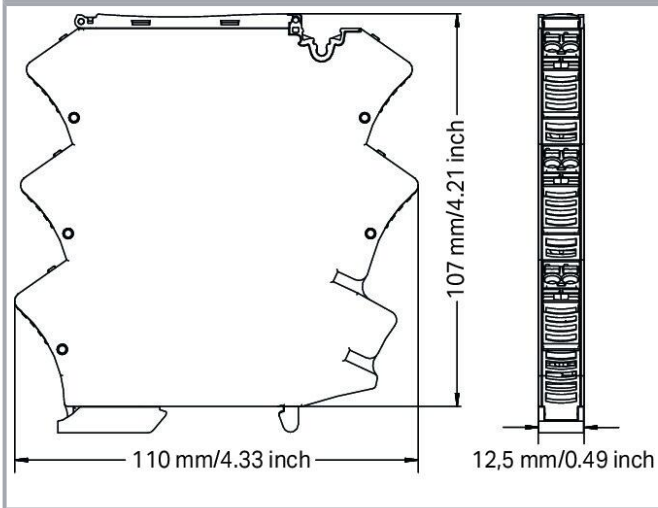
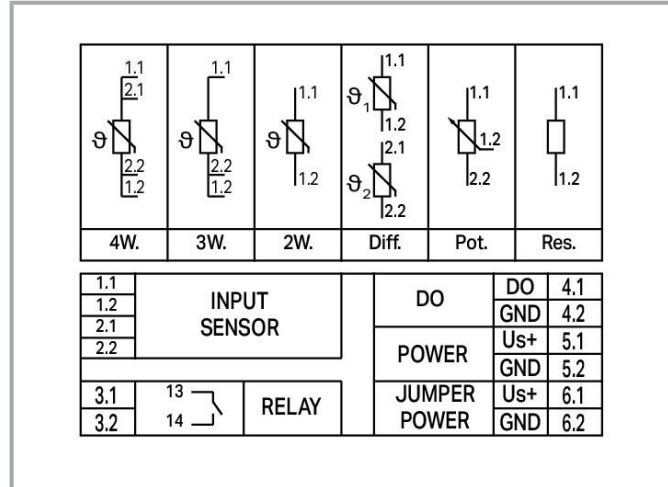
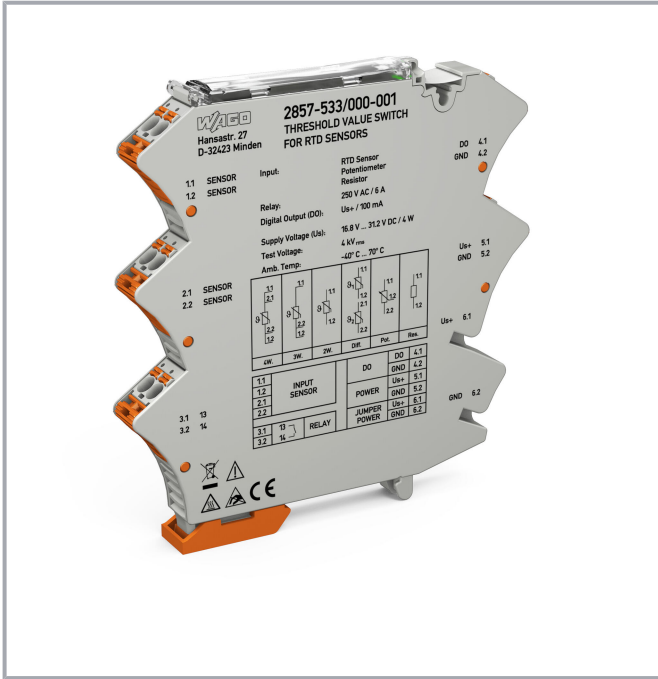


Data sheet | Item number: 2857-533/000-001



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:

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

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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

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.

Technical data

Configuration

Configuration options WAGO Interface Configuration Software
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

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



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)

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



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	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

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

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

Mechanical Data

Mounting type DIN-35 rail

Material Data

Fire load 1.556 MJ

Weight 85.8 g

Environmental requirements

Ambient temperature (operation) -40 ... +70 °C

Ambient temperature (storage) -40 ... +85 °C

Temperature range of connection cable $\geq (T_{\text{ambient}} + 30 \text{ K})$

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

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 50121-3-2
EN 61010-1
EN 61373

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

**Commercial data**

ETIM 8.0	EC001446
ETIM 7.0	EC001446
PU (SPU)	1 pcs
Packaging type	bag
Country of origin	DE
GTIN	4066966390032
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
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
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SCIP notification number (France)	101b3e36-3f6c-4e3a-bf08-2627108fd00e
SCIP notification number (Germany)	4c6d0c05-9dbb-4306-ac2a-42c80ad0a306
SCIP notification number (Hungary)	da7cf922-0be7-4349-8719-d225e789f331
SCIP notification number (Italy)	8b1e792f-6a2e-492e-ac79-206646d7cd82
SCIP notification number (Netherlands)	89b20b14-a048-4891-9e45-48a30fd47426
SCIP notification number (Poland)	155b9aa7-ace0-4176-92f0-6fc03a3c598e
SCIP notification number (Romania)	1c695032-ae4-4e17-8776-0b012226ff2b
SCIP notification number (Sweden)	509681b7-8017-48ab-8a20-b7682857049f

Approvals / Certificates**General approvals**

Logo	Approval	Additional Approval Text	Certificate name
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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


Declarations of conformity and manufacturer's declarations

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

Optional accessories


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
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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
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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
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	Item no.: 793-501 WMB marking card; as card; not stretchable; plain; snap-on type; white	www.wago.com/793-501
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	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
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	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
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	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
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	Item no.: 793-505 WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; www.wago.com/793-505 white
	Item no.: 793-506 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; www.wago.com/793-5501 white
	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

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



Item no.: 859-402/000-005
Jumper; for jumper slot; 2-way; insulated; red

www.wago.com/859-402/000-005

Relay module

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; 2,50 mm²; gray www.wago.com/857-304

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

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

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

Terminal blocks

Supply module



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

Downloads

Documentation

Instruction Leaflet

RTD-Grenzwertschalter	V 1.0.0 2020 Aug 20	pdf 2.6 MB	Download
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Subject to changes. Please also observe the further product documentation!

Additional Information

Disposal and Recycling	V 1.1.0	pdf	Download
Electrical and electronic equipment, Batteries, Packaging	2022 Aug 18	2.2 MB	

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 Jan 20	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 Jan 20	114.9 MB	

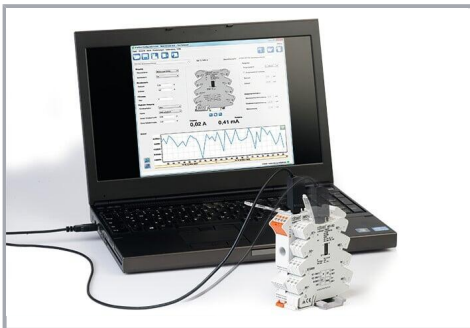
Environmental Product Compliance

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

Configuring



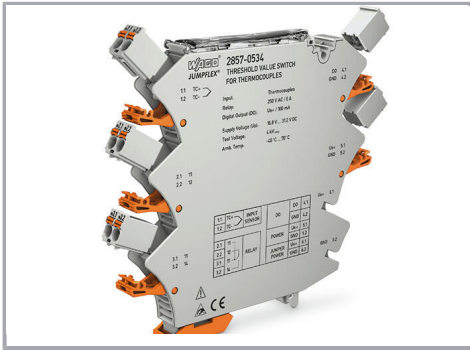
Configuration via WAGO Interface Configuration Software



Configuration via WAGO Configuration Display

Conductor termination

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

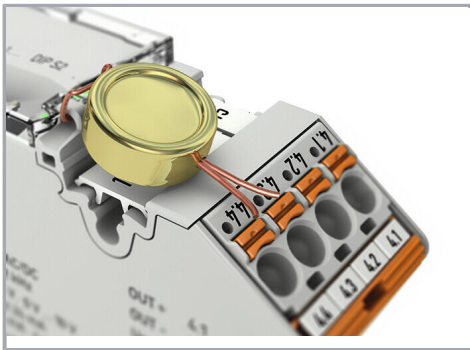


Pluggable connection technology



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

Security



Lock-out seal option

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