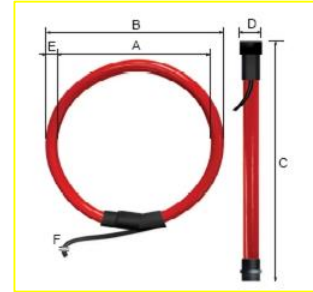


Flexible, Split Rogowski Coil Current Sensor

The JRF series of 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 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 principle offers significant advantages over the standard magnetic core current transformer products.

- The sensor does not incorporate a magnetic core. Therefore magnetic core saturation (the point at which the incremental increases in magnetic flux is not reflected in proportional increases in secondary signal outputs) is applicable.
- Energy is not stored in the sensor, eliminating the danger from an open secondary circuit.

Features:

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

Specifications:

- Rated Input: < 1A to 10kA.
- Frequency: 10 Hz to 20 kHz.
- Output Sensitivity Tolerance:
 - $\pm 5\%$ maximum (uncalibrated).
 - $\pm 0.5\%$ of reading @ $+25^\circ\text{C}$ (calibrated through the voltage integrator).
- Primary Conductor Position Sensitivity: $\pm 2\%$ maximum.
- Influence of External Field: $\pm 2.0\%$ maximum.
- Working Voltage: $1000V_{\text{RMS}}$ OR 1000 VDC .
- Dielectric Surge Withstand: $5kV_{\text{RMS}}$ for 1 minute (coil closed).
- Operating Temperature: -20°C to $+60^\circ\text{C}$.
- 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).

- CAT III
- UL Certified (File #E344623)
- RoHS Compliant.

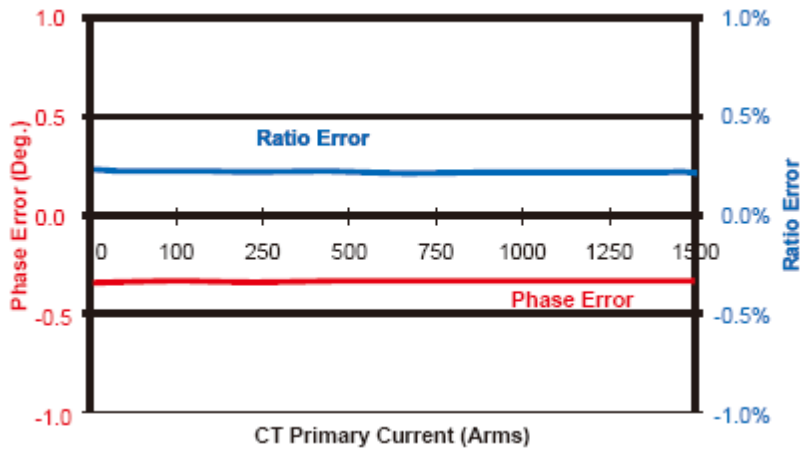
**Performance:**

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

Outline Dimensions:

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

Typical Performance:



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%

Note that as the outside diameter of the primary conductor approaches the inside diameter of the current sensor, the current sensor accuracy will approach the calibrated value.

Options:

- The body of the Rogowski Coil current sensor is available in red, blue or black.
- The model JRF333M/MB offers the JRF sensors with voltage integrator.

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.