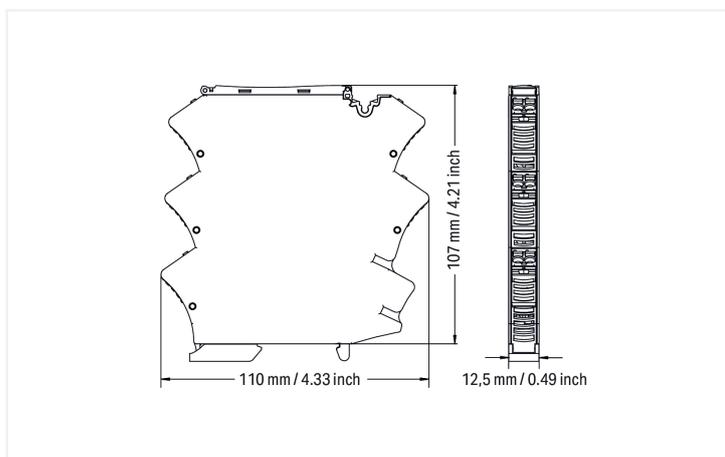
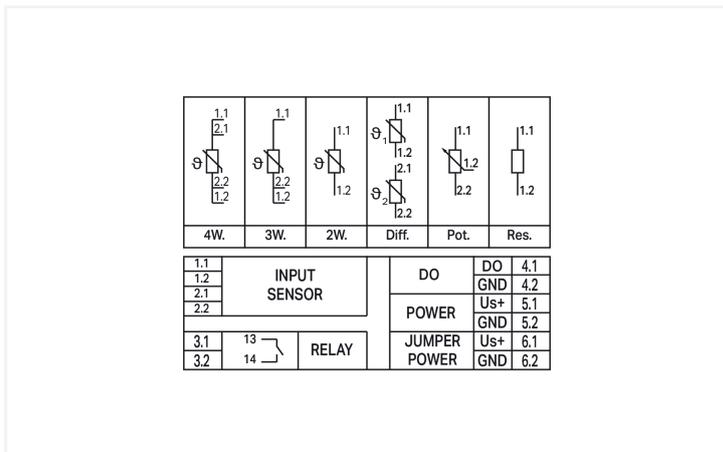
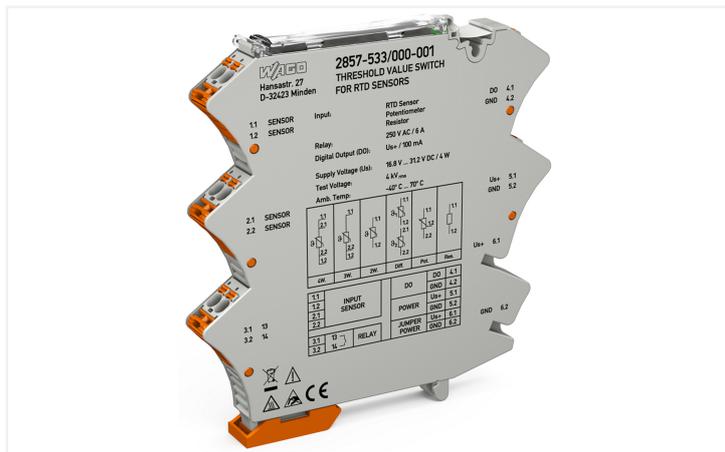


Data Sheet | Item Number: 2857-533/000-001

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>



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

Notes

Note

This product is powered by 24 VDC, which can be bridged using lateral push-in type jumper bars: (6.1) Us+ (BR) and (6.2) GND 2 (BR). With this variant, it is important to ensure that the maximum permissible total current of 2 A is not exceeded.

Technical data

Configuration

Configuration options	WAGO Interface Configuration Software
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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 connection	2-wire; 3-wire; 4-wire; differential
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.	Applied supply voltage – 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.	250 VAC
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)
Continuous current (max.)	6 A

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

Power Supply

Power supply type	24 VDC
Nominal supply voltage U_s	24 VDC (SELV)
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA (+ I_{DO})

Safety and protection

Rated Voltage	300 V	Protection type	IP20
Rated voltage of the measurement circuit connections per EN 61010-2-030	300 VAC		
Note on insulation parameters	Temperature sensors must not be used in hazardous circuits unless the external temperature sensors used provide basic insulation in accordance with EN 61010-1 (300 VAC; Overvoltage Category II; Pollution Degree 2). The digital output (DO) operates at the supply potential.		

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

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 ² / 24 ... 12 AWG
Fine-stranded conductor	0.2 ... 2.5 mm ² / 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	85.9 g

Environmental requirements

Ambient temperature (operation)	-40 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Temperature range of connection cable	≥ (T _{ambient} + 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

PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4066966390032
Customs tariff number	90303370000

Product Classification

UNSPSC	39122334
ETIM 9.0	EC001446
ETIM 10.0	EC001446
ECCN	NO US CLASSIFICATION

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)	a1f6ebca-6ee1-4502-97a0-ca81287a2bc9
SCIP notification number (Belgium)	807f8a01-2e4d-4e0c-9c71-6e8338955d40
SCIP notification number (Bulgaria)	3d3329a0-3e66-4ce8-ac33-2dffabba9970
SCIP notification number (Czech Republic)	b7d1b66f-7f24-48b2-9f05-050931d626dd
SCIP notification number (Denmark)	ec5d7e12-0adb-4474-ada9-a2ff1e97e937
SCIP notification number (Finland)	7712a94a-787d-4297-b7d7-99327420f870
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SCIP notification number (Romania)	1c695032-ae4-4e17-8776-0b012226ff2b
SCIP notification number (Sweden)	509681b7-8017-48ab-8a20-b7682857049f

Approvals / Certificates

General approvals

Declarations of conformity and manufacturer's declarations



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03083
EAC GZO Almaty Standart	TP TC 004/2011	EAC CoC 03084

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

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance
2857-533/000-001



Documentation

Manual

WAGO Threshold Value Switches



Instruction Leaflet

RTD-Grenzwertschalter	V 1.0.0 20.08.2020	pdf 2563.49 KB
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Runtime Software

Firmware

WAGO Firmware	3.00.01	zip	↓
2857-533/000-001	19.01.2026	199.14 KB	

1 Compatible Products

1.1 Optional Accessories

1.1.1 Communication

1.1.1.1 Communication cable



[Item No.: 750-923/000-001](#)

Configuration cable; USB connector;
Length: 5 m

1.1.2 Installation

1.1.2.1 Mounting accessories



[Item No.: 249-117](#)

Screwless end stop; 10 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray



[Item No.: 249-197](#)

Screwless end stop; 14 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray



[Item No.: 249-116](#)

Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

1.1.3 Jumper

1.1.3.1 Jumper



Item No.: 281-482

Jumper; 2-way; insulated; gray



Item No.: 859-402/000-006

Jumper; for jumper slot; 2-way; insulated; blue



Item No.: 859-402

Jumper; for jumper slot; 2-way; insulated; light gray



Item No.: 859-402/000-005

Jumper; for jumper slot; 2-way; insulated; red



Item No.: 859-402/000-029

Jumper; for jumper slot; 2-way; insulated; yellow

1.1.4 Marking

1.1.4.1 Marker



Item No.: 2009-141

Micro-WSB-Inline; 2000 pieces on roll; plain; snap-on type; 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



Item No.: 793-502

WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-566

WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-503

WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-504

WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-505

WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-506

WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white



Item No.: 793-501

WMB marking card; as card; not stretchable; plain; snap-on type; white



Item No.: 2009-115

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white

1.1.4.2 Marking strip



Item No.: 2009-110

Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white

1.1.5 Power supply

1.1.5.1 Power Supply



Item No.: 787-2852

Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 A output current

1.1.6 Relay module

1.1.6.1 Relay module



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; gray

1.1.7 Terminal blocks

1.1.7.1 Supply module



Item No.: 857-979

Supply and through module

1.1.7.2 Through terminal block



Item No.: 857-979

Supply and through module

1.1.8 Test and measurement

1.1.8.1 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

1.1.9 Tool

1.1.9.1 Operating tool



Item No.: 210-720

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

Installation Notes

Configuring



Configuration via WAGO Interface Configuration Software

Conductor termination

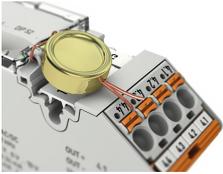


Pluggable connection technology



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

Security



Lock-out seal option