

## Shielded, Flexible, Split Rogowski Coil Current Sensor

The **JRF-xS** series of shielded, flexible, split Rogowski Coil current sensors are designed for fast and easy installation on existing primary conductors/ BUS bars. The split design permits the non-contact AC current or 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 principle offers significant advantages over the standard magnetic core current transformer products. Specifically, since the sensor does not incorporate a magnetic core, magnetic core saturation (the point where incremental increases in magnetic flux are not reflected in proportional increases in secondary signal outputs) is avoided.

### Features:

- Very wide range of AC current and/ or current pulse inputs.

### Specifications:

- Rated Input: < 1kA to 100kA
- Frequency: 10 Hz to 20 kHz.
- Output Sensitivity Tolerance:
  - $\pm 5\%$  maximum (uncalibrated).
  - $\pm 0.5\%$  of reading @ +25°C (calibrated through the voltage integrator).
- Primary Conductor Position Sensitivity:  $\pm 2\%$  maximum.
- Influence of External Field:  $\pm 1.5\%$  maximum.
- Working Voltage: 1000V<sub>RMS</sub> or 1000 VDC.
- Dielectric Surge Withstand: 7.4kV<sub>RMS</sub> for 1 minute (coil closed).
- Operating Temperature: -20°C to +85° C.
- Lead Wire: Shielded cable, 24 AWG (White/ Black), UL 2586, 600V, 1.0m (3.3 FT).

- Construction:
  - Coil - Thermoplastic rubber.
  - Coupling - Thermoplastic rubber (Black), Polypropylene, flame retardant rating UL 94 V-0 (Black).

- UL Certified (File #E344623)

- RoHS Compliant



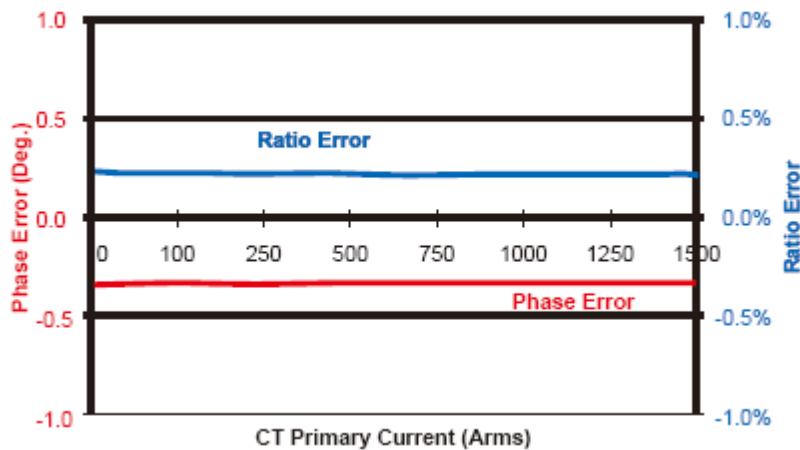
### Performance:

- Output:
  - JRF-1S: 0.338mV/ A @ 50Hz  
0.404mV/ A @ 60Hz
  - JRF-2S: 0.344mV/ A @ 50Hz  
0.412mV/ A @ 60Hz
  - JRF-3S: 0.346mV/ A @ 50Hz  
0.415mV/ A @ 60Hz
- Accuracy: < 1% error.
- Phase Shift: < 1° @ 50/60Hz (Typical: < 0.5°).
- Linearity:  $\pm 0.2\%$  of reading of reading from 10% to 100% of range.

**Outline Dimensions:**

Model	A	B	C	D	E
JRF-1S	12.0cm (4.7")	14.5cm (5.7")	41.5cm (16.3")	2.2cm (0.9")	1.2cm (0.5")
JRF-2S	19.0cm (7.5")	20.5cm (8.1")	61.0cm (24.0")		
JRF-3S	30.5cm (12.0")	33.5cm (13.2")	102.5cm (40.4")		

**Typical Performance:**



**Options:**

- The body of the Rogowski Coil current sensor is available in; red, blue or black.
- The JRF333 models incorporate the JRF Rogowski Coil current sensor with a voltage integrator.

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