

COMPARISON BETWEEN ROGOWSKI COILS AND OTHER CURRENT-MEASURING METHODS

Rogowski Coils and Current Transformers

Rogowski coil advantages:

- * Measures over a very wide current range with a single coil
- * Wider bandwidth for high and low frequencies
- * Lower harmonic distortion
- * Does not load the circuit
- * Will not saturate if a DC component is present
- * No danger from open-circuit secondary
- * Better transient response
- * Compact and lightweight especially for measuring very large currents
- * Not damaged by large overloads
- * Can be made in a 'split' version without sacrificing accuracy or phase integrity.

Current Transformer Advantages:

- * Well-established technology
- * Cheaper for some low-current applications
- * Does not require a power supply

Rogowski Coils and Hall-effect Transducers

Rogowski coil advantages:

- * Measures over a very wide current range with a single coil
- * Withstands large sustained overloads without damage
- * Does not load the circuit being measured
- * Transducer output is less noisy
- * Lower power consumption
- * More compact especially for large conductors and large currents

Hall-Effect Transducer Advantages:

- * Measures down to DC

Rogowski Coils and Resistive Shunts

Rogowski coil advantages:

- * No direct electrical contact with the conductor
- * Much more compact for high current measurements
- * Easy to calibrate accurately for very large currents
- * Does not heat up
- * Can withstand large overloads without damage and with rapid recovery
- * Does not load the circuit
- * Installation does not need modification to the busbars

Resistive Shunt Advantages:

- * Measures down to DC
- * Better for low-current measurements