

Rogowski Coil Current Sensor

The YUANXING iProbe Series of flexible, split-core Rogowski Coil current sensors are designed for fast and easy installation on existing primary conductors/ BUS bars. The split coil design permits the non-contact AC current or DC current pulse measurement without requiring that the primary conductor be taken offline and disconnected for the current sensor installation. This method provides for the safe, easy, and portable measurement of current.



A current sensor that is based upon the Rogowski Coil sensor principle offers significant advantages over the standard magnetic core current transformer products.

- The sensor does not incorporate a magnetic core which can saturate when the primary conductor current significantly exceeds the rated primary current of the sensor. Magnetic core saturation is the point at which the incremental increase in magnetic flux is not reflected in a proportional increase in secondary signal output.
- Lacking a magnetic core, energy is not stored in the sensor. Opening the sensor while the primary conductor is live will not result in the release of stored energy.

Features:

Flexible loop able to accommodate different primary conductor cross section configurations.

Wide AC measurement operating range and DC pulse measurement.

Wide frequency response range.

Cable Termination: BNC connector or Stripped & tinned

IP66

CAT III, 600V

Safety Standards: EN61010-1, EN61010-2-032

RoHS Compliant.



Specifications:

Measurement Range: 0.1A to 300kA

Frequency: 1 Hz to 20MHz

Operating Voltage: 600V_{RMS} maximum

Dielectric Withstand: 5,000 VAC (coil)

Operating Temperature: -25°C to +70°C

Construction:

- Coil – Thermoplastic rubber coating
- Coupling – PA6, polyamide (Black), flame retardant rating UL 94 V-0

Output Cable: 2.0m (6.6FT), 600V

- PVC insulated reinforced coaxial cable or
- PVC insulated jacket cable with shielding.

Performance:

Sensor Output – 7.3mm: 0.041mV/ A @ 50Hz
0.049m V/ A @ 60Hz

Sensor Output – 12mm: 0.088mV/ A @ 50Hz
0.105m V/ A @ 60Hz

Accuracy: 0.5%

Linearity: 0.2%

Primary Conductor Position Accuracy ± 1.5%

Temperature Drift: ± 0.08%/ °C maximum
(-25 °C to +70 °C)

Available Models:

Model	Coil OD	iProbe Opening	Secondary Output
iProbe-R2060	7.3mm	60mm/ 2.36"	0.041mV/ Ampere
iProbe-R2080	7.3mm	80mm/ 3.15"	0.041mV/ Ampere
iProbe-R1180	12mm	180mm/ 7.09"	0.088mV/ Ampere
iProbe-R1200	12mm	200mm/ 7.87"	0.088mV/ Ampere

Custom opening sizes can be designed and manufactured to meet the specific application requirements. Please provide the specific application requirements to Application Engineering at engineering@tichenassociates.com or at the address below.

Accuracy Relative to Primary Conductor Position:



Conductor Position	Typical Error(%)
● Adjacent to the inside coil edge	< 1%
● Adjacent to the clip together mechanism	< 2%
● Central in the Rogowski loop	0.2%

Options:

Voltage integrator option is available with a variety of power supply options.

Application Notes are available by contacting Application Engineering at engineering@tichenassociates.com or at the address below.

Technical Support: For a no obligation technical evaluation of specific performance requirements, please provide the specific requirements to ApplicationEngineering@tichenassociates.com or the address below.