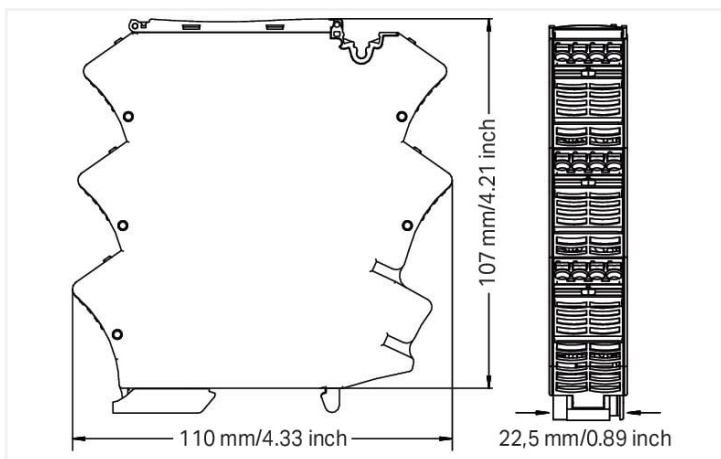
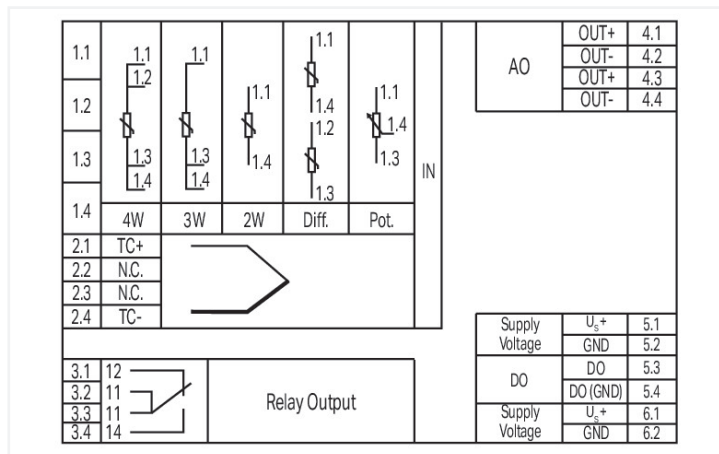
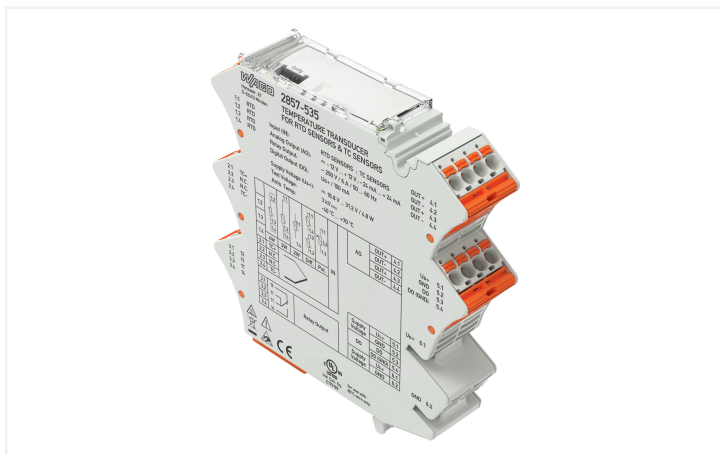


Data Sheet | Item Number: 2857-535

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

<https://www.wago.com/2857-535>



Dimensions in mm

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 converted to a standard analog signal.

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
- Analog unipolar/bipolar signals (current/voltage) at output
- Additional digital signal output for configured measurement range limits
- Adjustable transfer characteristic

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 Interface Configuration App WAGO Configuration Display
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Input

Input signal type	RTD sensors Potentiometer Resistance TC sensors
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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
Temperature measurement range (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 (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 kΩ
Input range (potentiometer)	0 ... 10 kΩ
Measurement span (min.)	50 Ω

Output (analog)

Output signal type	Current Voltage
Output signal (voltage)	± 12 V
Output signal (current)	±24 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

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 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)

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

Power 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	≤ 70 mA (+ I_{D0})

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 DIN-rail contact (functional ground) is capacitively coupled to the analog output.
Protection type	IP20

Test voltage

Test voltage (input/output/supply)	AC 3 kV; 50 Hz; 1 min
Test voltage (input/analog output/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 coordination (UL)

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

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

Mechanical data

Mounting type	DIN-35 rail
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Material data

Fire load	2.168 MJ
Weight	126.9 g

Environmental requirements

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	Bag
Country of origin	DE
GTIN	4055143655507
Customs tariff number	85437090300

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)	beac9352-aef0-42a2-b7f0-a83392390cff
SCIP notification number (Belgium)	eeb9df68-9e28-4e3e-92ac-8ef9ab87c305
SCIP notification number (Bulgaria)	61e19286-b116-40e0-90e0-0d98747b35c6
SCIP notification number (Czech Republic)	ccdfec9-f0b3-4620-b412-b6adce9425b4
SCIP notification number (Denmark)	1d7e7fd7-5fa4-47bb-96ed-30ae8a6161f6
SCIP notification number (Finland)	4e130f44-9148-4325-97d7-6d58f5d97835
SCIP notification number (France)	30e01dd3-5b6f-498f-9b37-54a0502b9f9e
SCIP notification number (Germany)	ef2b2ca0-d8d7-4e0c-81db-287ee7497471
SCIP notification number (Hungary)	93a905b5-7155-4b52-8695-61a9c5ddcc08
SCIP notification number (Italy)	7a1074e6-72fb-4fec-bfaa-c1cebf85968f
SCIP notification number (Netherlands)	e6753189-be82-47d8-93e5-8cab3e2d142
SCIP notification number (Poland)	91684334-ada5-46cb-8352-31567b986a40
SCIP notification number (Romania)	9a8786ac-ee1e-477b-8851-a03a87e77e4a
SCIP notification number (Sweden)	b9aa1443-ef24-4f0e-a0f8-b04a5d1a7f4f

Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03083
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 61010-2-201	E175199

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product
Compliance 2857-535



Documentation

Manual

WAGO Threshold Value
Switches



Bid Text

2857-535

19.02.2019

xml
8.25 KB



2857-535

20.02.2019

docx
18.75 KB



Instruction Leaflet

Signal Conditioner; RTD
TC Temperature Signal
Conditioner; Analog

V 1.0.0
30.09.2020

pdf
2608.75 KB



CAD/CAE-Data

CAD data

2D/3D Models
2857-535



CAE data

EPLAN Data Portal
2857-535



ZUKEN Portal
2857-535



Engineering-Software

Configuration and Commissioning Software

WAGO Interface Configuration Software G2 FULL	1.00.10.01 20.01.2022	exe 112213.07 KB	
WAGO Interface Configuration Software G2 SMALL	1.00.10.01 20.01.2022	exe 30238.22 KB	

1 Compatible Products

1.1 Optional Accessories

1.1.1 Communication

1.1.1.1 Bluetooth



[Item No.: 750-921](#)
Bluetooth® Adapter

1.1.1.2 Communication cable



[Item No.: 750-923](#)
Configuration cable; USB connector;
Length: 2.5 m



[Item No.: 750-923/000-001](#)
Configuration cable; USB connector;
Length: 5 m

1.1.1.3 Configuration display



[Item No.: 2857-900](#)
Configuration display

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 unit



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

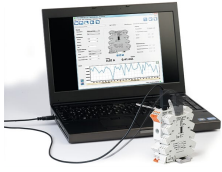
1.1.9.1 Operating tool

**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



Configuration via WAGO Interface Configuration App



Configuration via WAGO Configuration Display

Conductor termination

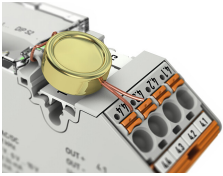


Pluggable connection technology



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

Security



Lock-out seal option