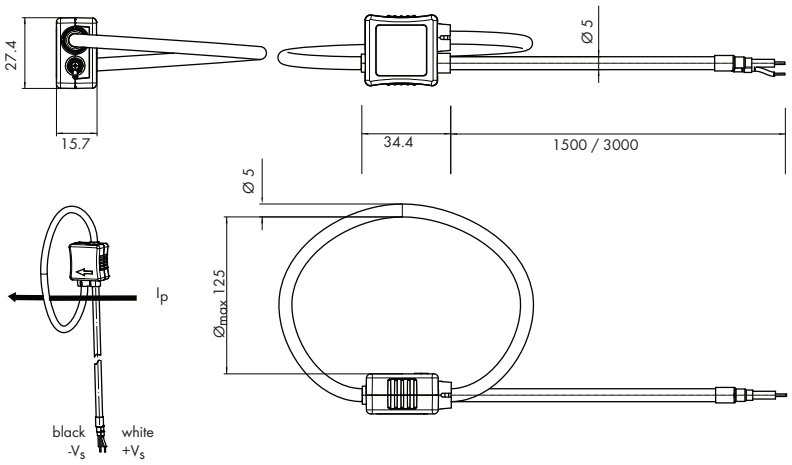
Rogowski Coils RT 2000



Output voltage (open output, no load)

- dynamic	$V_{out} = M \times dI_p/dt$
- sinusoidal signal	$V_{out} = 2 \times \pi \times M \times f \times I_p$ AC Example: $V_{out} = 2 \times \pi \times 0.064\ \mu H \times 50\ Hz \times 2000\ A = 40.2\ mV$

Short description:
The Rogowski coil is a closed-air coil with non-magnetic split core, placed around a conductor or a current bar.
The magnetic field produced by the AC current flowing through the conductor induces an output voltage in the coil.
This measurement procedure provides galvanic isolation between the primary circuit (power) and secondary circuit (measurement).
Easy placement of the Rogowski coils allows existing systems to be retrofitted without time-consuming installation or process interruption.
The Rogowski coil can be used together with the 857-552 Rogowski Signal Conditioner.

Features:
- Split-core style coil for easy installation
- Ø 125 mm coil aperture for non-contact measurement
- 1.5 m or 3 m output cable
- Insulated plastic case to UL 94-V0

Description	Item No.	Pack. Unit
Rogowski coil RT 2000,		
1.5 m output cable	**855-9100/2000-000**	3
Rogowski coil RT 2000,		
3 m output cable	**855-9300/2000-000**	3

Approvals

Conformity marking	CE
Standards/Specifications	IEC 61010-1:2001 (2nd edition), IEC 61010-2-032:2002, IEC 61010-031:2002 + A1:2008

Technical Data

Electrical data	
Primary rated current I_{pN}	2000 A_{rms}
Coil inductance (± 5 %)	190 µH
Coil resistance	60 Ω (at 20 °C ambient operating temperature, typ.)
Transfer ratio M	0.064 µH (WAGO provides uncalibrated coils with 5 % tolerance)
Output signal	Example shown above 40.2 mV at I_{pN} = 2000 A, sinusoidal, 50 Hz (open output, no load)
Max. operating frequency	500 kHz (open output, no load)

Technical Data

Accuracy and dynamic performance:	
Linearity error	none
Temperature coefficient	30 ppm/K, related to transfer ratio M
Positioning error	855-9100/2000-000: max. 0.65 % 855-9300/2000-000: max. 0,80 % (considering a primary conductor of at least Ø 15 mm perpendicular to the coil)
Safety and protection:	
Nominal isolation voltage	300 V_{rms} (between primary conductor and ground)
Voltage for isolation test	3.5 kV_{rms} AC / 50 Hz / 1 min
Impulse withstand voltage (1.2/50 µs)	6.5 kV
Adjacent contacts	6 mm / 6 mm
Comparative Tracking Index (CTI, group I)	600 V (plastic parts)
Degree of protection	IP2X
General specifications:	
Cable length	855-9100/2000-000: 1.5 m 855-9300/2000-000: 3 m
Ambient operating temperature	-10 °C ... +65 °C
Storage temperature	-25 °C ... +70 °C
Weight	90 g