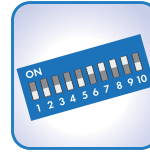




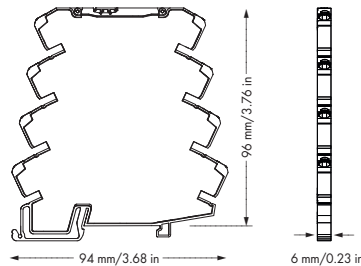
**Configuration via:**



## DIP Switches



PC Configura-  
tion Software

Smartphone  
App

|                 |   |    |       |       |
|-----------------|---|----|-------|-------|
| RC1+<br>(GND 1) | 1 | IN | 5     | OUT+  |
| GND 1           | 2 |    | 6     | GND 2 |
| RC2+<br>(GND 1) | 3 | DO | 7     | Us+   |
| DO<br>(GND 3)   | 4 |    | 8     | GND 3 |
|                 |   |    | POWER |       |

**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

|                                     |   |
|-------------------------------------|---|
| <b>Configuration:</b>               |   |
| Configuration                       | DIP switches, PC configuration software, smartphone app   |
| <b>Input:</b>                       |   |
| Input signal                        | RC1 500 A: Sensitivity 10.05 mV *<br>RC2A 2000 A: Sensitivity 40.2 mV *<br>RC2B: Sensitivity 100 mV *<br>50/60 Hz sinusoidal and distorted<br>sinusoidal signals (e.g. leading edge and |
| Frequency range                     | 16 Hz ... 1000 Hz   |
| Response threshold                  | < 1 % (of measuring range nominal value)  |
| <b>Output:</b>                      |   |
| Output signal                       | <b>Voltage:</b><br>0 ... 5 V, 1 ... 5 V, 0 ... 10 V, 2 ... 10 V *<br><b>Current:</b> 0 ... 10 mA, 2 ... 10 mA,<br>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 <sub>10,90</sub> )        | 600 ms (50 Hz)  |
| <b>Output - Digital</b>             |   |
| Max. switching voltage              | Supply voltage applied  |
| Max. continuous current             | 500 mA  |
| <b>General specifications:</b>      |   |
| Voltage supply V <sub>s</sub>       | 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,<br>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 <sub>10,90</sub> ) | max. 60 ms  |

## Technical Data

|   |   |
|---|---|
| <b>General specifications:</b>  |   |
| Linearity error   | ≤ 0,1 %   |
| Temperature coefficient   | ≤ 0.01 %/K  |
| Measurement error   | < 1 %   |
| Line length   | < 3 m (to the Rogowski coil)                        |
| <b>Environmental requirements:</b>  |   |
| Ambient operating temperature   | -25 °C ... +70 °C (at rated current)                |
| Storage temperature   | -40 °C ... +85 °C                                   |
| <b>Safety and protection:</b>   |   |
| Test voltage<br>(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 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                               |
| <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  | 36.2 g  |
| <b>Standards and approvals:</b>   |   |
| Conformity marking  | CE  |
| Ⓢ UL 508  | (pending)   |
| Ⓢ ANSI/ISA 12.12.01   | (pending)   |
| Shipbuilding  | Ⓢ (pending)   |
| <b>Accessories</b>  |   |
|   | 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

|   |   | Measuring Range Underflow      | Measuring Range Overflow               | Overcurrent<br>(Input Signal - End Value + 20%) |   |    | Digital Output DO Signaling   |
|---|---|--------------------------------|--|---|---|----|-------------------------------|
| 7 | 8 |                                |  |   | 9 | 10 |                               |
|   |   | (+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 <sub>s</sub> + 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

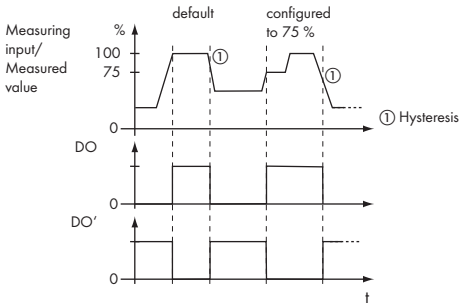
The digital output (DO) signals error messages and can be configured as follows: 24 V → 0 V/0 V → 24 V.

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. |                   |
| <b>Input</b>   |                   |
| Input Signal   | RC1 500 A         |
| Measuring Method                                     | Mean square value |
| Filter   | not active        |
| <b>Output</b>  |                   |
| 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:

