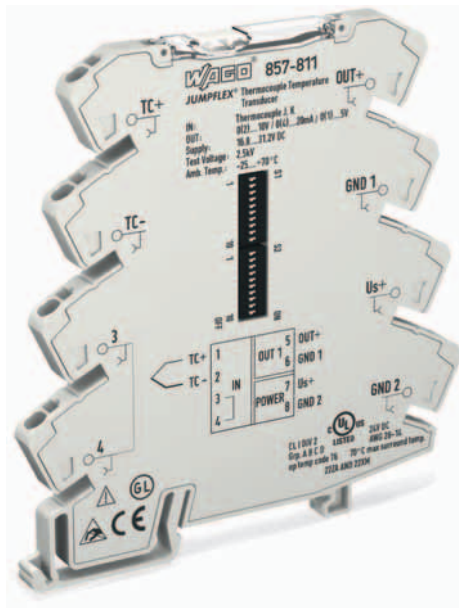
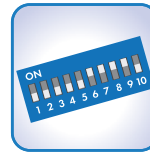


JUMPFLEX® Signal Conditioners

Temperature Signal Conditioner for Thermocouples of Types J and K *



Configuration via:



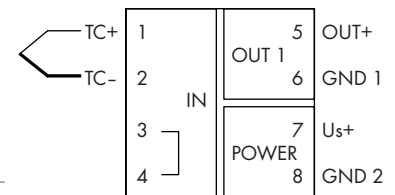
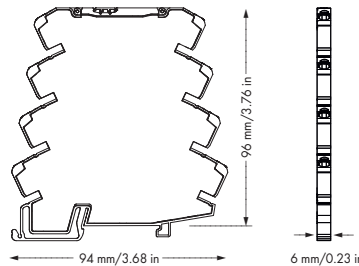
DIP switch



Interface configuration software



Interface configuration app



Short description:

The 857-811 Thermocouple Temperature Signal Conditioner is suitable for the connection of type J and K thermocouples. On the output side, the thermocouple temperature signal conditioner converts the temperature signal into an analog standard signal.

Characteristics:

- PC configuration interface
- For thermocouples of type J and K (E, R, N, S, T, B, C)
- Cold junction compensation (on/off)
- Calibrated scale switching
- Sensor's wire break
- Measuring range underflow/overflow
- Clipping capability allows analog standard signal limitation to upper range values
- Safe 3-way isolation with 2.5kV test voltage to EN 61140

Technical Data

Configuration:

Configuration	DIP switch, interface configuration software, interface configuration app
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Input:

Input signal	Thermocouples
Sensor types	Thermocouples of types J and K *
Temperature range	Type J: -150 °C ... +1200 °C Type K: -150 °C ... +1350 °C

Output:

Output signal	0 ... 10 mA, 2 ... 10 mA, 0 ... 20 mA, 4 ... 20 mA, 0 ... 5 V, 1 ... 5 V, 0 ... 10 V, 2 ... 10 V *
Load impedance	≤ 600 Ω (Out = mA) ≥ 2 kΩ (Out = V)
Cold junction compensation	on / off (default: on) *
Cold junction error	3 K (typ. 2 K)
Step response	60 ms without cold junction compensation/ 120 ms with cold junction compensation

General specifications:

Nominal supply voltage V_s	24V DC
Supply voltage range	16.8 V ... 31.2 V
Current consumption at 24 V DC	≤ 40 mA
Min. measuring span	100 K (configurable)
Transmission error	≤ 0.1 % at max. measuring span (Typ J, K)
Transmission error of set measuring span	(150 K / set measuring span [K]) %
Temperature coefficient	≤ 0.04 % /K

Description

JUMPFLEX® Signal Conditioner, for DIN 35 857-811
Temperature Signal Conditioner for Thermocouples of Types J and K *

Item No.

Pack. Unit

Technical Data

Environmental requirements:

Ambient operating temperature	-25 °C ... +70 °C
Storage temperature	-40 °C ... +85 °C

Safety and protection:

Test voltage (input/output/supply)	2.5 kV AC, 50 Hz, 1 min
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Connection and type of mounting:

Wire connection	CAGE CLAMP® S
Cross sections	solid: 0.08 mm² ... 2.5 mm² / AWG 28 ... 14 fine-stranded: 0.34 mm² ... 2.5 mm² / AWG 22 ... 14
Strip lengths	9 ... 10 mm / 0.37 in

Dimensions and weight:

Dimensions (mm) W x H x L	6 x 96 x 94
Weight	Height from upper-edge of DIN 35 rail 49.2 g

Standards and approvals:

Conformity marking	CE
UL 508	
ANSI/ISA 12.12.01	Class I, Div. 2, Grp. ABCD, T4
Shipbuilding	Ⓢ

Accessories

see pages 226 ... 236

(* Additional setting options as well as output signal inversion via PC configuration software or smartphone app)

DIP Switch Adjustability

● = ON

857-811

DIP Switch S1

Cold junction compensation		Sensor type		Output signal					Measuring range underflow	Measuring range overflow	Wire break
1		2	3	4	5	6	7	8			
	on			J					Lower limit of output range - 5 % *	Upper limit of output range + 2,5 % *	Upper limit of output range + 5 % *
●	off	●		K	●						
						●			Lower limit of output range	Upper limit of output range + 2,5 %	Upper limit of output range + 5 %
					●	●					
						●			Lower limit of output range	Upper limit of output range	Upper limit of output range + 5 %
					●	●					
					●	●			Lower limit of output range	Upper limit of output range	Lower limit of output range
					●	●					

DIP 9 and 10 n.c.

* 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
																		●		225	437						●	625	1157
●				-200	-328	●						0	32	●				●		250	482	●					●	650	1202
	●			-175	-283		●					10	50		●			●		275	527		●				●	675	1247
●	●			-150	-283	●	●					20	68	●	●			●		300	572	●	●				●	700	1292
		●		-125	-193			●				30	86			●		●		325	617			●			●	725	1337
●		●		-100	-148	●		●				40	104	●		●		●		350	662	●		●			●	750	1382
	●	●		-90	-130		●	●				50	122		●	●		●		375	707		●	●			●	775	1427
●	●	●		-80	-112	●	●	●				60	140	●	●	●		●		400	752	●	●	●			●	800	1472
			●	-70	-94				●			70	158				●	●		425	797				●		●	825	1517
●			●	-60	-76	●			●			80	176	●			●	●		450	842	●			●		●	850	1562
		●	●	-50	-58		●	●	●			90	194		●		●	●		475	887		●	●			●	875	1607
●	●	●		-40	-40	●	●	●	●			100	212	●	●	●	●	●		500	932	●	●	●	●		●	900	1652
		●	●	-30	-22			●	●			125	257			●	●	●		525	977			●	●		●	925	1697
●		●	●	-20	-4	●		●	●			150	302	●		●	●	●		550	1022	●		●	●		●	950	1742
	●	●	●	-10	14		●	●	●			175	347		●	●	●	●		575	1067		●	●	●		●	975	1787
●	●	●	●	0	32	●	●	●	●			200	392	●	●	●	●	●		600	1112	●	●	●	●		●	1000	1832

The minimum distance from the start temperature to the end temperature may not fall short of 100K degrees on the Celsius (C) scale or 212K degrees on the Fahrenheit (F) scale.

Default Settings

All DIP switches are in „OFF“ position for delivery.
This is the position used to parameterize the device via PC configuration software.

Cold junction compensation	on
Thermocouple	Type J
Start temperature	0 °C
End temperature	1000 °C
Output signal	0 ... 20 mA
Measuring range underflow	0 mA
Measuring range overflow	20.5 mA
Wire break	21 mA