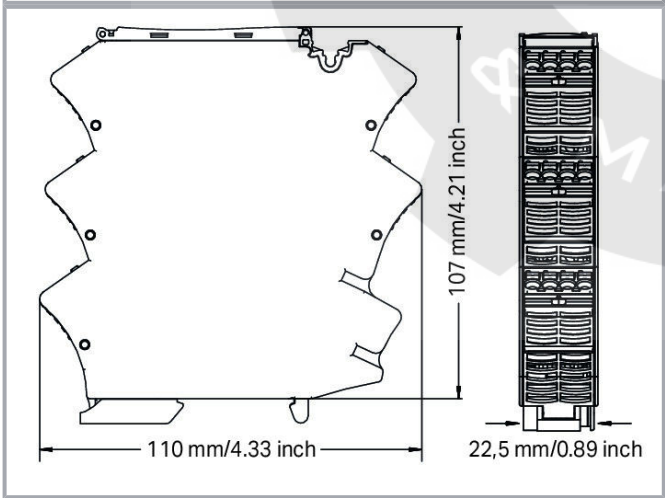
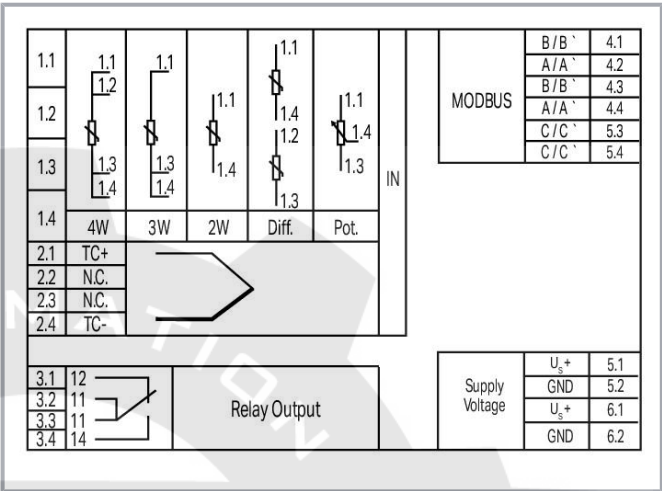
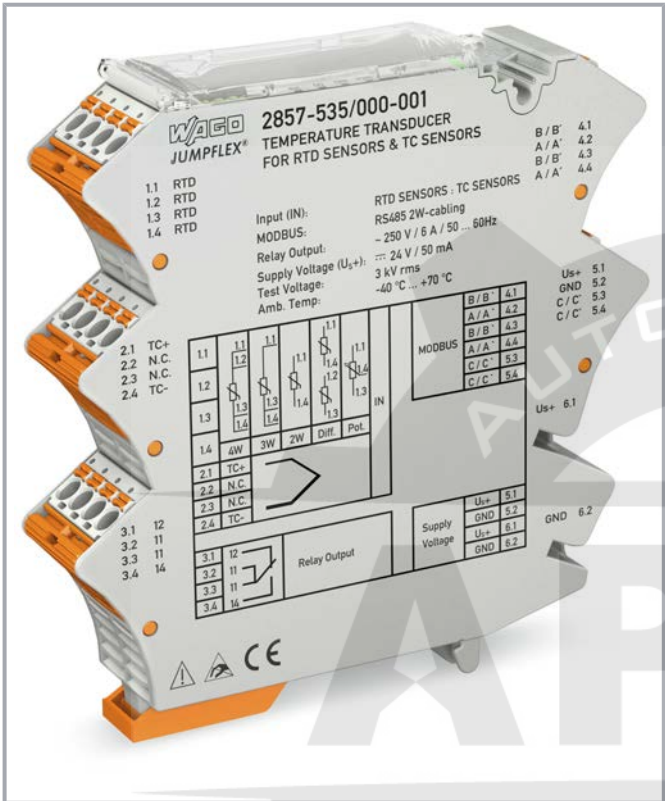


Data sheet | Item number: 2857-535/000-001

Temperature signal conditioner; Configuration via software; Supply voltage:
24 VDC

www.wago.com/2857-535_000-001



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

WAGO Corporation
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Item description

Short description:

This RTD TC temperature signal conditioner for RTD sensors, potentiometers, resistors and thermocouples monitors and reports signals for up to two switching thresholds. The sensor and status information that is collected is also made available to a higher-order device (e.g., a PLC) via a bus connection.

Features:

- A relay with changeover contact reacts to configured measurement range limits (on/off switching delay and threshold value switch function can be configured with up to two threshold values)
- Configurable Pt factor
- Adjustable software filter
- Simulation of input/output response via interface configuration display
- Input of customer-specific sensors via the interface configuration software
- Safe 3-way isolation with 3 kV test voltage per EN 61010-1
- Output-end RS-485 interface with Modbus protocol
- Terminating resistor can be adjusted at the output
- Adjustable transfer characteristic

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 1 A is not exceeded.

Data

Technical data

Configuration

Configuration options

WAGO Interface Configuration Software
WAGO Configuration Display
WAGO Interface Configuration App
Rotary encoder switch

Input

Input signal type

RTD sensors
Potentiometers
Resistor
TC sensors

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

Input – RTD sensors

Sensor types (RTD)	Pt10 ... Pt2000 (expandable)
Sensor connection	2-wire; 3-wire; 4-wire; differential; potentiometer
Sensor power supply (RTD) (max.)	≤ 0.5 mA
Measurement range, temperature (RTD)	-200 ... 850 °C
Measurement span (RTD) (min.)	50 K

Input – TC sensors

Sensor types (TC)	Type J Type K Type E Type R Type N Type S Type T Type B Type C
Temperature measurement range (TC)	-210 ... 1200 °C (Type J); -200 ... 1372 °C (Type K); -200 ... 1000 °C (Type E); 250 ... 1768 °C (Type R); -200 ... 1300 °C (Type N); -50 ... 1664 °C (Type S); -200 ... 400 °C (Type T); 250 ... 1820 °C (Type B); 0 ... 2320 °C (Type C)
Measurement span (min.) (TC)	100 K
Cold junction compensation	ON/OFF (default: ON)
Cold junction error	3 K (typ. 2 K)

Input – resistors

Input range (resistor)	0 ... 10 kΩ
Input range (potentiometer)	0 ... 10 kΩ
Measurement span (min.)	50 Ω

Output – relay

Dielectric strength, open contact (AC, 1 min)	1 kV _{rms}
Number of changeover contacts	1
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 kV _{rms}
Number of switching thresholds (relay)	1 or 2 (adjustable)

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

Configurable rise/fall delay time (relay)	0 ... 60 s (via software)
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Communication

Communication	Modbus® RTU
Interface	RS-485 (2-wire)
Number of devices (max.)	64

Signal processing

Software filter (adjustable)	Moving average value (filter level: 30)
Step response (typ.)	130 ms (2-wire); 700 ms (3-wire); 700 ms (4-wire); 600 ms (Differential); 500 ms (Potentiometer); 150 ms (Cold junction compensation (OFF)); 400 ms (Cold junction compensation (ON))

Measurement error

Transmission error (typ.)	$\leq 0.1\%$ at full measurement span
Transmission error for the set measurement range	$\leq (100 \text{ K/set measurement range [K]})\%$
Temperature coefficient	$\leq 0.01\%/K$

Supply

Power supply type	24 VDC
Nominal supply voltage U_S	DC 24 V
Supply voltage range	-60 ... +30 %
Power consumption at nominal supply voltage	$\leq 50 \text{ mA}$

Safety and protection

Rated voltage of the measurement circuit connections per EN 61010-2-030	AC 300 V
Measurement category per EN/UL 61010-2-030	CAT II (input)
Overvoltage category	II
Note on insulation parameters	The service interface is located on the communication interface potential. The DIN-rail contact (functional ground) is capacitively coupled to the communication interface.
Protection type	IP20

Test voltage

Test voltage (input/output/supply)	AC 3 kV; 50 Hz; 1 min
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Subject to changes. Please also observe the further product documentation!



Test voltage (input/communication interface/relay output/supply)	3 kVAC; 50 ... 60 Hz; 1 min
Test voltage (input/DIN-rail contact/relay output/supply)	3 kVAC; 50 ... 60 Hz; 1 min

Insulation parameters per EN/UL 61010-1

Line-to-neutral conductor voltage (AC) max.	300 V
Overvoltage category	II
Pollution degree	2
Insulation type (input/DIN-rail contact/relay output/supply)	Reinforced insulation
Insulation type (input/communication interface/relay output/supply)	Reinforced 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	22.5 mm / 0.886 inch
Height from upper-edge of DIN-rail	107 mm / 4.213 inch
Depth	110 mm / 4.331 inch

Mechanical data

Mounting type	DIN-35 rail
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Material data

Fire load	1.796 MJ
Weight	13 g

Environmental requirements

Pollution degree	2
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	$\geq (T_{\text{surrounding air}} + 10 \text{ K})$

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Temperature range of connecting cable per UL 61010-2-201 (min.)	90 °C
Relative humidity	5 ... 95 % (non-condensing)
Operating altitude (max.)	2000 m

Standards and specifications

Conformity marking	CE
EMC immunity to interference	EN 61000-6-2; EN 61326-2-3
EMC emission of interference	EN 61000-6-3; EN 61326-2-3
Standards/Specifications	EN 61010-1 EN 61373

Commercial data

Packaging type	BOX
Country of origin	DE
GTIN	4055143655514
Customs tariff number	8543704500

Approvals / Certificates

UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 61010-2-201	E175199

Optional accessories

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

Clamps

	Item no.: 857-979 JUMPFLEX® supply and through module	www.wago.com/857-979
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Power supplies



Item no.: 787-2852
EPSITRON® / JUMPFLEX® power supply; single-phase; 24 VDC; 1 A

www.wago.com/787-2852

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

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

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

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

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

www.wago.com/2009-115

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

	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
	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.: 793-566 WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white	www.wago.com/793-566
Testing accessories		
	Item no.: 735-500 Test pin; 1 mm Ø; with solder connection for test wire	www.wago.com/735-500

Downloads

Documentation

Bid Text

2857-535/000-001	Feb 20, 2019	docx 20.2 kB	Download
docx - Datei			
2857-535/000-001	Feb 19, 2019	xml 7.9 kB	Download
X81 - Datei			

Instruction Leaflet

Signal Conditioner; RTD TC Temperature Signal Conditioner; Serial	V 2.0.0 Sep 30, 2020	pdf 2.7 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	1.0.6.18	exe	Download
The full setup only includes the WAGO Interface Configuration Software G2.	Apr 8, 2021	30.0 MB	

WAGO Interface Configuration Software G2 FULL	1.0.6.18	exe	Download
The full setup, in addition to the WAGO Interface Configuration Software G2, includes the installation for the Microsoft .NET Framework.	Apr 8, 2021	113.9 MB	

CAD files

CAE data

EPLAN Data Portal 2857-535/000-001	URL	Download
ZUKEN Portal 2857-535/000-001	URL	Download
EPLAN Data Portal 2857-535/000-001	URL	Download

CAD data

2D/3D Models 2857-535/000-001	URL	Download
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Environmental Product Compliance

Compliance Search

Environmental Product Compliance 2857-535/000-001	URL	Download
Temperature signal conditioner; Configuration via software; Supply voltage: 24 VDC		

Installation Notes

Configuration

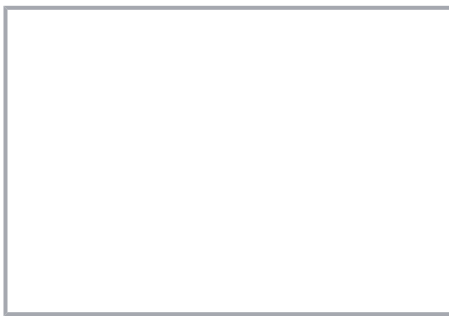
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Configuration via WAGO Interface
Configuration Software



Configuration via WAGO Interface
Configuration App

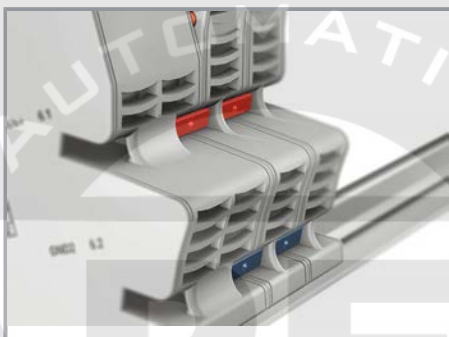


Configuration via WAGO Configuration
Display

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

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

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