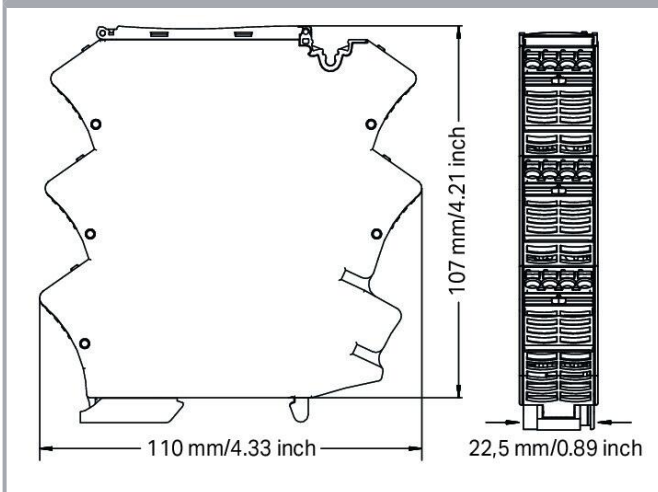
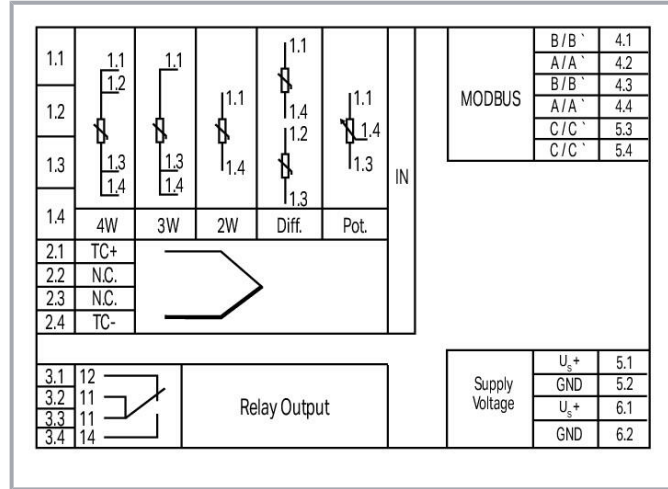
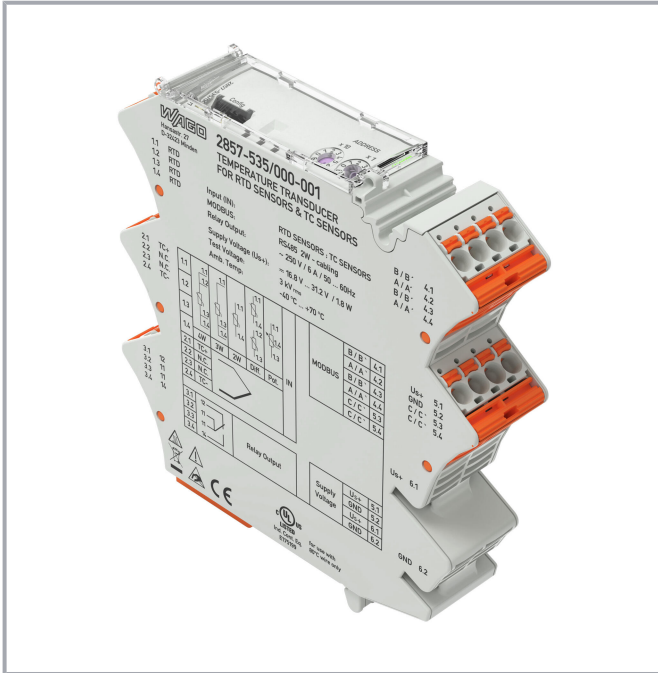


Data sheet | Item number: 2857-535/000-001

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



www.wago.com/2857-535/000-001



Item description

Short description:

WAGO's 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

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

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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

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 1 A is not exceeded.
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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 Potentiometer Resistance TC sensors
-------------------	--

Input (RTD sensors)

Sensor types (RTD)	Pt10 ... Pt2000 (expandable)
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 ... 850°C

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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 (TC) min.	100 K
Cold junction compensation	ON/OFF (default: ON)
Cold junction error	3 K (typ. 2 K)

Input (resistors)

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

Output Modbus

Number of devices (max.)	64
Addressing	Via rotary encoder switch: 1 ... 99 Via service interface: 1 ... 247 (rotary encoder switch set to "0")
Parity	Even; others can be configured
Connector	6 x <i>picoMAX</i> [®] for daisy chain configuration
Bus length (max.)	1000 m
Terminating resistor	Can be activated; 150 Ω ; 120 Ω + 1 nF
Parameter	Read input registers (0x04): <ul style="list-style-type: none"> ■ Measured value: address (0x0000); data type (float); access (read) ■ Relay status: address (0x0002); data type (word); access (read)

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

Output (relay)

Dielectric strength (open contact) (AC, 1 min)	1 kV _{rms}
Number of changeover/switchover contacts	1
Switching voltage (max.)	AC 250 V
Dielectric strength (open contact) (AC, 1 min)	1 kVrms
Number of switching thresholds (relay)	1 or 2 (adjustable)
Configurable rise/fall delay time (relay)	0 ... 60 s (via software)

Communication

Communication	Modbus® RTU
Interface	RS-485 (2-wire)
Number of devices (max.)	64
Bus length (max.)	≤ 1000 m
Baud rate	9.6 kBd ... 19.2 kBd
Terminating resistor	Can be activated; 150 Ω; 120 Ω + 1 nF
Addressing	Via rotary encoder switch: 1 ... 99 Via service interface: 1 ... 247 (rotary encoder switch set to "0")

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.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ (100 K/set measurement range [K]) %
Temperature coefficient	≤ 0.01 %/K

Supply

Power supply type	24 VDC
Nominal supply voltage U _S	DC 24 V
Supply voltage range	-60 ... +30 %
Current consumption at nominal supply voltage	≤ 50 mA

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

Safety and protection

Rated voltage	300 V
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)
Note on insulation parameters	The service interface is located on the service 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
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(UL)

Overvoltage category	II
Pollution degree	2
Insulation type (input/DIN-rail contact/relay output/supply)	Reinforced insulation (safe isolation)
Insulation type (input/communication interface/relay output/supply)	Reinforced insulation (safe isolation)

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
Connector	6 x <i>picoMAX</i> ® for daisy chain configuration

Physical data

Width	22.5 mm / 0.886 inches
Height	110 mm / 4.331 inches
Depth from upper-edge of DIN-rail	107 mm / 4.213 inches

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



Mechanical Data

Mounting type	DIN-35 rail
---------------	-------------

Material Data

Fire load	2.168 MJ
Weight	13 g

Environmental requirements

Pollution degree	2
Ambient temperature (operation)	-40 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Temperature range of connection cable	$\geq (T_{\text{ambient}} + 10 \text{ K})$
Temperature range of connection cable (UL)	85 °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

eCl@ss 10.0	27-21-01-29
eCl@ss 9.0	27-21-01-29
ETIM 8.0	EC002919
ETIM 7.0	EC002919
PU (SPU)	1 pcs
Packaging type	box
Country of origin	DE
GTIN	4055143655514
Customs tariff number	85437090300

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Environmental Product Compliance

CAS-No.	1303-86-2 1317-36-8 7439-92-1 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
RoHS Compliance Status	Compliant, With Exemption
RoHS Exemption	7(a) 7(c)-I 7(c)-II
SCIP notification number (Austria)	13b179ab-80bc-479d-a2e6-c76276757256
SCIP notification number (Belgium)	946a6bcc-1b55-4643-9bb3-5f1633d08cae
SCIP notification number (Bulgaria)	30f0d40b-4f67-4956-bf4f-5f0fce6e4989
SCIP notification number (Czech Republic)	c32ed7eb-2882-4bdd-a62b-fa0ce9428bd4
SCIP notification number (Denmark)	c387bfcb-16bd-418f-a57b-a32a586748be
SCIP notification number (Finland)	969bb5ea-9b38-4e38-9df2-e1c81736a34c
SCIP notification number (France)	c006ddaf-ecf9-4d36-9ca1-56c972a66503
SCIP notification number (Germany)	3b1082c2-aca5-4f39-965c-1ab238571bad
SCIP notification number (Hungary)	81cf1878-08ff-4f8f-84b6-d10fc4f98b19
SCIP notification number (Italy)	32ec2802-e649-460a-813e-4e90d21db803
SCIP notification number (Netherlands)	4e2c76fc-ddfd-432a-8f0f-c976bbd5cab8
SCIP notification number (Poland)	f5c5f2f9-6587-4af9-a879-75f176b366d5
SCIP notification number (Romania)	86f232d3-e5d8-4c17-9df4-048bfcdb6db8
SCIP notification number (Sweden)	d2fa2e5d-be55-4fe0-8823-179f44ba5ea0

Approvals / Certificates

General approvals

Logo	Approval	Additional Approval Text	Certificate name
	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

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



UL
Underwriters Laboratories Inc. (ORDINARY
LOCATIONS)

UL 61010-2-201

E175199

Optional accessories

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

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

Terminal blocks

Supply module



Item no.: 857-979
Supply and through module

www.wago.com/857-979

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

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

Marking accessories

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

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

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**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.: 793-566**

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

www.wago.com/793-566**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.: 2009-141**

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

www.wago.com/2009-141

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 0,5mm²www.wago.com/735-500

Jumpers

Jumper

**Item no.: 281-482**

Jumper; 2-way; insulated; gray

www.wago.com/281-482

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

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

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

Downloads

Documentation

Bid Text

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

Instruction Leaflet

Signal Conditioner; RTD TC Temperature Signal Conditioner; Serial	V 2.0.0 2020 Sep 30	pdf 2.7 MB	Download
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Additional Information

Disposal and Recycling	V 1.1.0	pdf	Download
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Subject to changes. Please also observe the further product documentation!

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	

CAD/CAE-Data

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

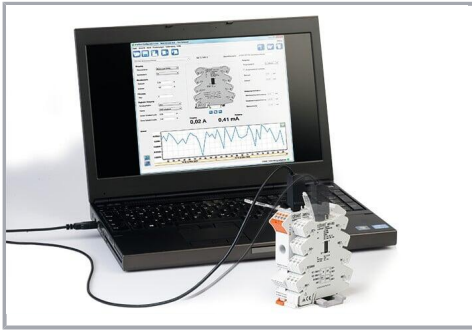
Compliance Search

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

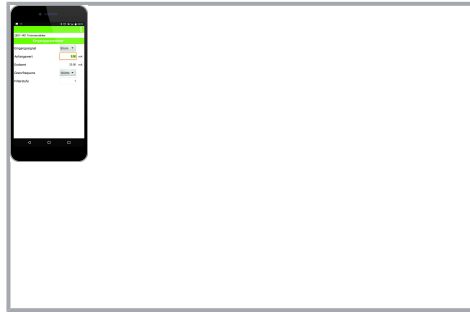
Installation Notes

Configuring

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



Configuration via WAGO Interface
Configuration Software



Configuration via WAGO Interface
Configuration App



Configuration via WAGO Configuration Display

Conductor termination



Pluggable connection technology



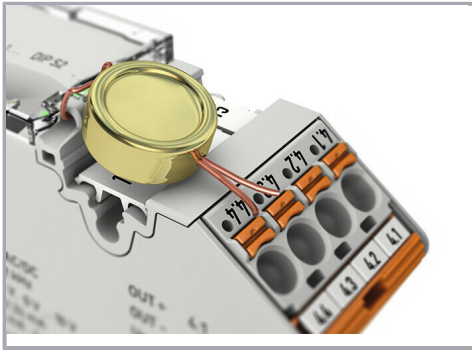
Commoning, not discrete wiring – Same outline allows use of a single in-line, push-in jumper.

Security

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

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Lock-out seal option

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