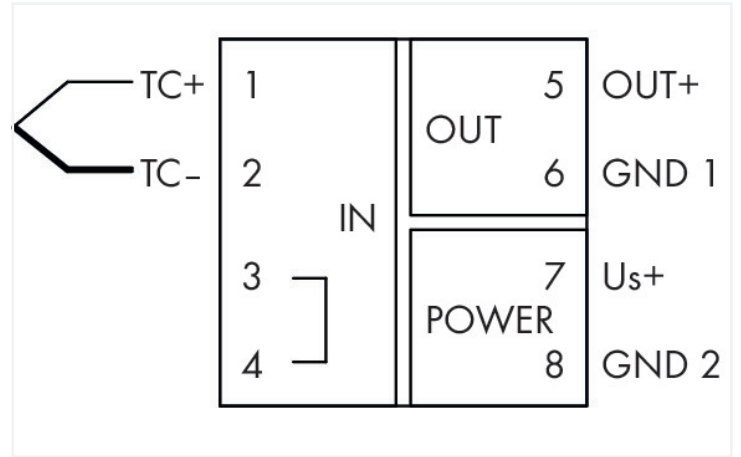
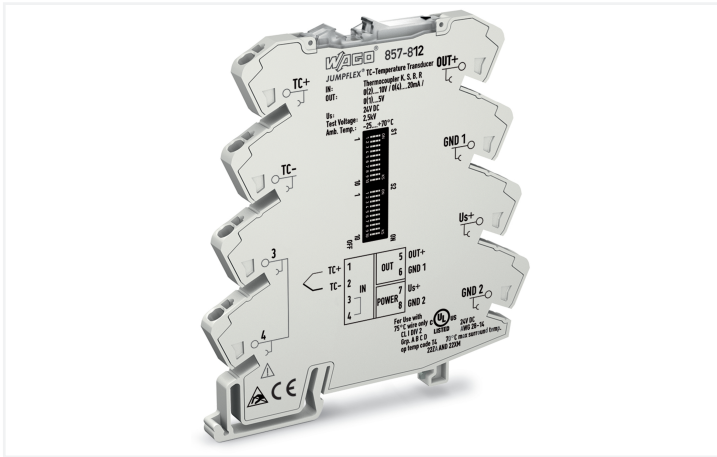


# Data Sheet | Item Number: 857-812

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

<https://www.wago.com/857-812>



857-812  
DIP Switch Adjustability

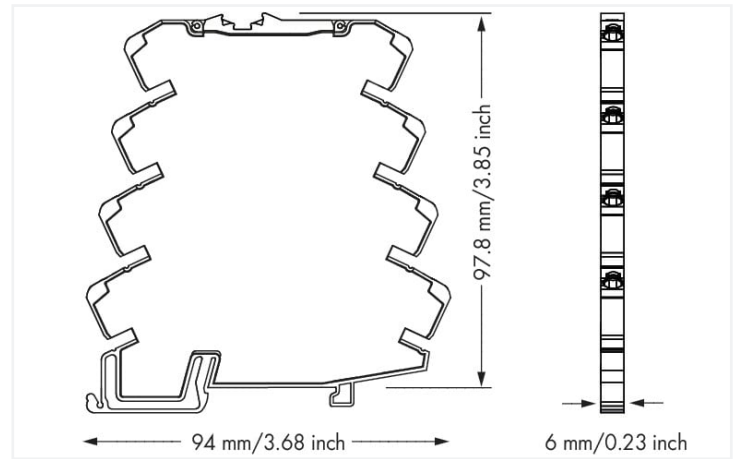
DIP Switch S1

Cold Junction Compensation	Sensor Type	Output Signal	Measurement Range Underflow	Measurement Range Overflow	Wire Break
1	2	3	4	5	6
•	•	S	0...20 mA	Lower limit of output range ±5%	Upper limit of output range ±5%
•	•	S	4...20 mA	Lower limit of output range	Upper limit of output range ±2.5%
•	•	R	0...10 mV	Lower limit of output range	Upper limit of output range ±5%
•	•	R	2...10 mA	Lower limit of output range	Upper limit of output range ±5%
•	•	S	0...10 V	Lower limit of output range	Upper limit of output range ±5%
•	•	S	2...10 V	Lower limit of output range	Upper limit of output range
•	•	S	0...1 V	Lower limit of output range	Upper limit of output range
•	•	S	1...1 V	Lower limit of output range	Upper limit of output range

DIP Switch S1 SW 1-2

Start Temperature					End Temperature						
S1	S2	S3	S4	°C	°F	S1	S2	S3	S4	°C	°F
1	2	3	4	5	6	7	8	9	10	11	12
•	•	•	•	50	122	•	•	•	•	1000	1832
•	•	•	•	100	212	•	•	•	•	90	122
•	•	•	•	150	302	•	•	•	•	1000	2112
•	•	•	•	200	392	•	•	•	•	1500	2732
•	•	•	•	250	482	•	•	•	•	2000	3632
•	•	•	•	300	572	•	•	•	•	2500	4532
•	•	•	•	350	662	•	•	•	•	3000	5432
•	•	•	•	400	752	•	•	•	•	3500	6332
•	•	•	•	450	842	•	•	•	•	4000	7232
•	•	•	•	500	932	•	•	•	•	4500	8132
•	•	•	•	550	1022	•	•	•	•	5000	9032
•	•	•	•	600	1112	•	•	•	•	5500	9932
•	•	•	•	650	1202	•	•	•	•	6000	10832
•	•	•	•	700	1292	•	•	•	•	6500	11732
•	•	•	•	750	1382	•	•	•	•	7000	12632
•	•	•	•	800	1472	•	•	•	•	7500	13532
•	•	•	•	850	1562	•	•	•	•	8000	14432
•	•	•	•	900	1652	•	•	•	•	8500	15332
•	•	•	•	950	1742	•	•	•	•	9000	16232
•	•	•	•	1000	1832	•	•	•	•	9500	17132

\* acc. to NAMUR NE 43



Dimensions in mm

## Short description:

WAGO's temperature signal conditioner records signals from thermocouples (type K, S, B, R) and converts the temperature signal into a standard analog signal at the output. **Features:**

- For thermocouples of type K, S, B and R
- Cold junction compensation (On/Off)
- Calibrated measurement range switching
- Detects a sensor wire break
- 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

Technical data	
Configuration	
Configuration options	DIP switch
Input	
Input signal type	TC sensors

### Input (TC sensors)

Sensor types (TC)	Type K Type S Type B Type R
Temperature measurement range (TC)	0 ... 1200 °C (Type K); 0 ... 1600 °C (Type S); 600 ... 1800 °C (Type B); 0 ... 1600 °C (Type R)
Cold junction compensation	ON/OFF (default: ON)
Cold junction error	3 K (typ. 2 K)

### Signal processing

Step response (typ.)	60 ms (cold junction compensation (Off)); 120 ms (Cold junction compensation (ON))
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### Power 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
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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

### Measurement error

Transmission error (typ.)	≤ 0.1 % at full measurement span
Transmission error for the set measurement range	≤ (150 K/set measurement range [K]) %
Temperature coefficient	≤ 0.04 %/K

### 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 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

Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.365 MJ
Weight	35.7 g

### Environmental requirements

Ambient temperature (operation)	-25 ... +70 °C
Ambient 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

### Commercial data

Product Group	6 (INTERFACE ELECTRONIC)
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	4050821255291
Customs tariff number	85437090300

### 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 (Belgium)	63246099-99c4-43a6-adfd-84430887f462
SCIP notification number (Bulgaria)	ea9a922d-f667-4a28-ba1e-c99ddf8dd7e8
SCIP notification number (Czech Republic)	3b1b251c-a971-41aa-9196-9ca50fd3018f
SCIP notification number (Denmark)	8ef75f62-a4f0-4596-82a0-b4e0cc314863
SCIP notification number (Finland)	07b2346b-c450-4ded-aea1-546be2e4f794
SCIP notification number (France)	ba213564-10e1-4d25-aad4-fd5d5dc2fae7
SCIP notification number (Germany)	574b5988-3161-4ef7-be2b-3d31e6c52d56
SCIP notification number (Hungary)	fb09612d-0901-430e-92ab-7b4c0d594307
SCIP notification number (Italy)	286c091b-d3d4-4e26-b2bc-770b2ca8b326
SCIP notification number (Netherlands)	0df3ea2a-7dc3-4942-ab8e-065df1295860
SCIP notification number (Romania)	32bb11c8-e3ce-4868-b1db-f95c88597e37
SCIP notification number (Sweden)	9fee1f9a-d1d7-47cd-9f94-9f08e1d83ded

**Approvals / Certificates**

**General approvals**



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03081
UL Underwriters Laboratories Inc. (ORDINARY LOCATIONS)	UL 508	E175199 Sec.4

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

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

**Approvals for hazardous areas**



Approval	Standard	Certificate Name
UL Underwriters Laboratories Inc. (HAZARDOUS LOCATIONS)	ANSI/ISA 12.12.01	E198726

**Downloads**

**Environmental Product Compliance**

Compliance Search
Environmental Product Compliance 857-812 <a href="#">↓</a>

**Documentation**

Bid Text			
857-812	19.02.2019	xml 5.69 KB	<a href="#">↓</a>
857-812	20.02.2019	docx 17.33 KB	<a href="#">↓</a>

Instruction Leaflet			
Messumformer und Trennverstärker		pdf 1486.98 KB	<a href="#">↓</a>

**CAD/CAE-Data**

CAD data
2D/3D Models 857-812 <a href="#">↓</a>

CAE data
EPLAN Data Portal 857-812 <a href="#">↓</a>
WSCAD Universe 857-812 <a href="#">↓</a>
ZUKEN Portal 857-812 <a href="#">↓</a>

**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



**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

### 1.1.3.1 Jumper



**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 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

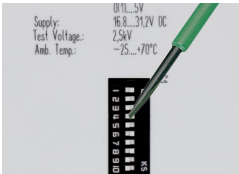


Item No.: 210-720

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

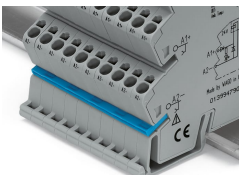
## Installation Notes

### Configuring



Configuration via DIP switch

### Commoning



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