

DESCRIPTION

MFC150 Series flexible current transducers operate based on the Rogowski principle and are particularly well suited for measurement in combination with portable devices. These coils are available in different sizes and can be supplied according to customer’s design. Due to their design-specific features, Rogowski coils are an extremely flexible solution for current measurement and can be used in a number of cases where a traditional current transducer is not an option.

MFC150 coil is provided with a shield that negates the influence of external magnetic fields allowing for ideal accuracy from low currents to hundreds of kiloamps.



FEATURES

- High linearity
- Wide dynamic range
- Very useful with large wire bundles or awkwardly-shaped conductors or in places with limited access.
- Cannot be damaged by large overloads.
- Light weight – can be suspended on the conductor being measured.

Rogowski coils have been used for the detection and measurement of electric currents for several decades. They are based on a simple principle: an “air-cored” coil is placed around the conductor in a toroidal fashion and the magnetic field produced by the current induces a voltage in the coil. The voltage output is proportional to the rate of change of current. This voltage is integrated, thus producing an output proportional to the current.

By using precision winding techniques specially developed for the purpose, the coils are manufactured so that their output is not influenced by the position of the conductor within the toroid.

Rogowski coil current transducers are used for AC measurement applications.

They can be used similarly to current transformers but for many applications they have considerable advantages:

The transducer does not measure DC, but unlike a current transformer it can carry out accurate measurement of AC components even if there is a large superimposed DC component. This feature is particularly useful for measuring ripple currents in battery charging circuits.

A Rogowski coil current measuring system consists of the combination of a coil and conditioning electronics.

Rogowski coils must be connected to an electronic integrator for 90° phase shift compensation and frequency equalization.

APPLICATIONS

- Measuring devices, lab instrumentation
- Power monitoring & control systems
- DC ripple measurement
- Harmonics and transients monitoring
- Very high current monitoring

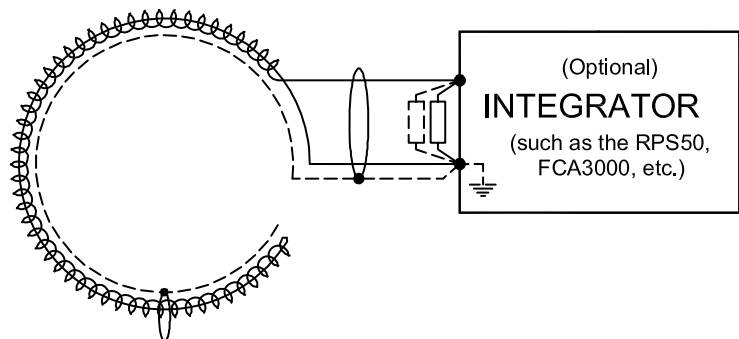
BENEFITS

- By design, flexible Rogowski coils allow for installation over various conductor sizes or grouped cables.
- The coil output gives a low voltage signal; therefore there is no danger from an open-circuited secondary. This feature makes Rogowski transducers extremely suitable for temporary measurements.
- Unlike traditional current transformers with magnetic cores, the Rogowski coil is a non-intrusive transducer. Since it has no hard core, it draws no power from the main circuit carrying the current to be measured.
- The absence of a magnetic core allows for a wide frequency response up to hundreds of kHz. This makes the MFC150 Series particularly suitable for measurement of harmonic content and transients.

ORDERING INFORMATION

Example: 35” coil with 100mV/1kA output for use with an RPS50.

17645



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