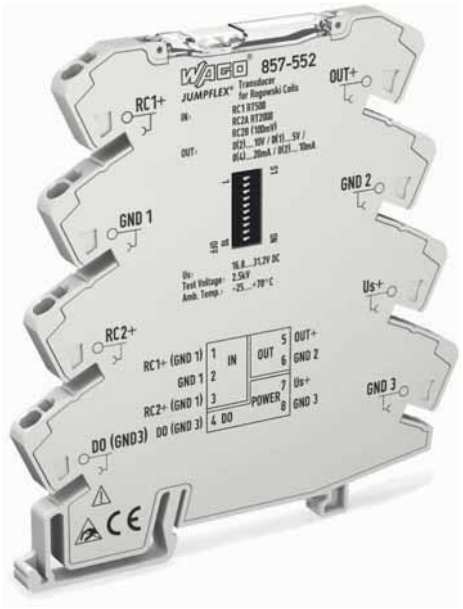
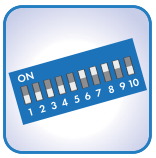
JUMPFLEX® Transducers

Rogowski Transducer



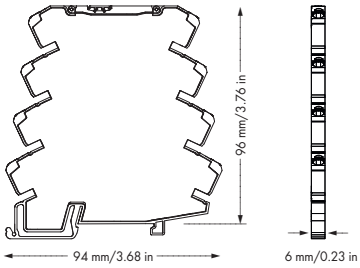
Configuration via:

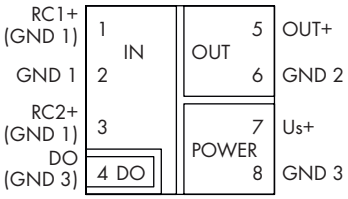


DIP Switches

PC Configura-tion Software

Smartphone App





Short description:
The Rogowski transducer records RMS values from alternating currents via a Rogowski coil, converting the input signal into a standard analog signal on the output side.

Features:
- PC configuration interface
- Supports different types of Rogowski coils
- Digital switching output (configurable switching thresholds)
- True RMS measurement (TRMS)
- Configurable output signal
- Configuration via DIP switch
- Safe 3-way isolation with 2.5 kV test voltage acc. to EN 61140
- No current bar interruption during installation
- Measuring range overflow indication

Description	Item No.	Pack. Unit
Height from upper-edge of DIN 35 rail	**857-552**	1
Rogowski-Messumformer		

Technical Data

Configuration:	
Configuration	DIP switches, PC configuration software, smartphone app
Input:	
Input signal	RC1 500 A: Sensitivity 10.05 mV *
	RC2A 2000 A: Sensitivity 40.2 mV *
	RC2B: Sensitivity 100 mV *
	50/60 Hz sinusoidal and distorted sinusoidal signals (e.g. leading edge and
Frequency range	16 Hz ... 1000 Hz
Response threshold	< 1 % (of measuring range nominal value)
Output:	
Output signal	**Voltage:**
	0 ... 5 V, 1 ... 5 V, 0 ... 10 V, 2 ... 10 V *
	Current: 0 ... 10 mA, 2 ... 10 mA,
	0 ... 20 mA, 4 ... 20 mA *
Overcurrent	0 % or +5 % (e. g. 10.5 V/21 mA)
Measuring range overflow/underflow	0 % or +2.5 %
Load impedance	Current ≤ 600 Ω, Voltage ≥ 1000 Ω
Measuring procedure	True RMS (TRMS)
Filter (T_{10-90})	600 ms (50 Hz)
Output - Digital	
Max. switching voltage	Supply voltage applied
Max. continuous current	500 mA
General specifications:	
Voltage supply V_S	24 VDC
Supply voltage range	16.8 V ... 31.2 V
Current consumption at 24 V DC	≤ 40 mA
Resolution	500 A measuring range: 250 mA,
	2000 A measuring range: 1000 mA
Measuring procedure	True RMS (TRMS)
Response time	1.5 ms + signal cycle duration
Max. operating frequency	< 2 kHz
Response time (T_{10-90})	max. 60 ms

Technical Data

General specifications:	
Linearity error	≤ 0,1 %
Temperature coefficient	≤ 0.01 %/K
Measurement error	< 1 %
Line length	< 3 m (to the Rogowski coil)
Environmental requirements:	
Ambient operating temperature	-25 °C ... +70 °C (at rated current)
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	36.2 g
Standards and approvals:	
Conformity marking	CE
UL 508	(pending)
ANSI/ISA 12.12.01	(pending)
Shipbuilding	GL (pending)
Accessories	Rogowski Coils:
	RT 500 (1.5 m): 855-9100/500-0000
	RT 500 (3 m): 855-9300/500-0000
	RT 2000 (1.5 m): 855-9100/2000-0000
	RT 2000 (3 m): 855-9300/2000-0000
(* Additional setting options via PC configuration software or smartphone app)	

DIP Switch Adjustability

● = ON

857-552

DIP Switch S1

Input Signal		RC Configuration Input		Filter		Output Signal			
1		2		3		4	5	6	
	RC1 = RT500 from LEM		RC2 = RT2000 from LEM		off				0 ... 20 mA
●	RC2	●	RC2 = 100 mV eff. => 1 kA	●	active		●		4 ... 20 mA
						●			0 ... 10 V
						●	●		2 ... 10 V
								●	0 ... 10 mA
							●	●	2 ... 10 mA
						●		●	0 ... 5 V
						●	●	●	1 ... 5 V

Filter

The filter function allows a low-pass filter to be switched on in order to mask or "smooth out" oscillating measured values (e.g., during trailing edge flows).

DIP Switch S1

7	8	Measuring Range Underflow	Measuring Range Overflow	Overcurrent (Input Signal - End Value + 20%)	9	10	Digital Output DO Signaling
		(+20 %)	Upper limit of measuring range +2.5 %*	Upper limit of measuring range +5 %*			DO not active
●		Lower limit of measuring range	Upper limit of measuring range +2.5 %	Upper limit of measuring range +5 %		●	DO U_s+ switching
	●	Lower limit of measuring range	Upper limit of measuring range	Lower limit of measuring range	●	●	DO GND switching
●	●	Lower limit of measuring range	Upper limit of measuring range	Upper limit of measuring range			

*acc. to NAMUR NE 43

Digital Output DO/Signaling

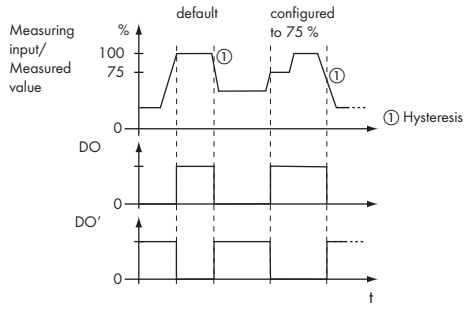
The digital output (DO) signals error messages and can be configured as follows: 24 V → 0 V/0 V → 24 V.

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).

Default Setting

All DIP switches are in "OFF" position for delivery.	
Input	
Input Signal	RC1 500 A
Measuring Method	Mean square value
Filter	not active
Output	
Output Signal	0 ... 20 mA
Measuring Range Underflow	0 mA
Measuring Range Overflow	20.5 mA
Overcurrent	21 mA
Digital Output DO	not active

Switching Behavior, Digital Output (DO)



Application example: