Flexible, Split Rogowski Coil Current Sensor w Voltage Integrator

The **JRF MOI PU(C)** series of flexible, split Rogowski Coil current sensors with voltage integrator 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.

The incorporation of the voltage integrator into the current sensor design provides a highly accurate direct replacement for traditional current transformer technology sensors.

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 not 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: 250A to 6,000A.
- Frequency: 50/60Hz.
- Secondary Output: 0.333V_{AC} @Rated Current (1.300V_{AC} maximum).
- Primary Conductor Position Sensitivity: ± 1% maximum.
- Influence of External Field: ± 1.5% maximum.
- Working Voltage: 1000V_{RMS} or 1000 VDC.
- Dielectric Surge Withstand: 5kV_{RMS} for 1 minute (coil closed).
- Operating Temperature: -25°C to +65° C.
- Lead Wire: Shielded cable, 24 AWG, 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).
- Power Requirements:
  - Wide range input + 24 V_{DC}
  - 70 mA maximum.
- CAT III, 1000V_{AC}, CAT IV 600V_{AC}
- UL Certification pending
- RoHS Compliant.

Performance:

- Accuracy: < 1% typical @ 2% to 120% of Rated Current.
- Phase Shift: < 0.5° @ rated current (50/60Hz).
- Linearity: ± 0.2% of reading from 2% to 120% of range.

83 East Road
Tacoma, Washington 98406-7630
USA

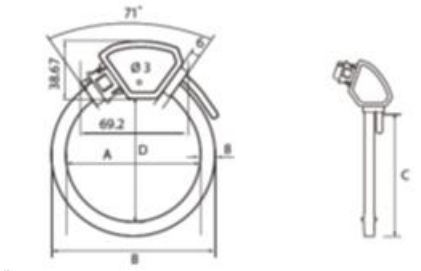
T.I. Chen Associates LLC.
http://www.TIChenAssociates.com

Telephone: 253.678.2661
FAX:206.350.6482
sales@tichenassociates.com

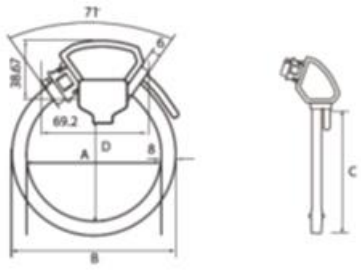
Standard Rated Primary Input Options:

250A	300A	400A	500A	600A	800A
1,000A	1,200A	1,500A	2,000A	2,400A	2,500A
3,000A	4,000A	5,000A	6,000A		

Outline Dimensions:



JRF MOI-xxxxPU

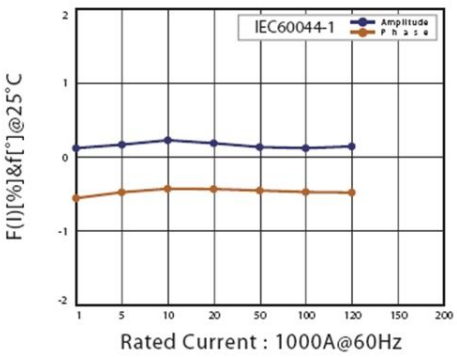


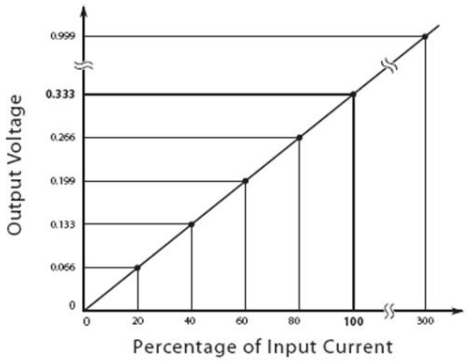
JRF MOI-xxxxPUC

Model	A	B	C	D
JRF MOI xxxxPU-80	80mm (3.1”)	96mm (3.8”)	285mm (11.2”)	80mm (3.1”)
JRF MOI xxxxPU-115	115mm (4.5”)	131mm (5.2”)	385mmcm (15.2”)	115mm (4.5”)

NOTE: The difference between the model **JRF MOI PU** and the model **JRF MOI PUC** is that the model JRF MOI PUC incorporates a post for securing the primary conductor to the bottom of the “yoke/ voltage integrator”.

Typical Performance:



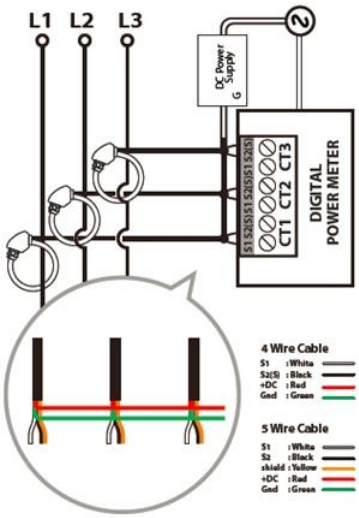


Accuracy Relative to Primary Conductor Position:

Conductor Position	Typical Error(%)
Adjacent to the inside coil edge	< 0.5%
Adjacent to the clip together mechanism	< 0.5%
Central in the Rogowski loop	0.1%

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.

Installation:



- "**P**" (RED) – Connect to power source, +24 V_{DC} ± 5%.
- "**S1**" (WHITE) – Secondary output of sensor, return is **S2**.
- "**S2**" (BLACK) – Return.
- "**Gnd**" (GREEN)
- "**Shield**" (YELLOW)

Options:

1) The body of the Rogowski Coil current sensor is available in red, blue or black.

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