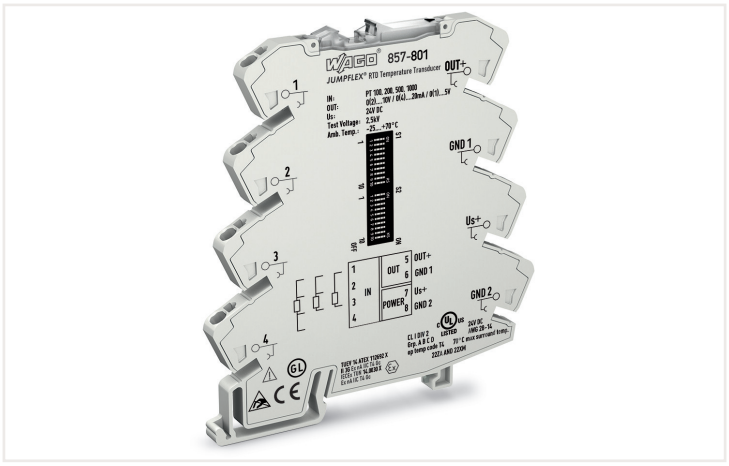
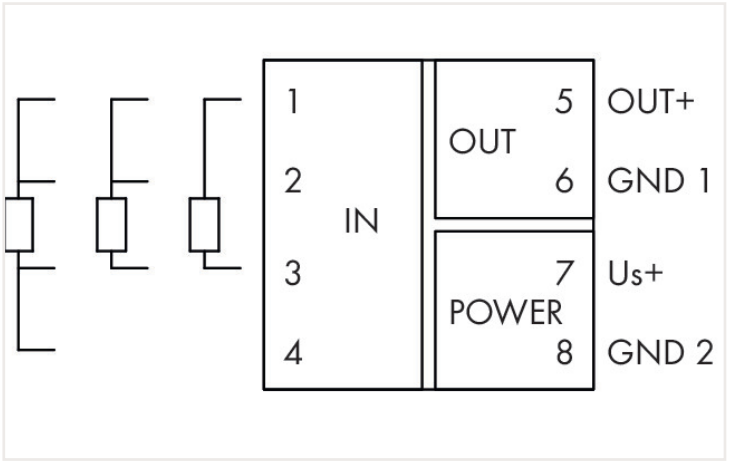
Data sheet | Item number: 857-801

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





857-801

DIP Switch Adjustability

● = ON Default

DIP Switch S1

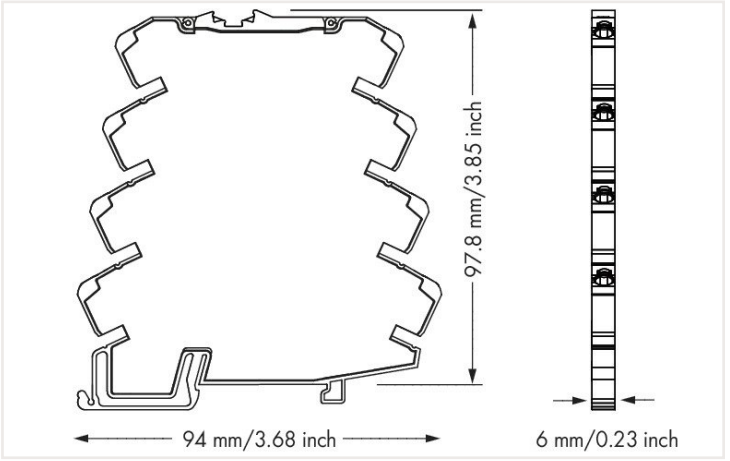
Wire Connection			Sensor Type				Output Signal					Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
1	2			3	4	5		6	7	8		9	10				
		2-wire				Pt100				0 ... 20 mA				Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *	Lower limit of output range - 12.5 % *
●		3-wire	●			Pt200	●			4 ... 20 mA							
	●	4-wire		●		Pt500		●		0 ... 10 mA		●		Lower limit of output range	Upper limit of output range + 2.5 %	Upper limit of output range + 5 %	Lower limit of output range
			●	●		Pt1000	●	●		2 ... 10 mA							
					●	1 kΩ			●	0 ... 10 V		●		Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %	Upper limit of output range + 5 %
					●	4.5 kΩ	●		●	2 ... 10 V							
								●	●	0 ... 5 V		●	●	Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range
								●	●	1 ... 5 V							

* acc. to NAMUR NE 43

DIP Switch S2

Start Temperature						End Temperature																							
1	2	3	4	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F	5	6	7	8	9	10	°C	°F
				0	32							100	212						●	75	167						●	210	410
●				-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
	●	●		-90	-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.



Dimensions in mm

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
- Measurement range underflow/overflow
- Clipping capability

for analog signal limitation to output end values

- Safe 3-way isolation with 2.5 kV test voltage per EN 61140

Notes

Note	Additional setting options as well as output signal inversion via WAGO Interface Configuration Software or WAGO Interface Configuration App

Technical data

Configuration

Configuration options	DIP switch WAGO Interface Configuration Software WAGO Interface Configuration App

Input

Input signal type	Pt sensors Resistance

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)

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

Supply

Power supply type	24 VDC
Nominal supply voltage U_S	DC 24 V
Supply voltage range	±30 %
Current consumption at nominal supply voltage	≤ 40 mA

Safety and protection

Protection type	IP20

Test voltage

Test voltage (input/output/supply)	AC 2.5 kV; 50 Hz; 1 min

Connection data

Connection technology	Push-in CAGE CLAMP®
Solid conductor	0.08 … 2.5 mm² / 28 … 14 AWG
Fine-stranded conductor	0.34 … 2.5 mm² / 22 … 14 AWG
Strip length	9 … 10 mm / 0.35 … 0.39 inches

Continued on next page

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

Material data

Color	light gray
Fire load	0.405 MJ
Weight	35.1 g

Environmental requirements

Ambient temperature (operation)	-25 … +70 °C
Surrounding air temperature (storage)	-40 … +85 °C
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 Electronics)
eCl@ss 10.0	27-21-01-29
eCl@ss 9.0	27-20-02-06
ETIM 8.0	EC002919
ETIM 7.0	EC002919
PU (SPU)	1 Stück
Packaging type	Bag
Country of origin VKOrg Germany	DE
GTIN	4045454502713
Customs tariff number VKOrg Germany	85437090300

Approvals and certificates

Ex-Approvals

Approval	Standard	Certificate name
ATEX TUEV Nord Cert GmbH	EN 60079-0	TÜV_14_ATEX_112692_X (II 3 G Ex nA IIC T4 Gc)
CCCEx CQST/CNEx	CNCA-C23-01	2020312310000210 (Ex nA IIC T4 Gc)
EAC Brjansker Zertifizierungs-stelle	TP TC 012/2011	EAC RU C-DE.AM02. B.00144/19 (2 Ex nA IIC T4 Gc X)
IECEx TUEV Nord Cert GmbH	IEC 60079-0	IECEX_TUN_14.0030_X

Ex-Approvals

UL Underwriters Laboratories Inc. (HAZARDOUS LOCA-TIONS)	ANSI/ISA 12.12.01	E198726

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Country specific Approvals

Approval	Standard	Certificate name
EAC Brjansker Zertifizierungs-stelle	TP TC 020/2011	EAC_Certificate_RU_C-DE.AM02.B.00115_19

Ship Approvals

Approval	Standard	Certificate name
DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAA00001D1
PRS Polski Rejestr Statków	-	TE/2186/880590/18

UL-Approvals

Approval	Standard	Certificate name
UL UL International Netherlands B.V. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.4

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 857-801

Documentation

Additional Information

Disposal; Electrical and electronic equipment, Packaging	V 1.0.0	pdf 259.56 KB	

Bid Text

857-801	19.02.2019	xml 6.32 KB	
857-801	20.02.2019	docx 17.29 KB	

Instruction Leaflet

Messumformer und Trennverstärker	pdf 2194.14 KB	

Continued on next page

CAD/CAE-Data

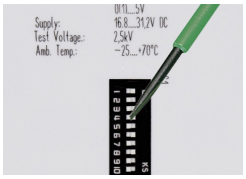
CAD data	CAE data
2D/3D Models 857-801	EPLAN Data Portal 857-801
	WSCAD Universe 857-801
	ZUKEN Portal 857-801

Engineering-Software

Software for Interface-Products			
WAGO Interface Configuration Software G2 FULL	1.0.8.6 20.01.2022	exe 111289.67 KB	
WAGO Interface Configuration Software G2 SMALL	1.0.8.6 20.01.2022	exe 29307.84 KB	

Installation notes

Configuring



Configuration via DIP switch

Configuration via WAGO Interface Configuration Software

Configuration via WAGO Interface Configuration App

Commoning

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