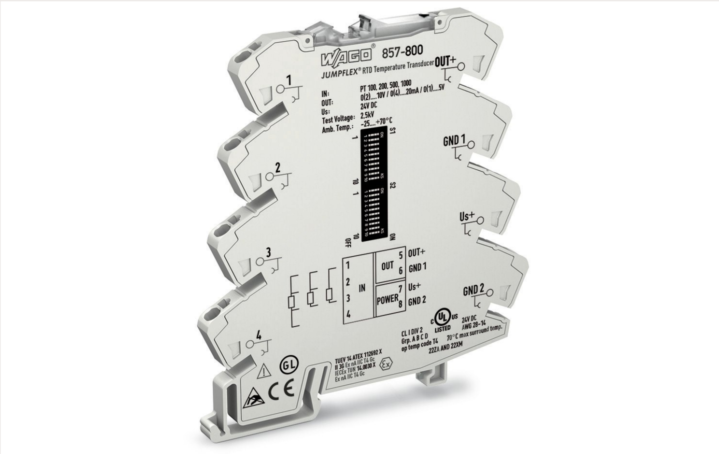
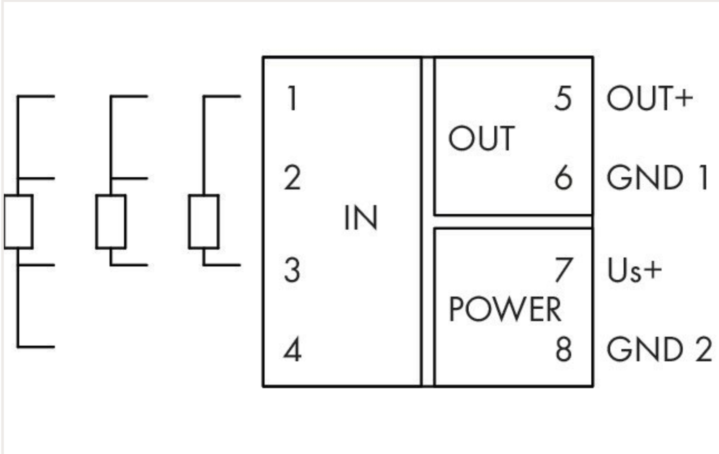
Data sheet | Item number: 857-800

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

https://www.wago.com/857-800





857-800

DIP Switch Adjustability

● = ON | Default

DIP Switch S1

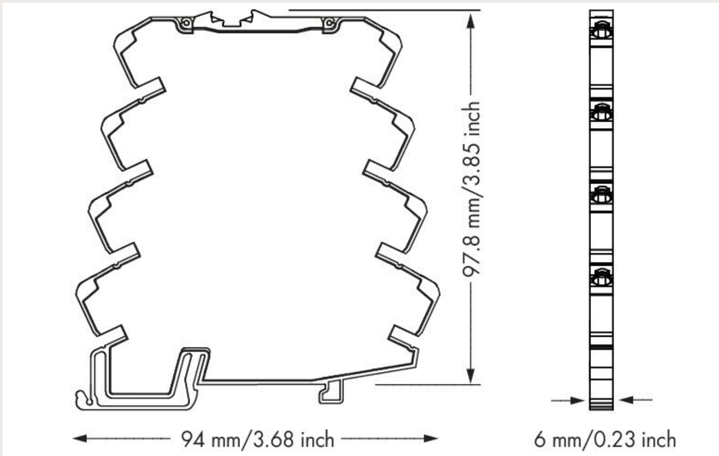
Wire Connection			Sensor Type				Output Signal						Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
1	2		3	4	5		6	7	8		9	10				
		2 Leiter				Pt100				0 ... 20 mA			Lower limit of output range - 5 % *	Upper limit of output range + 2.5 % *	Upper limit of output range + 5 % *	Lower limit of output range - 12.5 % *
●		3 Leiter	●			Pt200	●			4 ... 20 mA						
	●	4 Leiter		●		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	5	6	7	8	9	10	°C	°F
				0	32							100	212					●		75	167						●	210	410					●	●	475	887
●				-200	-328	●						0	32	●				●		80	176	●					●	220	428	●				●	●	500	932
	●			-175	-283		●					5	41		●			●		85	185		●				●	230	446		●			●	●	525	997
●	●			-150	-238	●	●					10	50	●	●			●		90	194	●	●				●	240	464	●	●			●	●	550	1022
		●		-125	-193			●				15	59			●		●		95	203			●			●	250	482			●		●	●	575	1067
●		●		-100	-148	●		●				20	68	●		●		●		100	212	●		●			●	260	500	●		●		●	●	600	1112
	●	●		-90	-130		●	●				25	77		●	●		●		110	230		●	●			●	270	518		●	●		●	●	625	1157
●	●	●		-80	-112	●	●	●				30	86	●	●	●		●		120	248	●	●	●			●	280	536	●	●	●		●	●	650	1202
			●	-70	-94				●			35	95				●	●		130	266				●		●	290	554				●	●	●	675	1247
●			●	-60	-76	●			●			40	104	●			●	●		140	284	●			●		●	300	572	●			●	●	●	700	1292
	●		●	-50	-58		●		●			45	113		●		●	●		150	302		●		●		●	325	617		●		●	●	●	725	1337
●	●		●	-40	-40	●	●		●			50	122	●	●		●	●		160	320	●	●		●		●	350	662	●	●		●	●	●	750	1382
		●	●	-30	-22			●	●			55	131			●	●	●		170	338			●	●		●	375	707			●	●	●	●	775	1427
●		●	●	-20	-4	●		●	●			60	140	●		●	●	●		180	356	●		●	●		●	400	752	●		●	●	●	●	800	1472
	●	●	●	-10	14		●	●	●			65	149		●	●	●	●		190	374		●	●	●		●	425	797		●	●	●	●	●	825	1517
●	●	●	●	0	32	●	●	●	●			70	158	●	●	●	●	●		200	392	●	●	●	●		●	450	842	●	●	●	●	●	●	850	1562

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:

- For Pt100, Pt200, Pt500 and Pt1000 sensors, as well as resistors up to 4.5 kOhm
- 2-, 3- and 4-wire connection technology
- 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

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

Technical data

Configuration

Configuration options	DIP switch

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

Input – resistors

Input range (resistor)	0 … 1 kΩ; 0 … 4.5 kΩ

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

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

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

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 Zertifizierungsstelle	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 LOCATIONS)	ANSI/ISA 12.12.01	E198726

Continued on next page

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
BV Bureau Veritas S.A.	Rules for class. of Steel Ships	40179_B0
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 857-800

Documentation

Additional Information

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

Bid Text

857-800	19.02.2019	xml 5.96 KB	
857-800	20.02.2019	docx 16.85 KB	

Instruction Leaflet

Messumformer und Trennverstärker	pdf 2194.14 KB	

Continued on next page

CAD/CAE-Data

CAD data	CAE data
2D/3D Models 857-800	EPLAN Data Portal 857-800
	WSCAD Universe 857-800
	ZUKEN Portal 857-800

1 Compatible products

1.1 Optional accessories

1.1.1 Installation

1.1.1.1 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

1.1.2 Interface module

1.1.2.1 Interface adapters

Item no.: 857-980
Interface adapter; 16-pole; analog

1.1.3 Jumper

1.1.3.1 Jumper

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

Item no.: 859-402/000-029
Jumper; for jumper slot; 2-way; insulated; yellow

Item no.: 859-403/000-006
Jumper; for jumper slot; 3-way; insulated; blue

Item no.: 859-403
Jumper; for jumper slot; 3-way; insulated; light gray

Item no.: 859-403/000-005
Jumper; for jumper slot; 3-way; insulated; red

Item no.: 859-403/000-029
Jumper; for jumper slot; 3-way; insulated; yellow

Item no.: 859-404/000-006
Jumper; for jumper slot; 4-way; insulated; blue

Item no.: 859-404
Jumper; for jumper slot; 4-way; insulated; light gray

Item no.: 859-404/000-005
Jumper; for jumper slot; 4-way; insulated; red

Item no.: 859-404/000-029
Jumper; for jumper slot; 4-way; insulated; yellow

Item no.: 859-405/000-006
Jumper; for jumper slot; 5-way; insulated; blue

Item no.: 859-405
Jumper; for jumper slot; 5-way; insulated; light gray

Item no.: 859-405/000-005
Jumper; for jumper slot; 5-way; insulated; red

Item no.: 859-405/000-029
Jumper; for jumper slot; 5-way; insulated; yellow

1.1.3.1 Jumper

Item no.: 859-406/000-006
Jumper; for jumper slot; 6-way; insulated; blue

Item no.: 859-406
Jumper; for jumper slot; 6-way; insulated; light gray

Item no.: 859-406/000-005
Jumper; for jumper slot; 6-way; insulated; red

Item no.: 859-406/000-029
Jumper; for jumper slot; 6-way; insulated; signal yellow

Item no.: 859-407/000-006
Jumper; for jumper slot; 7-way; insulated; blue

Item no.: 859-407
Jumper; for jumper slot; 7-way; insulated; light gray

Item no.: 859-407/000-005
Jumper; for jumper slot; 7-way; insulated; red

Item no.: 859-407/000-029
Jumper; for jumper slot; 7-way; insulated; yellow

Item no.: 859-408/000-006
Jumper; for jumper slot; 8-way; insulated; blue

Item no.: 859-408
Jumper; for jumper slot; 8-way; insulated; light gray

Item no.: 859-408/000-005
Jumper; for jumper slot; 8-way; insulated; red

Item no.: 859-408/000-029
Jumper; for jumper slot; 8-way; insulated; yellow

Item no.: 859-409/000-006
Jumper; for jumper slot; 9-way; insulated; blue

Item no.: 859-409
Jumper; for jumper slot; 9-way; insulated; light gray

Item no.: 859-409/000-005
Jumper; for jumper slot; 9-way; insulated; red

Item no.: 859-409/000-029
Jumper; for jumper slot; 9-way; insulated; yellow

Item no.: 281-482
Jumper; insulated; gray

1.1.4 Marking

1.1.4.1 Marker

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

Continued on next page

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 Terminal blocks

1.1.6.1 Supply module

Item no.: 857-979
Supply and through module

1.1.6.2 Through terminal block

Item no.: 857-979
Supply and through module

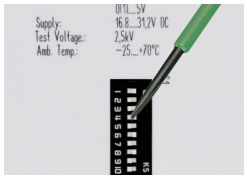
1.1.7 Tool

1.1.7.1 Operating tool

Item no.: 210-720
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured

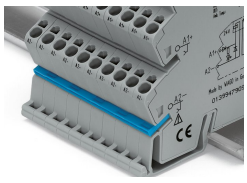
Installation notes

Configuring



Configuration via DIP switch

Commoning



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