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

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