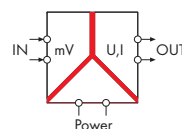


## JUMPFLEX Series 857

### Milivolt Transducer 857-819



**!** Before installation and operation, please read the following instructions thoroughly and carefully. Incorrect installation may compromise safety in the event of a failure.

#### 1. Safety Information

##### 1.1 General information

Please observe the following:

- the applicable laws, standards and regulations
- the state of the art at the time of installation
- the operating instructions
- the engineering regulations
- the fact that operating instructions can only mention general regulations and that these must be observed

Before start-up, please check the device for any damage that may have occurred during shipping. The device must not be put into operation if there is mechanical damage present.

The devices described in these instructions must only be installed by a qualified electrician and must only be installed in electrical switchgear or in sealed enclosures. Improper use, or failure to follow the guidelines established in this document, will render the warranty/guarantee null and void. The devices must only be installed in dry, indoor areas.

Do not install the devices on or in the vicinity of easily inflammable materials.

#### 2. Short Description

The 857-819 Millivolt Transducer converts input voltage signals into an analog standard signal on the output side. The following signals are available: 0 - 20mA, 4 - 20mA, 0 - 10V, 2 - 10V, 0 - 5V, 1 - 5V, 0 - 10mA and 2 - 10mA. The device has a 3-way isolation with a test voltage of 2.5kV. The transducer can be configured either using FDT/DTM software or via DIP switches that are accessible from the side of the housing. The software offers additional setting options such as the ability to invert the output signal. Measurement range switching is calibrated.



**3. Installation**  
**CAUTION!** High voltage can cause electric shock or burns.



De-energize the system and the device before installation. Caution! Take protective measures against electrostatic discharge (ESD) when operating the modules.

The devices snap onto DIN 35 rails without tools.

However, a simple screwdriver is required to unlock the snap-on mounting foot and remove the device from the carrier rail. Potentials can be commoned using 859 Series 2- to 10-way push-in type jumper bars (see accessories). The jumpers must be inserted prior to connecting the cables for ease of installation. Push down the jumpers until fully inserted (see installation instructions).

Use separators (item no. 209-191) between adjacent contacts for safe electrical isolation if the modules are alternately rotated 180 degrees when snapped onto the rail.

For secure fixing on the carrier rail, end stops (e.g., WAGO 249-116) must be mounted at the ends of a module assembly.

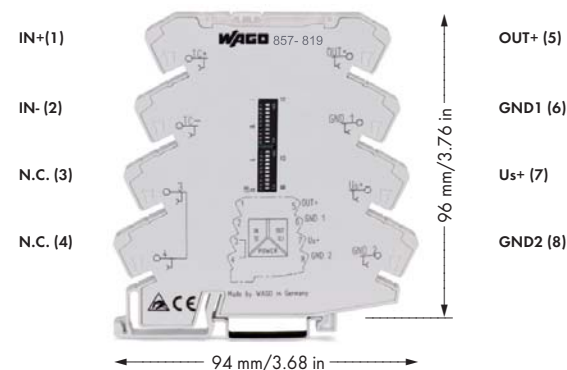
Observe the maximum admissible conductor cross-sections of the signal and power cables.

#### 8. DIP Switch Adjustability

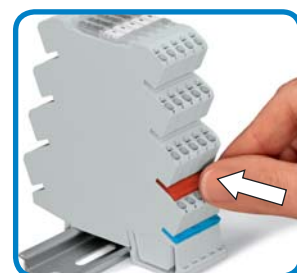
● = ON

Input Signal: Measurement Start Voltage DIP Switch DIP 1 : 1-7																							
1	2	3	4	5	6	7	mV	1	2	3	4	5	6	7	mV	1	2	3	4	5	6	7	mV
●							-100	●							-34	●							34
	●						-98		●						-32		●						36
		●					-96			●					-30			●					38
			●				-94				●				-28				●				40
				●			-92					●			-26					●			42
					●		-90						●		-24						●		44
						●	-88							●	-22							●	46
							-86								-20								48
							-84								-18								50
							-82								-16								52
							-80								-14								54
							-78								-12								56
							-76								-10								58
							-74								-8								60
							-72								-6								62
							-70								-4								64
							-68								-2								66
							-66								0								68
							-64								2								70
							-62								4								72
							-60								6								74
							-58								8								76
							-56								10								78
							-54								12								80
							-52								14								82
							-50								16								84
							-48								18								86
							-46								20								88
							-44								22								90
							-42								24								92
							-40								26								94
							-38								28								96
							-36								30								98
															32								100

#### 4. Dimensions



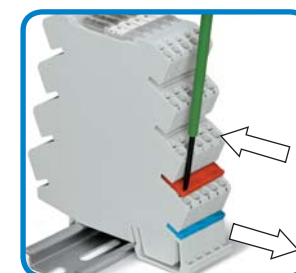
#### 5. Installation Instructions



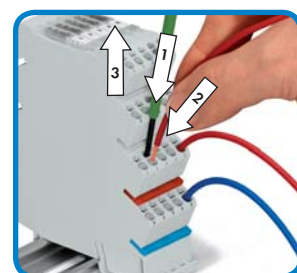
1. Push down jumper until fully inserted



2. Jumper is inserted



3. Remove the jumper \*



4. Connect the wire \*



**Configuration software**  
- FDT frame application 759-370  
- DTM (Device Tool Manager)  
**WAGO USB Service Cable** 750-923

Please find more information on how to use the configuration software in the online help of the DTMs.

\* Please only use an insulated screwdriver (item no. 210-620) 3.5 mm x 0.5 mm !

#### 6. Technical Data

Input signal: -100 mV ... +100 mV  
0 mV ... 1000 mV  
Input signal max.: 31.2 V  
Measuring span min.: 10 mV  
Output signal: 0...20 mA, 4...20 mA  
0...10 V, 2...10 V  
0...5 V, 1...5 V  
0...10 mA, 2...10 mA

Load impedance I output: ≤ 600 Ω  
Load impedance V output: ≥ 2 kΩ  
Step response: 50 ms  
Voltage supply V<sub>N</sub>: DC 24 V  
Supply voltage range: 16,8 V ... 31,2 V  
Current consumption at V<sub>N</sub>: ≤ 40 mA  
Temperature coefficient: 0.01 % / K

Error of transmission at set measuring span: ≤ 0,1 %

Test voltage (input / output / supply): AC 2.5 kV, 50 Hz, 1 min.  
Ambient operating temperature: -25 °C...+70 °C  
Storage temperature: -40 °C...+85 °C  
Width: 6.0 mm / 0.236 in  
Dimensions (HxD): 96 mm / 3.76 in x 94 mm / 3.68 in  
Wire connection: CAGE CLAMP® S  
solid "s": 0.08 mm<sup>2</sup> - 2.5 mm<sup>2</sup> / AWG 28-12  
fine-stranded "f-st": 0.34 mm<sup>2</sup> - 2.5 mm<sup>2</sup> / AWG 22-12  
Stripped lengths: 9-10 mm / 0.37 in

Approvals: CE, UL508 (E175199)

Standards: DIN EN 61326  
Namur NE21, NE43  
EN 61000-6-2  
EN 61000-6-4

EMC: acc. to DIN EN 61140 by increased isolation  
acc. to DIN EN 61010 part 1 up to AC/DC 300 V for overvoltage category II and pollution degree 2 between all circuits  
Safe isolation: acc. to DIN EN 61010 part 1 up to AC/DC 600 V for overvoltage category II and pollution degree 2 acc. to DIN EN 61010 part 1 between all circuits  
Isolation: AC/DC 600 V for overvoltage category II and pollution degree 2 acc. to DIN EN 61010 part 1 between all circuits.

#### 7. LEDs and Error Indication

The LEDs (red / green), which are visible on the front, display the following states:

Green LED lights: Operating voltage applied  
Red LED flashes with 2Hz: Measuring range underflow  
Red LED flashes with 2Hz: Measuring range overflow  
Red LED lights: Device failure, please send it back!

#### Output:

##### DIP Switch DIP 2

Output Signal		
6	7	8
		0-20 mA
●		4-20 mA
	●	0-10 mA
●	●	2-10 mA
		0-10 V
●		2-10 V
	●	0-5 V
●	●	1-5 V

##### Default Settings

In delivery status all DIP switches are in the position "OFF".

- Measuring range 0...100 mV
- Output range 0 ... 20 mA
- Measuring range overflow 20.5 mA
- Measuring range underflow 0 mA

9	10	Measuring Range Underflow	Measuring Range Overflow
		Lower limit of output range -5% (0 mA / 1.9 mA / 3.8 mA / 0 V / 0.95 V / 1.9 V)	Upper limit of output range +2.5% (10.25 mA / 20.5 mA / 5.125 V / 10.25 V)
●		Lower limit of output range (0 mA / 2 mA / 4 mA / 0 V / 1 V / 2 V)	Upper limit of output range +2,5% (10.25 mA / 20.5 mA / 5.125 V / 10.25 V)
	●	Lower limit of output range (0 mA / 2 mA / 4 mA / 0 V / 1 V / 2 V)	Upper limit of output range (10 mA / 20 mA / 5 V / 10 V)
●	●	Messbereichsanfang (0 mA / 2 mA / 4 mA / 0 V / 1 V / 2 V)	Messbereichsende (10 mA / 20 mA / 5 V / 10 V)