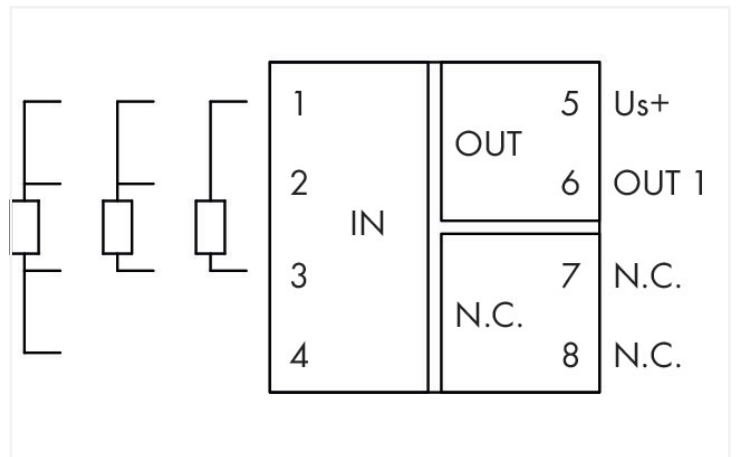
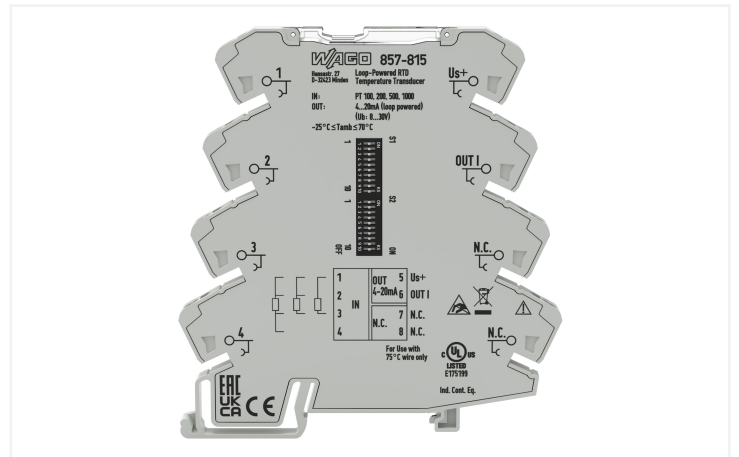


Data Sheet | Item Number: 857-815

Temperature signal conditioner for RTD sensors; Current output signal; Power via output; 6 mm module width

<https://www.wago.com/857-815>



857-815
DIP Switch Adjustability

ON **Output**

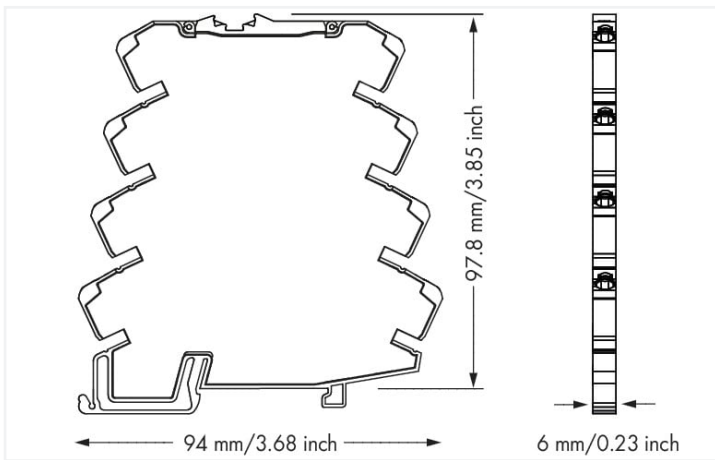
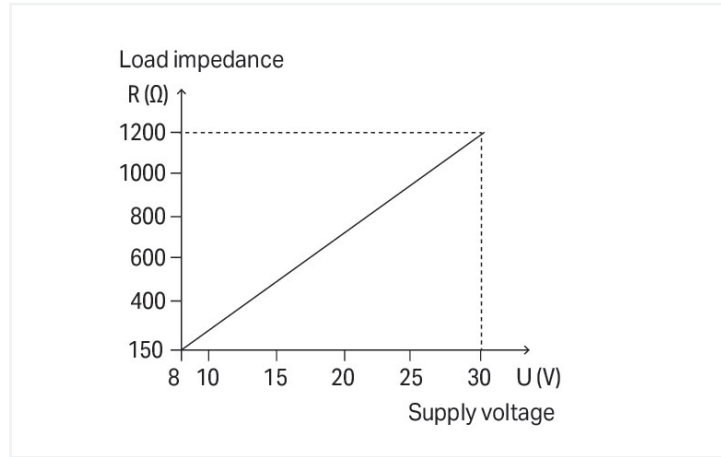
DIP Switch S1

Sensor Connection	Sensor Type	Output Signal	N.C.	Measurement Range Underflow	Measurement Range Overflow	Wire Break	Short Circuit
3-wire	PL200	20...4mA		Lower limit of output range	Upper limit of output range + 2.5%	Upper limit of output range + 5%	Lower limit of output range - 12.5%
4-wire	PL500			Lower limit of output range	Upper limit of output range	Upper limit of output range + 5%	Lower limit of output range
2-wire	PL1000			Lower limit of output range	Upper limit of output range	Upper limit of output range + 5%	Lower limit of output range
				Lower limit of output range	Upper limit of output range	Lower limit of output range	Lower limit of output range

DIP Switch S2

Output Signal Start Temperature													Output Signal End Temperature																										
°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F	°C	°F																
-200	-328	0	32	75	167	210	410	475	887	500	932	525	977	550	1022	575	1067	600	1112	625	1157	650	1202	675	1247	700	1292	725	1337	750	1382	775	1427	800	1472	825	1517	850	1562

The measurement span must have the following min. magnitude:
 • in the Celsius scale (°C): 50 K
 • in the Fahrenheit scale (°F): 90 K



Dimensions in mm

Short description:

WAGO's loop-powered RTD temperature signal conditioner records sensors (Pt100, Pt200, Pt500, Pt1000) and resistors up to 4.5 kΩ, converting the temperature signal into a standard analog signal at the output.

The loop-powered RTD temperature signal conditioner provides safe isolation between input and output with 3 kV test voltage per EN 61010-1. **Features:**

- No additional supply voltage required
- 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

Notes

Safety Information

The signal conditioner must only be configured with the DIP switch in the de-energized state.

Note

Use shielded signal lines!

Only use shielded signal lines for analog input and output signals. Only then can you ensure that the accuracy and interference immunity specified for the device can be achieved, even in the presence of interference acting on the signal cable.

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
Measurement span (RTD) min.	50 K

Input (resistors)

Input range (resistor)	0 ... 1 kΩ; 0 ... 4.5 kΩ
------------------------	--------------------------

Output (analog)

Output signal type	Current
Output signal (current)	4 ... 20 mA; 20 ... 4 mA
Load impedance (current output)	See derating graphic

Signal processing

Step response (typ.)	1000 ms
----------------------	---------

Measurement error

Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ ((40 K/set measurement range [K]) + 0.1) %
Transmission error (under interference)	≤ 5 %
Temperature coefficient	≤ 0.02 %/K

Power supply

Power supply type	Loop-powered (via output)
Supply voltage	DC 8 ... 30 V (Power is derived from the output circuit.)
Power loss (max.) $P_{I(max)}$	0.7 W

Safety and protection

Rated Voltage	300 V; 150 V (UL)
Measurement category per EN/UL 61010-2-030	CAT II (input)
Protection type	IP20

Test voltage

Test voltage (input/analog output)	3 kVAC; 50 ... 60 Hz; 1 min
------------------------------------	-----------------------------

Insulation coordination (UL)

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

Insulation coordination

Overvoltage category	II
Pollution degree	2
Insulation type (input/analog output/supply)	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
---------------	-------------

Material data

Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.013 MJ
Weight	38.9 g

Environmental requirements

Ambient temperature (operation)	-25 ... +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)	75 °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; EN 61326-1; EN 50121-3-2
EMC emission of interference	EN 61000-6-3; EN 61326-1; EN 50121-3-2
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 9.0	EC002919
ETIM 8.0	EC002919
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4055143475648
Customs tariff number	85437090300

Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
SCIP notification number (Austria)	830a7e26-28ea-4705-ab6e-226f9c633520
SCIP notification number (Belgium)	63788937-7a1f-4563-936a-f01960202294
SCIP notification number (Bulgaria)	7573483d-d923-4363-9064-ce0784b75504
SCIP notification number (Czech Republic)	17fd5aa-0c9d-4035-8fac-fb4e34ddac7f
SCIP notification number (Denmark)	f6a88738-2c30-4e26-8f7e-78d92a8961e5
SCIP notification number (Finland)	b4ce184e-8252-4b06-b805-6aa2c771805f
SCIP notification number (France)	7d65f4e8-4b0d-4e4d-922c-5b4b37ec9f15
SCIP notification number (Germany)	7eda7375-97a9-4708-8499-ee382843832f
SCIP notification number (Hungary)	eef5d1bb-60c8-4a7b-815f-42f57a0b5106
SCIP notification number (Italy)	9d811551-d172-4095-9c09-acc10881822b

Environmental Product Compliance

SCIP notification number (Netherlands)	5b4bce60-08c5-43bc-b361-c0de92c2e4da
SCIP notification number (Poland)	05d900c2-b348-49b3-9862-d1595b7b0a8f
SCIP notification number (Romania)	5914960a-62a8-45a9-95fc-a9ee80aab951
SCIP notification number (Sweden)	d4592a7f-9ffa-4c4d-9de5-be795739849b

Approvals / Certificates

General approvals **Declarations of conformity and manufacturer's declarations**



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 004/2011	EAC CoC 03078
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03081
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 61010-2-201	E175199

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 857-815	↓
--	-------------------

Documentation

Manual

WAGO Temperature Signal Conditioners	↓
--------------------------------------	-------------------

Bid Text

857-815	19.02.2019	xml 5.60 KB	↓
857-815	20.02.2019	docx 17.98 KB	↓

Instruction Leaflet

Temperature signal conditioner for RTD sensors; Current output signal; Power via output	V 2.0.0 29.09.2020	pdf 2278.39 KB	↓
---	-----------------------	-------------------	-------------------

CAD/CAE-Data

CAD data	CAE data
2D/3D Models 857-815	EPLAN Data Portal 857-815
	WSCAD Universe 857-815
	ZUKEN Portal 857-815

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.: 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



[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

1.1.3.1 Jumper



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

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

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

1.1.5 Power supply

1.1.5.1 Power supply



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

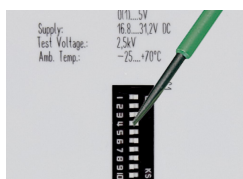


Item No.: 210-720

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

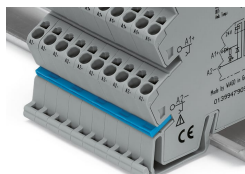
Installation Notes

Configuring



Configuration via DIP switch

Commoning



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