

ROGOWSKI

CURRENT TRANSFORMER

Rogowski Coil



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Description

The Rogowski sensor is a current meter that, by not having ferromagnetic material in its core, is characterized by its non-saturation capacity, which is one of its main advantages over traditional current transformers (CTs). Other characteristics presented by this sensor include: flexible material; good insulation; compact size; high linearity; high operating frequency band; applications in wide ranges of current levels; good signal-to-noise ratio.

Benefits:

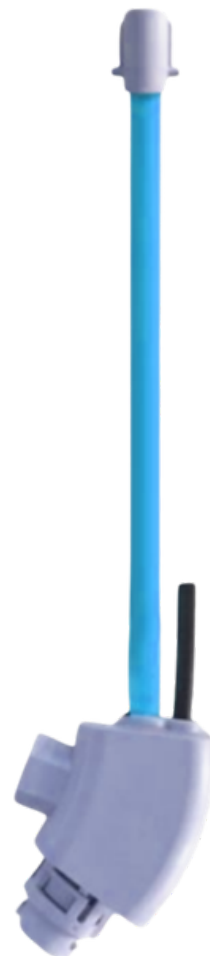
- Suitable for measurement in combination with portable devices;
- Available in various sizes, being adaptable to the project;
- Extremely reliable solution for current measurement and can be used in various cases where the traditional current transducer is not the ideal solution;
- Shielded against the influence of external magnetic fields, therefore, it ensures stable measurement from low currents to hundreds of kA;
- Not damaged by large overloads.



Operation

Rogowski coils utilize the principle of electromotive force induction based on the variation of magnetic flux generated by the flow of current in a circuit. These devices have a hollow core and encircle the conductors through which the current passes. The passage of current and consequent variation of magnetic flux induces a voltage in the Rogowski coil, which transfers this voltage through its conductors as a reading and measurement element.

The main advantage is that, by having a hollow core, this type of sensor does not saturate and its measurement is non-intrusive, meaning it can be installed in established circuits. However, the downside is that this device only works in AC circuits as it requires the variation of magnetic flux to operate.



Technical Specifications

Reference rated current	1000 A	5000 A
Cable lenght	2 m	2 m
Gauge	12 mm	12 mm
Window size	100 mm	200 mm
Measurement accuracy	$\pm 0,5\%$	$\pm 0,5\%$
Phase error (50/60 Hz, rated current; meter error lower than sensor error)	$\leq 0.5^\circ$	$\leq 0.5^\circ$
Transformation Ratio	333/400 or 85/100 mV/kA (50/60 Hz)	333/400 or 85/100 mV/kA (50/60 Hz)

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