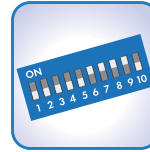
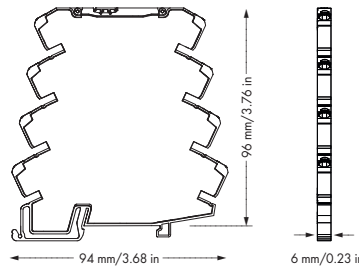


## Configuration via:



DIP Switches

PC Configura-  
tion SoftwareSmartphone  
App

IN+	1	IN	5	OUT+
GND 1	2	U,I	6	GND 2
DO	3	DO	7	Us+
GND 3	4		8	GND 3
		POWER		

## Short description:

The software-configurable 857-401 Isolation Amplifier converts standard signals and amplifies, filters and electrically isolates analog standard signals.

## Characteristics:

- PC configuration interface
- Digital switching output
- Calibrated scale switching
- Analog, unipolar and bipolar, standard signals at input
- 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 switches, PC configuration software, smartphone app
Input:	
Input signal	-20 ... +20mA, -10 ... +10V, 0 ... +30V *
Input resistance	≤ 200 Ω (I input) > 100 kΩ (U input)
Max. input signal	31.2 V (U <sub>IN</sub> ) 100 mA (I <sub>IN</sub> )
Output:	
Output signal	0 - 20mA, 4 - 20mA, 0 - 5V, 1 - 5V, 0 - 10V, 2 - 10V, 0 - 10mA, 2 - 10mA*
Load impedance	≤ 600 Ω (I output) ≥ 2 kΩ (U output)
Step response	≤ 8ms
Output - Digital	
Max. switching voltage	Supply voltage applied
Max. continuous current	500 mA (up to 60 °C) 100 mA (60 °C ... 70 °C)
General specifications:	
Voltage supply V <sub>S</sub>	24V DC
Supply voltage range	16.8 V ... 31.2 V
Current consumption at 24 V DC	≤ 40 mA
Min. measuring span	1 V, 2 mA (configurable)
Max. Messspanne	30 V, 40 mA
Transmission error	≤ 0.1 % of upper range value
Temperature coefficient	≤ 0.01 % /K

Description	Item No.	Pack. Unit
<b>JUMPFLEX® transducers, for DIN 35 rail</b>	<b>857-401</b>	<b>1</b>
Isolation amplifier, configurable with digital output		
Technical Data		
<b>Environmental requirements:</b>		
Ambient operating temperature	-25 °C ... +70 °C	
Storage temperature	-40 °C ... +85 °C	
<b>Safety and protection:</b>		
Test voltage (input/output/supply)	2.5 kV AC, 50 Hz, 1 min.	
<b>Connection and type of mounting:</b>		
Wire connection	CAGE CLAMP® S	
Cross sections	solid: 0.08 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 28 ... 14	
	fine-stranded: 0.34 mm <sup>2</sup> ... 2.5 mm <sup>2</sup> / AWG 22 ... 14	
Strip lengths	9 ... 10 mm / 0.37 in	
<b>Dimensions and weight:</b>		
Dimensions (mm) W x H x L	6 x 96 x 94	
	Height from upper-edge of DIN 35 rail	
Weight	42 g	
<b>Standards and approvals:</b>		
Conformity marking	CE	
UL 508		
ANSI/ISA 12.12.01	(pending)	
Shipbuilding	Ⓢ	
<b>Accessories</b>	see pages 268 ... 271	
( * Additional setting options via PC configuration software or smartphone app)		

## DIP Switch Adjustability

● = ON

857-401

		Input Signal Start Value																
		DIP S1																
1		2	3	4	5	6	7	V	mA	2	3	4	5	6	7	V	mA	
	Voltage							0	0							●	5.5	11
●	Current	●						-10	-20	●						●	6	12
			●					-9.5	-19		●					●	6.5	13
		●	●					-9	-18	●	●					●	7	14
				●				-8.5	-17			●				●	7.5	15
		●		●				-8	-16	●		●				●	8	16
			●	●				-7.5	-15	●	●					●	8.5	17
		●	●	●				-7	-14	●	●	●				●	9	18
					●			-6.5	-13				●			●	9.5	19
		●			●			-6	-12	●			●			●	10	20
			●		●			-5.5	-11		●		●			●	10.5	
		●	●	●				-5	-10	●	●					●	11	
				●	●			-4.5	-9			●	●			●	11.5	
		●	●	●				-4	-8	●		●	●			●	12	
			●	●	●			-3.5	-7		●	●	●			●	13	
		●	●	●	●			-3	-6	●	●	●	●			●	14	
					●			-2.5	-5					●		●	15	
		●			●			-2	-4	●				●		●	16	
			●		●			-1.5	-3		●			●	●	●	17	
		●	●		●			-1	-2	●	●			●	●	●	18	
				●	●			-0.5	-1			●		●	●	●	19	
		●	●	●	●			0	0	●		●	●	●		●	20	
			●	●	●	●		0.5	1		●	●	●	●		●	21	
		●	●	●	●	●		1	2	●	●	●	●	●		●	22	
				●	●			1.5	3				●	●	●	●	23	
		●		●	●			2	4	●			●	●	●	●	24	
			●	●	●			2.5	5		●		●	●	●	●	25	
		●	●	●	●			3	6	●	●		●	●	●	●	26	
				●	●	●		3.5	7			●	●	●	●	●	27	
		●	●	●	●			4	8	●		●	●	●	●	●	28	
			●	●	●	●		4.5	9		●	●	●	●	●	●	29	
		●	●	●	●	●		5	10	●	●	●	●	●	●	●	30	

		Input Signal End Value														
		DIP S1			DIP S2			DIP S1			DIP S2					
8	9	10	1	2	3	V	mA	8	9	10	1	2	3	V	mA	
						10	20							●	5.5	11
●						-10	-20	●						●	6	12
	●					-9.5	-19		●					●	6.5	13
●	●					-9	-18	●	●					●	7	14
		●				-8.5	-17			●				●	7.5	15
●		●	●			-8	-16	●		●				●	8	16
	●	●	●			-7.5	-15	●	●	●				●	8.5	17
●	●	●				-7	-14	●	●	●				●	9	18
			●			-6.5	-13				●			●	9.5	19
●			●			-6	-12	●			●			●	10	20
	●		●			-5.5	-11		●		●			●	10.5	
●	●	●				-5	-10	●	●					●	11	
		●	●			-4.5	-9			●	●			●	11.5	
●	●	●				-4	-8	●		●	●			●	12	
	●	●	●			-3.5	-7		●	●	●			●	13	
●	●	●	●			-3	-6	●	●	●	●			●	14	
				●		-2.5	-5					●		●	15	
●			●			-2	-4	●				●		●	16	
	●		●			-1.5	-3		●			●	●	●	17	
●	●		●			-1	-2	●	●			●	●	●	18	
		●	●			-0.5	-1			●		●	●	●	19	
●	●	●				0	0	●		●		●	●	●	20	
	●	●	●	●		0.5	1		●	●		●	●	●	21	
●	●	●	●	●		1	2	●	●	●		●	●	●	22	
			●	●		1.5	3				●	●	●	●	23	
●		●	●	●		2	4	●			●	●	●	●	24	
	●	●	●	●		2.5	5		●		●	●	●	●	25	
●	●	●	●	●		3	6	●	●		●	●	●	●	26	
		●	●	●	●	3.5	7			●	●	●	●	●	27	
●	●	●	●	●		4	8	●		●	●	●	●	●	28	
	●	●	●	●		4.5	9		●	●	●	●	●	●	29	
●	●	●	●	●		5	10	●	●	●	●	●	●	●	30	

### DIP Switch S2

Output Signal					Measuring Range Underflow		Measuring Range Overflow		Digital Output DO Signaling		
4	5	6	7	8					9	10	
					Lower limit of output range - 5% *		Upper limit of output range + 2,5% *				DO not active
●					Lower limit of output range		Upper limit of output range + 2,5%		●		GND → U <sub>N</sub> (switching)
●				●	Lower limit of output range		Upper limit of output range		●	●	U <sub>N</sub> → GND (switching)
●	●				Lower limit of output range		Upper limit of output range				
●	●	●			Lower limit of output range		Upper limit of output range				
●	●	●		●	Lower limit of output range		Upper limit of output range				

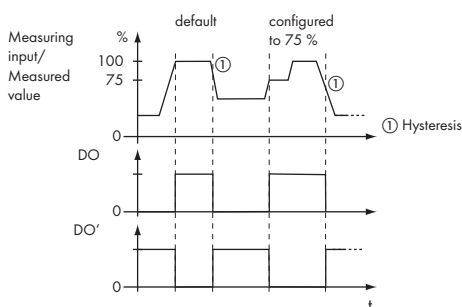
\*acc. to NAMUR NE 43

### 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)



### Default Settings

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

Input	
Input signal	Voltage
Start value	0 V
End value	10 V
Output	
Output signal	Current
Start value	0 mA
End value	20 mA
Measuring range underflow	0 mA
Measuring range overflow	20.5 mA
<b>Digital output DO</b>	not active