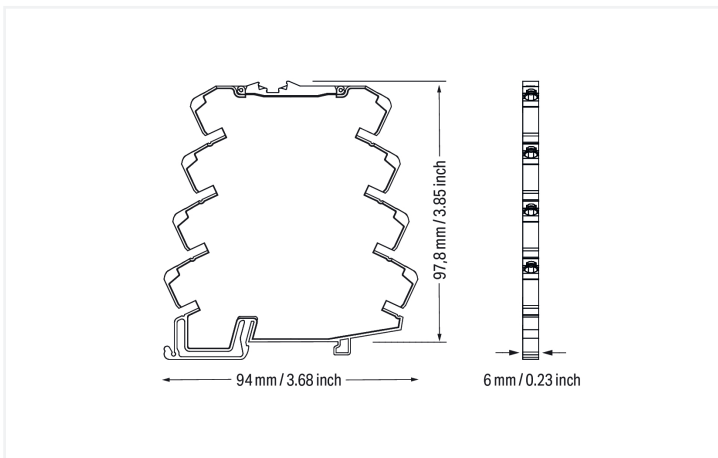
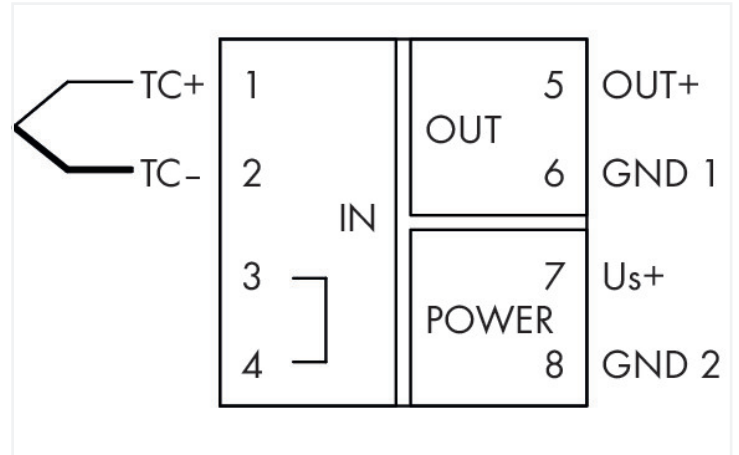
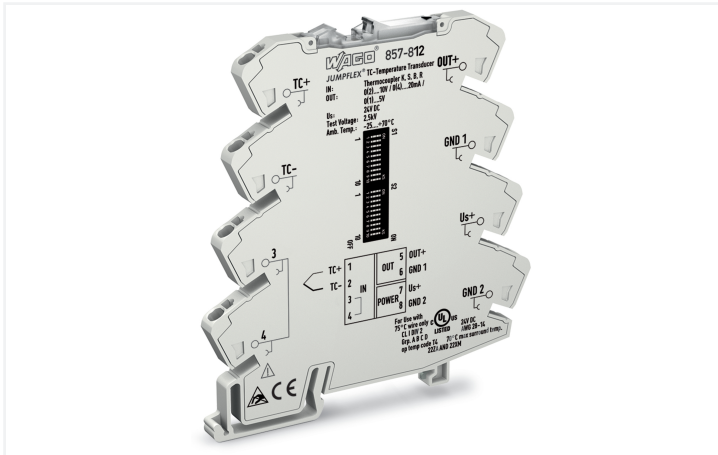


Data Sheet | Item Number: 857-812

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
On	K	0...25 mA	Lower limit of output range -5%	Upper limit of output range +2.5%	Upper limit of output range +5%
Off	S	4...20 mA	Lower limit of output range	Upper limit of output range +2.5%	Upper limit of output range +5%
	B	0...10 mA	Lower limit of output range	Upper limit of output range	Upper limit of output range +5%
	R	2...10 mA	Lower limit of output range	Upper limit of output range	Upper limit of output range +5%
		0...10 V	Lower limit of output range	Upper limit of output range	Upper limit of output range +5%
		2...10 V	Lower limit of output range	Upper limit of output range	Upper limit of output range +5%
		0...5 V	Lower limit of output range	Upper limit of output range	Upper limit of output range +5%
		1...5 V	Lower limit of output range	Upper limit of output range	Upper limit of output range +5%

DIP Switch S1 (Bit no.)

Start Temperature										End Temperature									
S1	S2	°C	°F	S1	S2	°C	°F	S1	S2	°C	°F	S1	S2	°C	°F				
0	0	0	32	0	0	1000	1832	0	0	1000	1832	0	0	1000	1832				
1	1	50	122	1	1	50	122	1	1	50	122	1	1	50	122				
2	2	100	212	2	2	100	212	2	2	100	212	2	2	100	212				
3	3	150	302	3	3	150	302	3	3	150	302	3	3	150	302				
4	4	200	392	4	4	200	392	4	4	200	392	4	4	200	392				
5	5	250	482	5	5	250	482	5	5	250	482	5	5	250	482				
6	6	300	572	6	6	300	572	6	6	300	572	6	6	300	572				
7	7	350	662	7	7	350	662	7	7	350	662	7	7	350	662				
8	8	400	752	8	8	400	752	8	8	400	752	8	8	400	752				
9	9	450	842	9	9	450	842	9	9	450	842	9	9	450	842				
10	10	500	932	10	10	500	932	10	10	500	932	10	10	500	932				
11	11	550	1022	11	11	550	1022	11	11	550	1022	11	11	550	1022				
12	12	600	1112	12	12	600	1112	12	12	600	1112	12	12	600	1112				
13	13	650	1202	13	13	650	1202	13	13	650	1202	13	13	650	1202				
14	14	700	1292	14	14	700	1292	14	14	700	1292	14	14	700	1292				
15	15	750	1382	15	15	750	1382	15	15	750	1382	15	15	750	1382				
16	16	800	1472	16	16	800	1472	16	16	800	1472	16	16	800	1472				
17	17	850	1562	17	17	850	1562	17	17	850	1562	17	17	850	1562				
18	18	900	1652	18	18	900	1652	18	18	900	1652	18	18	900	1652				
19	19	950	1742	19	19	950	1742	19	19	950	1742	19	19	950	1742				
20	20	1000	1832	20	20	1000	1832	20	20	1000	1832	20	20	1000	1832				

*acc. to NAMUR NE 43

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)
----------------------	--

Power Supply

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

Safety and protection

Protection type	IP20
-----------------	------

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 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	0.365 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)
PU (SPU)	1 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4050821255291
Customs tariff number	85437090300

Product Classification

UNSPSC	41112109
eCl@ss 10.0	27-21-01-29
eCl@ss 9.0	27-21-01-29
ETIM 9.0	EC002919
ETIM 10.0	EC002919
ECCN	NO US CLASSIFICATION

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

Environmental Product Compliance

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



Approval	Standard	Certificate Name
EAC GZO Almaty Standart	TP TC 020/2011	EAC CoC 03081

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

Approvals for hazardous areas



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

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 857-812 ↓

Documentation

Bid Text			
857-812	19.02.2019	xml 5.69 KB	↓
857-812	20.02.2019	docx 17.33 KB	↓

Instruction Leaflet	
Messumformer und Trennverstärker	pdf 1486.98 KB ↓

CAD/CAE-Data

CAD data	CAE data
2D/3D Models 857-812	EPLAN Data Portal 857-812
	WSCAD Universe 857-812
	ZUKEN Portal 857-812

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; 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

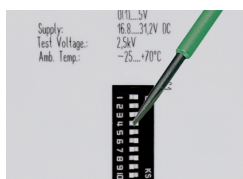


Item No.: 210-720

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

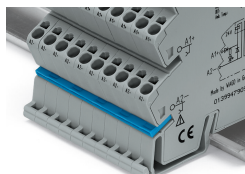
Installation Notes

Configuring



Configuration via DIP switch

Commoning



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