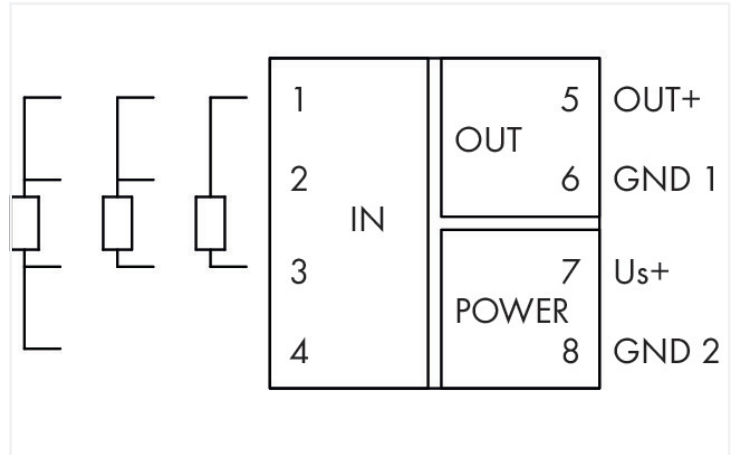
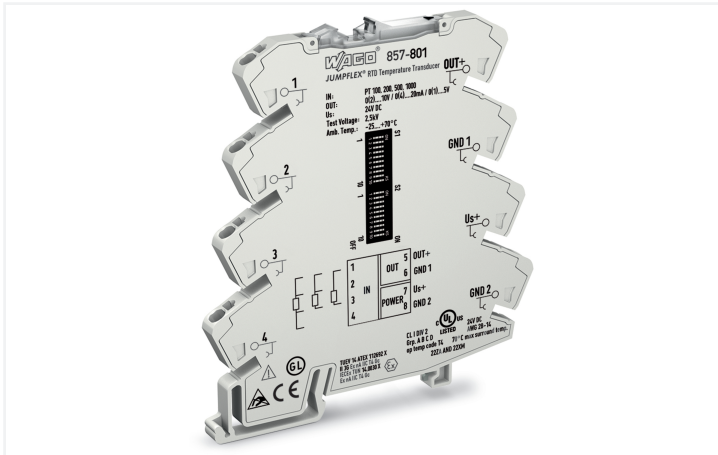


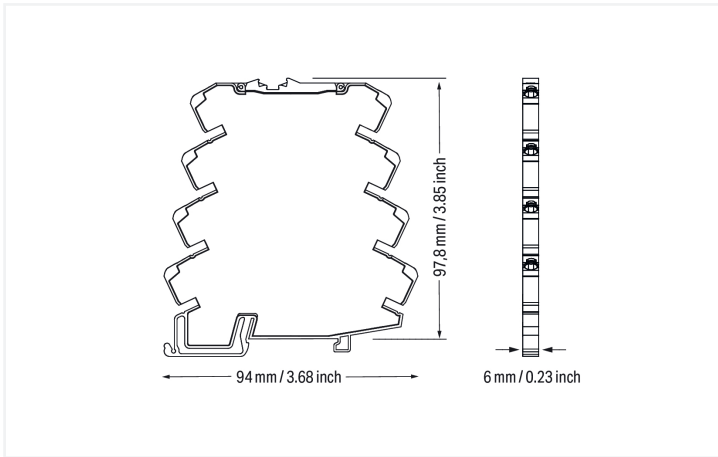
Data Sheet | Item Number: 857-801

Temperature signal conditioner for RTD sensors; Current and voltage output signal; Configuration via software; Supply voltage: 24 VDC; 6 mm module width; light gray

<https://www.wago.com/857-801>



Color: ■ light gray



857-801
DIP Switch Adjustability

DIP Switch S1

Wire Connection	Sensor Type	Output Signal	Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
2-wire	Pt500	0...20mA	Lower limit of output range + 5 %	Upper limit of output range - 2.5 %	Upper limit of output range + 5 %	Lower limit of output range - 12.5 %
3-wire	Pt200	4...20mA	Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %	Lower limit of output range
4-wire	Pt500	0...10mA	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %	Lower limit of output range
	Pt1000	2...10mA	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %	Lower limit of output range
	1 kΩ	0...10V	Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %	Lower limit of output range
	4.5 kΩ	2...10V	Lower limit of output range	Upper limit of output range	Upper limit of output range	Lower limit of output range
		0...5V	Lower limit of output range	Upper limit of output range	Lower limit of output range	
		1...5V				

DIP Switch S2

Start Temperature					End Temperature														
1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
°C	°F	°C	°F	°C	°C	°F	°C	°F	°C	°C	°F	°C	°F	°C	°C	°F	°C	°F	°C
75	167				75	167				75	167				75	167			
		-200	-328		0	32				80	176				220	428			
		-175	-283		5	41				85	185				230	446			
		-150	-238		10	50				90	194				240	464			
		-125	-193		15	59				95	203				250	482			
		-100	-148		20	68				100	212				260	500			
		-80	-130		25	77				110	230				270	518			
		-80	-112		30	86				120	248				280	536			
		-70	-94		35	95				130	266				290	554			
		-60	-76		40	104				140	284				300	572			
		-50	-58		45	113				150	302				325	617			
		-40	-40		50	122				160	320				350	662			
		-30	-22		55	131				170	338				375	707			
		-20	-4		60	140				180	356				400	752			
		-10	14		65	149				190	374				425	797			
		0	32		70	158				200	392				450	842			

The minimum distance from the start temperature to the end temperature may not fall short of 50K degrees on the Celsius (C) scale or 122K degrees on the Fahrenheit (F) scale.

Short description:

WAGO's temperature signal conditioner records Pt100, Pt200, Pt500, and Pt1000 sensors, as well as resistors up to 4.5 kOhm, converting the temperature signal into a standard analog signal at the output.

Features:

- PC configuration interface
- For Pt100, Pt200, Pt500 and Pt1000 sensors, as well as resistors up to 4.5 kOhm
- 2-, 3- and 4-wire connection technology
- Detects calibrated measurement range switching
- Detects a sensor wire break/short circuit
- Detects measurement range underflow/overflow
- Clipping capability for analog signal limitation to output end values
- 3-way electrical isolation with 2.5 kV test voltage

Notes

Note	<p>Additional settings and inversion of the output signals can be configured using the WAGO Interface Configuration Software.</p> <p>Use shielded signal cables! Only use shielded signal cables for analog input and output signals. This ensures the device maintains its specified accuracy and immunity to interference, even when external disturbances affect the signal cable.</p>
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Technical data

Configuration

Configuration options	DIP switch WAGO Interface Configuration Software
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Input

Input signal type	Pt sensors Resistance
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Input (RTD sensors)

Sensor types (RTD)	Pt100 Pt200 Pt500 Pt1000
Sensor connection	2-wire; 3-wire; 4-wire (switchable)
Sensor power supply (RTD) max.	≤ 0.5 mA
Temperature measurement range (RTD)	-200 ... +850 °C
Measurement span (RTD) min.	50 K

Input (resistors)

Input range (resistor)	0 ... 1 kΩ; 0 ... 4.5 kΩ
Measurement span (min.)	50 Ω

Output (analog)

Output signal type	Current Voltage
Output signal (voltage)	0 ... 5 V 1 ... 5 V 0 ... 10 V 2 ... 10 V
Output signal (current)	0 ... 10 mA 2 ... 10 mA 0 ... 20 mA 4 ... 20 mA
Load impedance (voltage output)	≥ 2 kΩ
Load impedance (current output)	≤ 600 Ω

Signal Processing

Step response (typ.)	180 ms (2-wire) 360 ms (3-wire)
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Measurement Error

Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ ((10 K/set measurement range [K]) + 0.1) %
Temperature coefficient	≤ 0.02 %/K

Power Supply

Power supply type	24 VDC
Nominal supply voltage U_S	24 VDC
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 50 mA

Safety and protection

Rated Voltage	300 V	Test voltage	
Protection type	IP20	Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min

Insulation coordination

Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/supply)	Functional insulation
Insulation type (adjacent devices)	Reinforced insulation (safe isolation)

Connection Data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 14 AWG
Fine-stranded conductor	0.34 ... 2.5 mm ² / 22 ... 14 AWG
Strip length	9 ... 10 mm / 0.35 ... 0.39 inches

Physical data

Width	6 mm / 0.236 inches
Height	94 mm / 3.701 inches
Depth from upper-edge of DIN-rail	97.8 mm / 3.85 inches

Mechanical data

Mounting type	DIN-35 rail
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Material data

Color	light gray
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.363 MJ
Weight	35.1 g

Environmental requirements

Ambient temperature (operation)	-25 ... +70 °C
Ambient temperature (storage)	-40 ... +85 °C
Temperature range of connection cable	≥ (T _{ambient} + 25 K)
Relative humidity	5 ... 95 % (no condensation permissible)
Operating altitude (max.)	2000 m

Standards and Specifications

Conformity marking	CE
EMC immunity to interference	EN 61000-6-2
EMC emission of interference	EN 61000-6-4
Standards/specifications	DNV

Commercial data

Product Group	6 (INTERFACE ELECTRONIC)
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4045454502713
Customs tariff number	85437090300

Product Classification

UNSPSC	41113630
eCl@ss 10.0	27-21-01-29
eCl@ss 9.0	27-20-02-06
ETIM 9.0	EC002919
ETIM 10.0	EC002919
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 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)	05f3f3b8-0a15-4f60-9562-f07c8c9aedb6
SCIP notification number (Belgium)	0b91be23-06aa-417e-a8c2-3bf30774ed99
SCIP notification number (Bulgaria)	7315f2b8-26e9-4d3d-8f36-1808cd8e283f
SCIP notification number (Czech Republic)	eb77ace6-81f9-4b92-8742-2e644874c902
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SCIP notification number (Germany)	a6452dd4-84e9-41b3-a6a6-e215c79faa52
SCIP notification number (Hungary)	0ed82f30-ad55-46b1-afef-2972a2c4c660
SCIP notification number (Italy)	0b6a053f-6481-42ca-9519-aac8e90518f8
SCIP notification number (Netherlands)	fd93a37a-ab44-41d4-a41c-b1c88afee098
SCIP notification number (Poland)	3a0e53e4-8b02-490a-aca1-fd8709146416
SCIP notification number (Romania)	73bbe297-1659-4ff2-aaed-ded4d693e383
SCIP notification number (Sweden)	d037dc84-e2eb-4874-b372-fdf8fc8b8e03

Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03081

Declarations of conformity and manufacturer's declarations

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

Approvals for marine applications



Approval	Standard	Certificate Name
BV Bureau Veritas S.A.	Rules for class. of Steel Ships	40179_B0
DNV DNV Germany GmbH	DNV-CG-0339, Aug. 2021	TAA00001D1

Approvals for hazardous areas



Approval	Standard	Certificate Name
CCC CNEX	CNCA-C23-01	2020312310000210 (Ex ec IIC T4 Gc)
IECEX TUEV Nord Cert GmbH	-	IECEX TUN14.0030X
UKEx WAGO GmbH & Co. KG	EN 60079-0	WAGO22UKEX004X
UL Underwriters Laboratories Inc. (HAZARDOUS LOCA- TIONS)	ANSI/ISA 12.12.01	E198726

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 857-801 ↓

Documentation





Manual
WAGO Temperature Si- gnal Conditioners ↓

Bid Text			
857-801	19.02.2019	xml 6.32 KB	↓
857-801	20.02.2019	docx 17.29 KB	↓

Instruction Leaflet

CCC Ex (Additional in- formation)	26.04.2023	pdf 140.99 KB	↓
Messumformer und Trennverstärker		pdf 2194.14 KB	↓

CAD/CAE-Data

CAD data	CAE data
2D/3D Models 857-801 	EPLAN Data Portal 857-801 
	WSCAD Universe 857-801 
	ZUKEN Portal 857-801 

1 Compatible Products

1.1 Optional Accessories

1.1.1 Cables and connectors

1.1.1.1 Communication cable



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

1.1.3 Installation

1.1.3.1 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

1.1.4 Interface module

1.1.4.1 Interface adapters



[Item No.: 857-980](#)
Interface adapter; 16-pole; analog

1.1.5 Jumper

1.1.5.1 Jumper



[Item No.: 281-482](#)
Jumper; 2-way; insulated; gray



[Item No.: 859-410/000-006](#)
Jumper; for jumper slot; 10-way; insulated; blue



[Item No.: 859-410](#)
Jumper; for jumper slot; 10-way; insulated; light gray



[Item No.: 859-410/000-005](#)
Jumper; for jumper slot; 10-way; insulated; red



[Item No.: 859-410/000-029](#)
Jumper; for jumper slot; 10-way; insulated; yellow



[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

1.1.5.1 Jumper

 <p>Item No.: 859-402/000-029 Jumper; for jumper slot; 2-way; insulated; yellow</p>	 <p>Item No.: 859-403/000-006 Jumper; for jumper slot; 3-way; insulated; blue</p>	 <p>Item No.: 859-403 Jumper; for jumper slot; 3-way; insulated; light gray</p>	 <p>Item No.: 859-403/000-005 Jumper; for jumper slot; 3-way; insulated; red</p>
 <p>Item No.: 859-403/000-029 Jumper; for jumper slot; 3-way; insulated; yellow</p>	 <p>Item No.: 859-404/000-006 Jumper; for jumper slot; 4-way; insulated; blue</p>	 <p>Item No.: 859-404 Jumper; for jumper slot; 4-way; insulated; light gray</p>	 <p>Item No.: 859-404/000-005 Jumper; for jumper slot; 4-way; insulated; red</p>
 <p>Item No.: 859-404/000-029 Jumper; for jumper slot; 4-way; insulated; yellow</p>	 <p>Item No.: 859-405/000-006 Jumper; for jumper slot; 5-way; insulated; blue</p>	 <p>Item No.: 859-405 Jumper; for jumper slot; 5-way; insulated; light gray</p>	 <p>Item No.: 859-405/000-005 Jumper; for jumper slot; 5-way; insulated; red</p>
 <p>Item No.: 859-405/000-029 Jumper; for jumper slot; 5-way; insulated; yellow</p>	 <p>Item No.: 859-406/000-006 Jumper; for jumper slot; 6-way; insulated; blue</p>	 <p>Item No.: 859-406 Jumper; for jumper slot; 6-way; insulated; light gray</p>	 <p>Item No.: 859-406/000-005 Jumper; for jumper slot; 6-way; insulated; red</p>
 <p>Item No.: 859-406/000-029 Jumper; for jumper slot; 6-way; insulated; yellow</p>	 <p>Item No.: 859-407/000-006 Jumper; for jumper slot; 7-way; insulated; blue</p>	 <p>Item No.: 859-407 Jumper; for jumper slot; 7-way; insulated; light gray</p>	 <p>Item No.: 859-407/000-005 Jumper; for jumper slot; 7-way; insulated; red</p>
 <p>Item No.: 859-407/000-029 Jumper; for jumper slot; 7-way; insulated; yellow</p>	 <p>Item No.: 859-408/000-006 Jumper; for jumper slot; 8-way; insulated; blue</p>	 <p>Item No.: 859-408 Jumper; for jumper slot; 8-way; insulated; light gray</p>	 <p>Item No.: 859-408/000-005 Jumper; for jumper slot; 8-way; insulated; red</p>
 <p>Item No.: 859-408/000-029 Jumper; for jumper slot; 8-way; insulated; yellow</p>	 <p>Item No.: 859-409/000-006 Jumper; for jumper slot; 9-way; insulated; blue</p>	 <p>Item No.: 859-409 Jumper; for jumper slot; 9-way; insulated; light gray</p>	 <p>Item No.: 859-409/000-005 Jumper; for jumper slot; 9-way; insulated; red</p>
 <p>Item No.: 859-409/000-029 Jumper; for jumper slot; 9-way; insulated; yellow</p>			

1.1.6 Marking

1.1.6.1 Marker

 <p>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</p>	 <p>Item No.: 793-502 WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type; white</p>	 <p>Item No.: 793-566 WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; white</p>	 <p>Item No.: 793-503 WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; white</p>
 <p>Item No.: 793-504 WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; white</p>	 <p>Item No.: 793-505 WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; white</p>	 <p>Item No.: 793-506 WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; white</p>	 <p>Item No.: 793-501 WMB marking card; as card; not stretchable; plain; snap-on type; white</p>
 <p>Item No.: 2009-115 WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white</p>			

1.1.6.2 Marking strip



Item No.: 2009-110

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

1.1.7 Power supply

1.1.7.1 Power Supply



Item No.: 787-2852

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

1.1.8 Terminal blocks

1.1.8.1 Supply module



Item No.: 857-979

Supply and through module

1.1.8.2 Through terminal block



Item No.: 857-979

Supply and through module

1.1.9 Tool

1.1.9.1 Operating tool

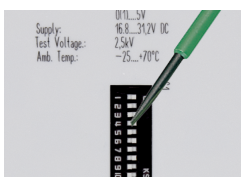


Item No.: 210-720

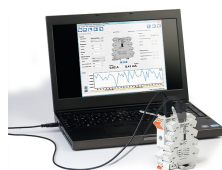
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

Installation Notes

Configuring

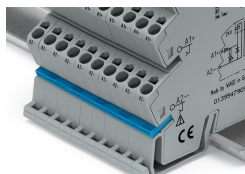


Configuration via DIP switch



Configuration via WAGO Interface Configuration Software

Commoning



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