2.5 mm <sup>2</sup> / 24 ... 12 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inches

### Physical data

Width	12.5 mm / 0.492 inches
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
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### Material data

Fire load	1.556 MJ
Weight	86.1 g

### Environmental requirements

Ambient temperature (operation)	-40 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Temperature range of connection cable	≥ (T <sub>ambient</sub> + 30 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
Switching classes (power supply)	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 EN 50121-3-2

Commercial data	
ETIM 8.0	EC001446
ETIM 7.0	EC001446
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4055144001570
Customs tariff number	90303370000

Environmental Product Compliance	
CAS-No.	7439-92-1 79-94-7
REACH Candidate List Substance	2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol Lead Perfluorobutane sulfonic acid (PFBS) and its salts
RoHS Compliance Status	Compliant,With Exemption
RoHS Exemption	7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	a1f6ebca-6ee1-4502-97a0-ca81287a2bc9
SCIP notification number (Belgium)	807f8a01-2e4d-4e0c-9c71-6e8338955d40
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SCIP notification number (Czech Republic)	b7d1b66f-7f24-48b2-9f05-050931d626dd
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SCIP notification number (Romania)	1c695032-ae4-4e17-8776-0b012226ff2b
SCIP notification number (Sweden)	509681b7-8017-48ab-8a20-b7682857049f

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

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