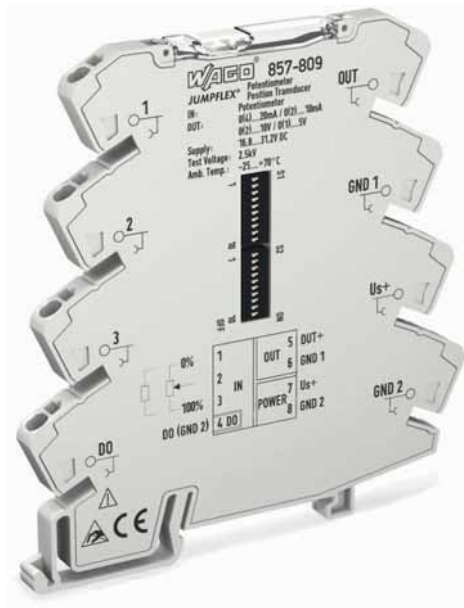




Configuration via:



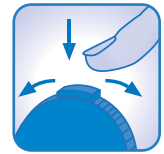
DIP Switches



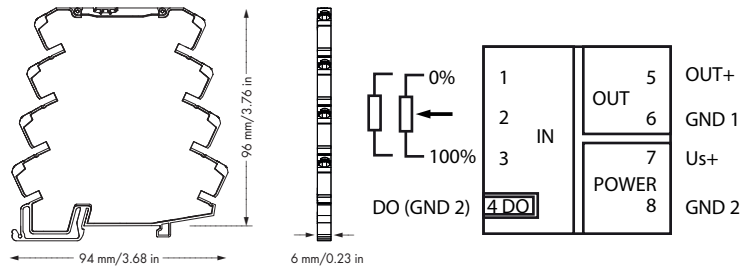
PC Configuration Software



Smartphone App



Push/Slide Switch



Short description:

The 857-809 Potentiometer Position Transducer records resistance signals (e.g., from potentiometers), converting them into an analog standard signal. The device is supplied with 24VDC (nominal voltage). It is set via DIP switches or push and slide switch.

Features:

- PC configuration interface
- Calibrated measurement range switching
- Automatic potentiometer identification
- Safe 3-way isolation with 2.5 kV test voltage to EN 61140

Technical Data

Configuration:

Configuration: DIP switches, push/slide switch, PC configuration software, smartphone app

Input:

Input signal: Potentiometers and resistors *

Input range

Potentiometer: 100 Ω ... 100 kΩ *
Resistors: 10 Ω - 100 kΩ *
Max. potentiometer supply voltage: 2.5 V
Min. measuring range: 100 Ω

Output:

Output signal: **Voltage:** 0 - 10 V, 2 - 10 V, 0 - 5 V, 1 - 5 V *

Current:

0 - 20 mA, 4 - 20 mA,
0 - 10 mA, 2 - 10 mA *

Load impedance: ≤ 600 Ω (I output)
≥ 2 kΩ (U output)

Step response: < 32 ms

Output - Digital

Max. switching voltage: Supply voltage applied
Max. continuous current: 100 mA

General specifications:

Voltage supply V_s : 24 V DC
Supply voltage range: 16.8 V ... 31.2 V
Current consumption at 24 V DC: ≤ 40 mA
Transmission error: ≤ 0.1 % of upper range value
Temperature coefficient: ≤ 0.01 %/K

Description

Item No.

Pack. Unit

JUMPFLEX® Transducer, for DIN 35 rail **857-809** **1**
Potentiometer Position Transducer

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.

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
Height from upper-edge of DIN 35 rail
Weight: 49.2 g

Standards and approvals:

UL 508 (pending)
ANSI/ISA 12.12.01 (pending)
Shipbuilding

Accessories

see pages 268 ... 271

(* Additional setting options via PC configuration software or smartphone app)

DIP Switch Adjustability

● = ON

857-809

DIP Switch S1 and S2

Input	
DIP S1	
1	Potentiometer
●	Resistor

Start Value					
DIP S1					Resistor Ω
2	3	4	5	6	
					0*
●					0
	●				10
●	●				11
		●			12
●		●			13
	●	●			15
●	●	●			16
			●		18
●			●		20
	●		●		22
●	●		●		24
		●	●		27
●		●	●		30
	●	●	●		33
●	●	●	●		36
				●	39
●				●	43
	●			●	47
●	●			●	51
		●		●	56
●		●		●	62
	●	●		●	68
●	●	●		●	75
			●	●	82
●			●	●	91
	●		●	●	40
●	●		●	●	50
		●	●	●	60
●		●	●	●	70
	●	●	●	●	80
●	●	●	●	●	90

End Value						Resistor Ω
DIP S1					DIP S2	
7	8	9	10	1		
						100000*
●						0
	●					10
●	●					11
		●				12
●		●				13
	●	●				15
●	●	●				16
			●			18
●			●			20
	●		●			22
●	●		●			24
		●	●			27
●		●	●			30
	●	●	●			33
●	●	●	●			36
				●		39
●				●		43
	●			●		47
●	●			●		51
		●		●		56
●		●		●		62
	●	●		●		68
●	●	●		●		75
			●	●		82
●			●	●		91
	●		●	●		40
●	●		●	●		50
		●	●	●		60
●		●	●	●		70
	●	●	●	●		80
●	●	●	●	●		90

*Default setting

DIP Switch S2

Factor of Initial Value			Factor of End Value			Output		Output Signal Range		
2	3		4	5		6		7	8	
		x1*			x1*		Current*			0 - 10 V/0 - 20 mA*
●		x10	●		x10	●	Voltage	●		2 - 10 V/4 - 20 mA
	●	x100		●	x100				●	0 - 5 V/0 - 10 mA
●	●	x1000	●	●	x1000			●	●	1 - 5 V/2 - 10 mA

*Default setting

9	10	Measuring Range Underflow	Measuring Range Overflow	Wire Break
		Upper limit of output range ^{*1} +2.5 %	Lower limit of output range ^{*1} -5 %	Upper limit of output range ^{*1} +5 %
●		Upper limit of output range +2.5 %	Lower limit of output range	Upper limit of output range +5 %
	●	Upper limit of output range	Lower limit of output range	Upper limit of output range +5 %
●	●	Upper limit of output range	Lower limit of output range	Lower limit of output range

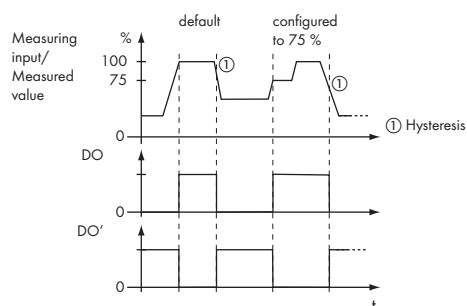
Digital Output DO/Signaling

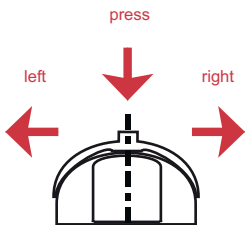
The digital output (DO) signals error messages and can be configured as follows: 24 V → 0 V/0 V → 24 V.

In order to increase the switching current of the DO, the latter may be expanded by a relay. Thanks to the contour uniformity of Series 857, for example, a 857-304 Relay can be snapped in next to it. This output can be quickly and easily expanded to a switching current of 6A by simply using an adjacent jumper (859-402).

Switching Behavior, Digital Output (DO)

*acc. to NAMUR NE 45



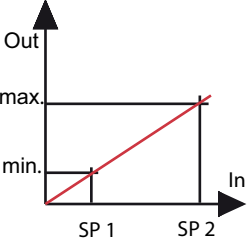
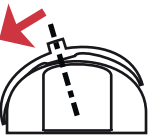
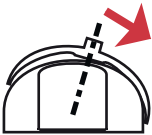
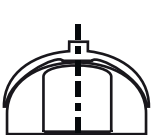
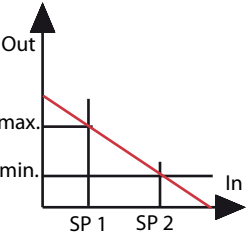
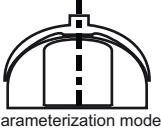
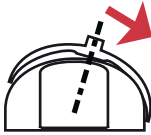
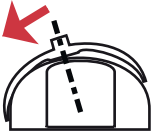
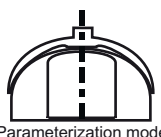
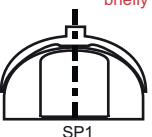
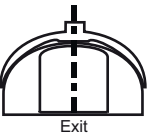


Operating push/slide switch:

The following switching thresholds (SP1 and SP2) are set via push/slide switch. The switch is located under the front-side transparent cover and can be operated manually.

- Press PSS down until the yellow LED is flashing
- Set potentiometer to the minimum value
- Briefly push PSS to the left
- Red LED flashes briefly
- Set potentiometer to the maximum value
- Briefly push PSS to the right
- Red LED flashes briefly
- Briefly press PSS downward
- The yellow LED stops flashing

PSS = Push/slide switch

Transmission function 	Configuration instructions Press for 1 sec. ↓ Yellow LED flashes  Parameterization mode Red LED flashes briefly  SP1 Red LED flashes briefly  SP2 ↓  Exit parameterization mode No flashing
	Press for 1 sec. ↓ Yellow LED flashes  Parameterization mode Red LED flashes briefly  SP1 Red LED flashes briefly  SP2 ↓  Exit parameterization mode No flashing
Delete set switching points	Press for 1 sec. ↓ Yellow LED flashes  Parameterization mode Press for 3 sec. ↓ Red LED flashes briefly  SP1 ↓  Exit parameterization mode No flashing
Exit parameterization mode without saving value. SP = Switching points	Press for 1 sec. ↓ Yellow LED flashes  Parameterization mode ↓  Exit parameterization mode No flashing

Application example:

