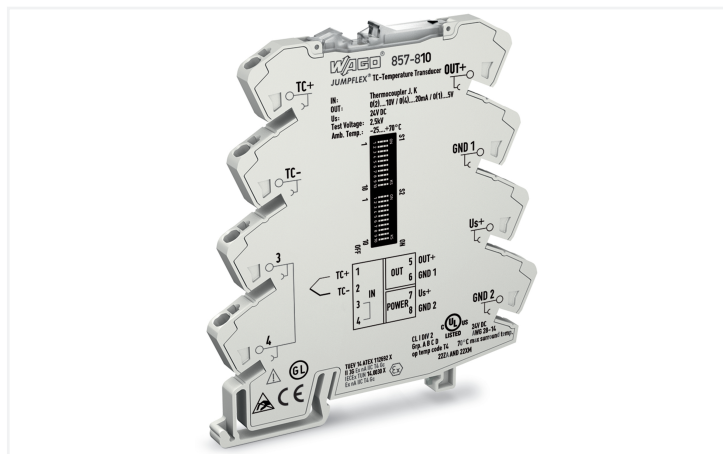


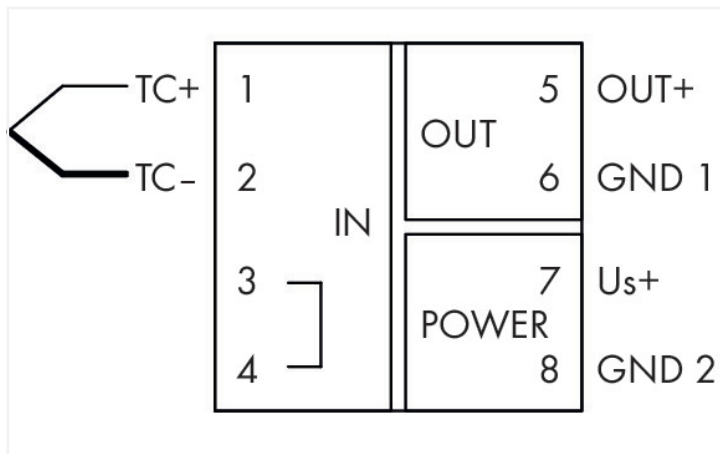
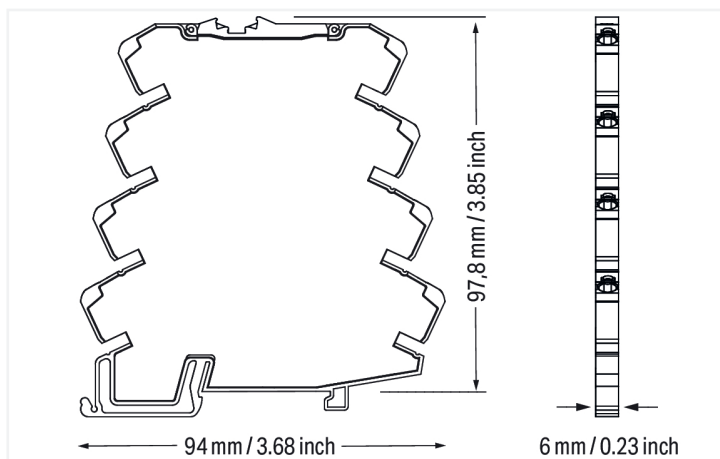
Data Sheet | Item Number: 857-810

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

<https://www.wago.com/857-810>



Color: light gray

[illegible]

Short description:

This temperature signal conditioner records signals from thermocouples (type J, K) and converts the temperature signal into a standard analog signal at the output.

Features:

- For type J and K thermocouples
- Cold junction compensation (On/Off)
- Calibrated measurement range switching
- Detects a sensor wire break
- Detects measurement range underflow/overflow
- Clipping capability: Limitation of the standard analog signal to the upper-range 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 J Type K
Temperature measurement range (TC)	–200 ... 1200 °C (Type J) –200 ... 1350 °C (Type K)
Measurement span (TC) min.	100 K
Cold junction compensation	ON/OFF (default: ON)
Cold junction error	3 K (typ. 2 K)

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.)	60 ms (cold junction compensation off) 120 ms (cold junction compensation on)

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

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
Test voltage	
Test voltage (input/output/supply)	2.5 kVAC; 50 Hz; 1 min

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	
Material data		
Color	light gray	
Insulation material (main housing)	Polyamide (PA66)	
Flammability class per UL94	V0	
Fire load	0.365 MJ	
Weight	35.5 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	
Standards/specifications	DNV	
Commercial data		
Product Group	6 (INTERFACE ELECTRONIC)	
PU (SPU)	1 pcs	
Packaging type	Bag	
Country of origin	DE	
GTIN	4045454470135	
Customs tariff number	85437090300	
Product classification		
UNSPSC	41111970	
eCl@ss 10.0	27-21-01-29	
eCl@ss 9.0	27-20-02-06	
ETIM 9.0	EC002919	
ETIM 8.0	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 (Austria)	694a8dfe-c43e-47d6-ad52-996c633f9655	



Environmental Product Compliance	
SCIP notification number (Belgium)	296545de-031d-4d5e-a5a5-dfddc192cdf7
SCIP notification number (Bulgaria)	c1b7b523-92f8-47da-850c-8c4c882c490d
SCIP notification number (Czech Republic)	e269576b-40b6-4b8e-a730-b20f6c4642ba
SCIP notification number (Denmark)	adf6ed2d-abff-4125-bf6c-c121e8fca395
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SCIP notification number (Netherlands)	9d300dab-2d6b-4501-8a24-bc26ad68f589
SCIP notification number (Poland)	Odd42d60-44a1-435a-b52e-47b29f5d6be4
SCIP notification number (Romania)	64b5849a-efc7-4fa8-9d9c-d6e400e9cc32
SCIP notification number (Sweden)	be28f513-6c89-4361-b6f3-1dba6122eca2

Approvals / Certificates

General approvals

Declarations of conformity and manufacturer's declarations

			Approval	Standard	Certificate Name
EAC	TP TC 020/2011	EAC CoC 03081	EU-Declaration of Confor- mity WAGO GmbH & Co. KG	-	-
GZO Almaty Standart					

Approvals for marine applications			Approvals for hazardous areas		
 			   		
Approval	Standard	Certificate Name	Approval	Standard	Certificate Name
BV Bureau Veritas S.A.	Rules for class. of Steel Ships	40179_B0	CCC CNEX	CNCA-C23-01	2020312310000210 (Ex ec IIC T4 Gc)
DNV DNV Germany GmbH	DNV-CG-0339,Aug.2021	TAA00001D1	IECEx TUEV Nord Cert GmbH	-	IECEX TUN14.0030X
			UKEx WAGO GmbH & Co. KG	EN 60079-0	WAGO22UKEX004X
			UL Underwriters Laboratories Inc. (HAZARDOUS LOCA- TIONS)	ANSI/ISA 12.12.01	E198726

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product
Compliance 857-810

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Documentation					
Bid Text			Instruction Leaflet		
857-810	19.02.2019	xml 5.73 KB	CCC Ex (Additional information)	26.04.2023	pdf 140.99 KB
857-810	20.02.2019	docx 17.11 KB	Messumformer und Trennverstärker		pdf 2348.53 KB

CAD/CAE-Data	
CAD data	CAE data
2D/3D Models 857-810	EPLAN Data Portal 857-810
	WSCAD Universe 857-810
	ZUKEN Portal 857-810

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



1.1.3.1 Jumper

 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; 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

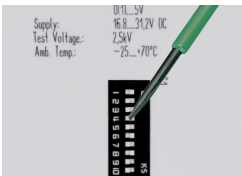
1.1.7.1 Operating tool



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

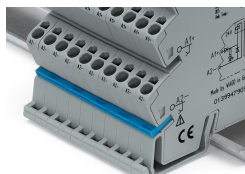
Installation Notes

Configuring



Configuration via DIP switch

Commoning



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