

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 Letter	•	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 Letter	•	Pt200	•	4 ... 20 mA	•	Lower limit of output range	•	Upper limit of output range + 2.5 %	•	Upper limit of output range + 5 %	•	Lower limit of output range
•	4 Letter	•	Pt500	•	0 ... 10 mA	•	Lower limit of output range	•	Upper limit of output range	•	Upper limit of output range + 5 %	•	Lower limit of output range
•		•	Pt1000	•	2 ... 10 mA	•	Lower limit of output range	•	Upper limit of output range	•	Upper limit of output range + 5 %	•	Lower limit of output range
•		•	1 kΩ	•	0 ... 10 V	•	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 ... 10 V	•	Lower limit of output range	•	Upper limit of output range	•	Upper limit of output range	•	Lower limit of output range
•		•		•	0 ... 5 V	•	Lower limit of output range	•	Upper limit of output range	•	Upper limit of output range	•	Lower limit of output range
•		•		•	1 ... 5 V	•	Lower limit of output range	•	Upper limit of output range	•	Upper limit of output range	•	Lower limit of output range

\* 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			•	475	887		
•		•	-200	-328	•						0	32	•		•	80	176	•		•	220	428	•		•	500	932		
•		•	-175	-283	•						5	41	•		•	85	185	•		•	230	446	•		•	525	987		
•		•	-150	-238	•						10	50	•		•	90	194	•		•	240	454	•		•	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	652	•		•	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.

## Item description

### Short description:

This 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
- Switching between measurement ranges is calibrated
- 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

## Data

### Technical data

### Configuration

Configuration options

DIP switch

DIP switch

### Input

Input signal type

Pt sensors

Subject to changes. Please also observe the further product documentation!

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Do you have any questions about our products?

We are always happy to take your call at +49 (571) 887-44222.

Resistor

**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
Measurement range, temperature (RTD)	-200 ... 850°C

**Input – resistors**

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

**Supply**

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

Subject to changes. Please also observe the further product documentation!

## Safety and protection

Protection type	IP20
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## Test voltage

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

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

## Physical data

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

## Mechanical data

Mounting type	DIN-35 rail
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## Material data

Color	light gray
Weight	35.3 g

## Environmental requirements

Surrounding air 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




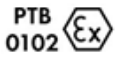

Subject to changes. Please also observe the further product documentation!

## Commercial data


Product Group	6 (Interface Electronics)
PU (SPU)	1 Each
Packaging type	bag
Country of origin	DE
GTIN	4045454470128
Customs tariff number	85437090300

## Approvals / Certificates

### Ex-Approvals

Logo	Approval	Additional Approval Text	Certificate name
 Ex nA IIC T4 Gc	<b>CCCEx</b> CQST/CNEx	CNCA-C23-01	2020312310000210
	<b>EAC</b> Brjansker Zertifizierungsstelle	TP TC 012/2011	EAC RU C-DE.AM02.B. 00144/19
	<b>IECEX</b> TUEV Nord Cert GmbH	IEC 60079-0	IECEX_TUN_14.0030_X
	<b>IECEX</b> TUEV Nord Cert GmbH	EN 60079-0	TÜV_14_ATEX_112692_X
	<b>UL</b> Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	ANSI/ISA 12.12.01	E198726

### Ship Approvals

Logo	Approval	Additional Approval Text	Certificate name
 BUREAU VERITAS	<b>BV</b> Bureau Veritas S.A.	Rules for class. of Steel Ships	40179_B0
	<b>DNV GL</b> Det Norske Veritas, Germanischer Lloyd	-	TAA00001D1

Subject to changes. Please also observe the further product documentation!



**NK**  
Nippon Kaiji Kyokai

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TA17255M




**PRS**  
Polski Rejestr Statków

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TE/2186  
/880590/18

## UL-Approvals

Logo	Approval	Additional Approval Text	Certificate name
	<b>UL</b> UL International Netherlands B.V. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.4

## Optional accessories

### Mounting

#### Mounting accessories



**Item no.: 249-116**  
Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

[www.wago.com/249-116](http://www.wago.com/249-116)



**Item no.: 249-117**  
Screwless end stop; 10 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

[www.wago.com/249-117](http://www.wago.com/249-117)



**Item no.: 249-197**  
Screwless end stop; 14 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray

[www.wago.com/249-197](http://www.wago.com/249-197)

### Jumpers

#### Jumper



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

[www.wago.com/859-408](http://www.wago.com/859-408)



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

[www.wago.com/281-482](http://www.wago.com/281-482)



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

[www.wago.com/859-404/000-005](http://www.wago.com/859-404/000-005)

Subject to changes. Please also observe the further product documentation!



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

[www.wago.com/859-404/000-006](http://www.wago.com/859-404/000-006)



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

[www.wago.com/859-405/000-005](http://www.wago.com/859-405/000-005)



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

[www.wago.com/859-405/000-029](http://www.wago.com/859-405/000-029)



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

[www.wago.com/859-405](http://www.wago.com/859-405)



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

[www.wago.com/859-404/000-029](http://www.wago.com/859-404/000-029)



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

[www.wago.com/859-406](http://www.wago.com/859-406)



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

[www.wago.com/859-405/000-006](http://www.wago.com/859-405/000-006)



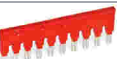
**Item no.: 859-406/000-005**  
Jumper; for jumper slot; 6-way; insulated; red

[www.wago.com/859-406/000-005](http://www.wago.com/859-406/000-005)



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

[www.wago.com/859-409/000-029](http://www.wago.com/859-409/000-029)



**Item no.: 859-410/000-005**  
Jumper; for jumper slot; 10-way; insulated; red

[www.wago.com/859-410/000-005](http://www.wago.com/859-410/000-005)



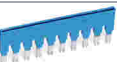
**Item no.: 859-410/000-029**  
Jumper; for jumper slot; 10-way; insulated; yellow

[www.wago.com/859-410/000-029](http://www.wago.com/859-410/000-029)



**Item no.: 859-410**  
Jumper; for jumper slot; 10-way; insulated; light gray

[www.wago.com/859-410](http://www.wago.com/859-410)
















**Item no.: 859-410/000-006**  
Jumper; for jumper slot; 10-way; insulated; blue

[www.wago.com/859-410/000-006](http://www.wago.com/859-410/000-006)




Subject to changes. Please also observe the further product documentation!

	<p><b>Item no.: 859-403/000-005</b>                      Jumper; for jumper slot; 3-way; insulated; red</p>	<p><a href="http://www.wago.com/859-403/000-005">www.wago.com/859-403/000-005</a></p>
	<p><b>Item no.: 859-402/000-029</b>                      Jumper; for jumper slot; 2-way; insulated; yellow</p>	<p><a href="http://www.wago.com/859-402/000-029">www.wago.com/859-402/000-029</a></p>
	<p><b>Item no.: 859-403/000-029</b>                      Jumper; for jumper slot; 3-way; insulated; yellow</p>	<p><a href="http://www.wago.com/859-403/000-029">www.wago.com/859-403/000-029</a></p>
	<p><b>Item no.: 859-403/000-006</b>                      Jumper; for jumper slot; 3-way; insulated; blue</p>	<p><a href="http://www.wago.com/859-403/000-006">www.wago.com/859-403/000-006</a></p>
	<p><b>Item no.: 859-408/000-005</b>                      Jumper; for jumper slot; 8-way; insulated; red</p>	<p><a href="http://www.wago.com/859-408/000-005">www.wago.com/859-408/000-005</a></p>
	<p><b>Item no.: 859-408/000-029</b>                      Jumper; for jumper slot; 8-way; insulated; yellow</p>	<p><a href="http://www.wago.com/859-408/000-029">www.wago.com/859-408/000-029</a></p>
	<p><b>Item no.: 859-409</b>                      Jumper; for jumper slot; 9-way; insulated; light gray</p>	<p><a href="http://www.wago.com/859-409">www.wago.com/859-409</a></p>
	<p><b>Item no.: 859-408/000-006</b>                      Jumper; for jumper slot; 8-way; insulated; blue</p>	<p><a href="http://www.wago.com/859-408/000-006">www.wago.com/859-408/000-006</a></p>
	<p><b>Item no.: 859-403</b>                      Jumper; for jumper slot; 3-way; insulated; light gray</p>	<p><a href="http://www.wago.com/859-403">www.wago.com/859-403</a></p>
	<p><b>Item no.: 859-409/000-005</b>                      Jumper; for jumper slot; 9-way; insulated; red</p>	<p><a href="http://www.wago.com/859-409/000-005">www.wago.com/859-409/000-005</a></p>
	<p><b>Item no.: 859-404</b>                      Jumper; for jumper slot; 4-way; insulated; light gray</p>	<p><a href="http://www.wago.com/859-404">www.wago.com/859-404</a></p>
	<p><b>Item no.: 859-409/000-006</b>                      Jumper; for jumper slot; 9-way; insulated; blue</p>	<p><a href="http://www.wago.com/859-409/000-006">www.wago.com/859-409/000-006</a></p>
	<p><b>Item no.: 859-402/000-006</b>                      Jumper; for jumper slot; 2-way; insulated; blue</p>	<p><a href="http://www.wago.com/859-402/000-006">www.wago.com/859-402/000-006</a></p>
	<p><b>Item no.: 859-402</b>                      Jumper; for jumper slot; 2-way; insulated; light gray</p>	<p><a href="http://www.wago.com/859-402">www.wago.com/859-402</a></p>

Subject to changes. Please also observe the further product documentation!



	<b>Item no.: 859-402/000-005</b> Jumper; for jumper slot; 2-way; insulated; red	<a href="http://www.wago.com/859-402/000-005">www.wago.com/859-402/000-005</a>
	<b>Item no.: 859-406/000-006</b> Jumper; for jumper slot; 6-way; insulated; blue	<a href="http://www.wago.com/859-406/000-006">www.wago.com/859-406/000-006</a>
	<b>Item no.: 859-406/000-029</b> Jumper; for jumper slot; 6-way; insulated; signal yellow	<a href="http://www.wago.com/859-406/000-029">www.wago.com/859-406/000-029</a>
	<b>Item no.: 859-407/000-006</b> Jumper; for jumper slot; 7-way; insulated; blue	<a href="http://www.wago.com/859-407/000-006">www.wago.com/859-407/000-006</a>
	<b>Item no.: 859-407/000-005</b> Jumper; for jumper slot; 7-way; insulated; red	<a href="http://www.wago.com/859-407/000-005">www.wago.com/859-407/000-005</a>
	<b>Item no.: 859-407/000-029</b> Jumper; for jumper slot; 7-way; insulated; yellow	<a href="http://www.wago.com/859-407/000-029">www.wago.com/859-407/000-029</a>
	<b>Item no.: 859-407</b> Jumper; for jumper slot; 7-way; insulated; light gray	<a href="http://www.wago.com/859-407">www.wago.com/859-407</a>


#### Terminal blocks

##### Through terminal block

	<b>Item no.: 857-979</b> Supply and through module	<a href="http://www.wago.com/857-979">www.wago.com/857-979</a>
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#### Tool

##### Operating tool


	<b>Item no.: 210-720</b> Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured	<a href="http://www.wago.com/210-720">www.wago.com/210-720</a>
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#### Marking accessories


##### Marking strip

	<b>Item no.: 2009-110</b> Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white	<a href="http://www.wago.com/2009-110">www.wago.com/2009-110</a>
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##### Marker







	<b>Item no.: 2009-115</b> WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white	<a href="http://www.wago.com/2009-115">www.wago.com/2009-115</a>
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	<b>Item no.: 793-501</b> WMB marking card; as card; not stretchable; plain; snap-on type; white	<a href="http://www.wago.com/793-501">www.wago.com/793-501</a>
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	<b>Item no.: 793-502</b> WMB marking card; as card; MARKED; 1 ... 10 (10x); not stretchable; Horizontal marking; snap-on type;	<a href="http://www.wago.com/793-502">www.wago.com/793-502</a>
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Subject to changes. Please also observe the further product documentation!

white

	<b>Item no.: 793-503</b> WMB marking card; as card; MARKED; 11 ... 20 (10x); not stretchable; Horizontal marking; snap-on type; <a href="http://www.wago.com/793-503">www.wago.com/793-503</a> white
	<b>Item no.: 793-504</b> WMB marking card; as card; MARKED; 21 ... 30 (10x); not stretchable; Horizontal marking; snap-on type; <a href="http://www.wago.com/793-504">www.wago.com/793-504</a> white
	<b>Item no.: 793-505</b> WMB marking card; as card; MARKED; 31 ... 40 (10x); not stretchable; Horizontal marking; snap-on type; <a href="http://www.wago.com/793-505">www.wago.com/793-505</a> white
	<b>Item no.: 793-506</b> WMB marking card; as card; MARKED; 41 ... 50 (10x); not stretchable; Horizontal marking; snap-on type; <a href="http://www.wago.com/793-506">www.wago.com/793-506</a> white
	<b>Item no.: 793-566</b> WMB marking card; as card; MARKED; 1 ... 50 (2x); not stretchable; Horizontal marking; snap-on type; <a href="http://www.wago.com/793-566">www.wago.com/793-566</a> white
	<b>Item no.: 793-5501</b> WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white; <a href="http://www.wago.com/793-5501">www.wago.com/793-5501</a>

**Power supplies**

Power supply	
	<b>Item no.: 787-2852</b> Switched-mode power supply; 1-phase; 24 VDC output voltage; 1 A output current; - <a href="http://www.wago.com/787-2852">www.wago.com/787-2852</a>

**Interface module**

Interface adapter	
	<b>Item no.: 857-980</b> Interface adapter; 16-pole; analog <a href="http://www.wago.com/857-980">www.wago.com/857-980</a>

**Downloads**

**Documentation**

**Bid Text**

857-800 X81 - Datei	2019. 2. 19.	xml 6.1 kB	Download
857-800 docx - Datei	2019. 2. 20.	docx 17.3 kB	Download

**Instruction Leaflet**

Messumformer und Trennverstärker TemperaturmessumformerPt100, Pt200, Pt500, Pt1000, Widerstände 0 ... 1 kOhm, 0 ... 4,5 kOhm DIP-Schalter	pdf 2.2 MB	Download
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Subject to changes. Please also observe the further product documentation!



### Additional Information

Disposal; Electrical and electronic equipment, Packaging	V 1.0.0	pdf 265.8 kB	Download
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### CAD/CAE-Data

#### CAE data

WSCAD Universe 857-800	URL	Download
ZUKEN Portal 857-800	URL	Download
EPLAN Data Portal 857-800	URL	Download

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#### CAD data

2D/3D Models 857-800	URL	Download
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### Environmental Product Compliance

#### Compliance Search

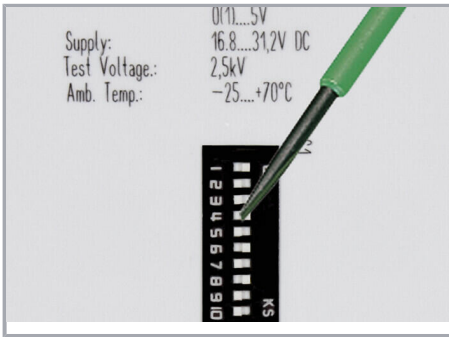
Environmental Product Compliance 857-800 Temperature signal conditioner for RTD sensors; Current and voltage output signal; Configuration via DIP switch; Supply voltage: 24 VDC; 6 mm module width; light gray	URL	Download
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### Installation Notes

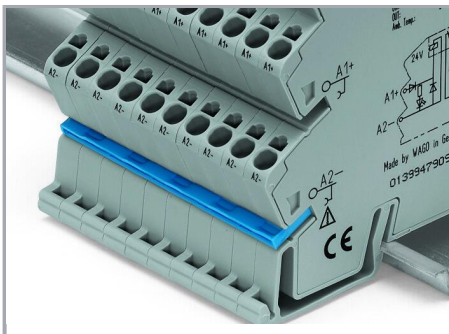
#### Configuration

Subject to changes. Please also observe the further product documentation!



Configuration via DIP switch

### Commoning



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

Subject to changes. Please also observe the further product documentation!