

CTRC Series Rogowski Coil Current Transformers

Flexible, Opening-type AC Current Sensor



Easier AC Current Measurement

The CTRC Rogowski coil current transformers are accurate, flexible, rope-like current sensors that can be installed around conductors. They greatly simplify AC current measurements of circuits where traditional split-core and solid-core CTs are difficult to use. With its flexible design, the CTRC is perfect for large bus bars and irregular-shaped conductor bundles. In addition, the coil's small profile allows it to fit into tight spaces where rigid CTs won't fit.

Fully Compatible with WattNode® Meters

Sold individually, the CTRC coils can be used for single-phase and three-phase services. The output of the CTRC's flexible coil is connected to a conditioning circuit, where it is integrated and amplified to a 0.333 Vac signal which is compatible with all WattNode meters.

Complete Solution

Four standard lengths are offered covering various conductor sizes and currents up to 6000 Amps. The 3 inch diameter coil is only 0.3 inches thick which makes it ideal for crowded residential panels.

Specifications

All measurements at 25° C and 60 Hz unless otherwise noted

- **Type:** Flexible Rogowski coil current transformer supplied with conditioning circuit
- **Accuracy:** $\pm 1.0\%$ of reading from 5% to 120% of rated current
- **Conductor Position Sensitivity:** $\pm 1.5\%$ at edge
- **Phase Angle:** ± 0.50 degrees (30 minutes) from 5% to 120% of rated current
- **Frequency:** 50/60 Hz nominal, (safe to operate at any frequency)
- **Maximum Voltage:** 600 Vac
- **Maximum Over Range Current:** 10,000 amps
- **Safety Standards:** CAT III, 600 Vac
- **UL Recognized:** file number E344623 (PICQ2), UL standard 61010B-1
- **Conditioning Circuit Output:** 0.333 Vac at rated current
- **Output Wires:** 8 feet (2.4 m), 22 AWG, white / black twisted pair
- **Coil Lead Length:** 8 feet (2.4m)
- **Power Requirements:** 10-30 Vdc (12 Vdc or 24 Vdc recommended) 50 mA typical, 70 mA maximum
- **Operating Temperature:** -20° C to $+60^{\circ}$ C (-4° F to 140° F)
- **Suitable for indoor use, suitable for outdoor use when mounted in a NEMA 3R or 4 (IP 66) enclosure**

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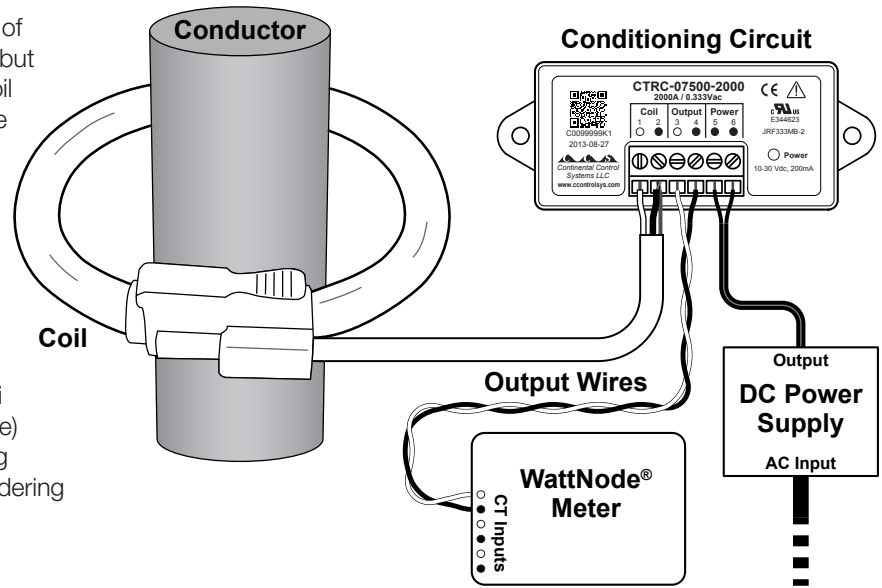
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Rogowski Coil Technology

Rogowski coil current sensors can be used in place of traditional ferromagnetic current transformers (CTs), but operate on different principles. When a Rogowski coil is installed around a conductor, current flowing in the conductor creates a magnetic field which induces a voltage in the coil proportional to the rate of change of the current in the conductor. The coil is connected to a conditioning circuit that integrates, amplifies, and scales this signal to output 0.333 Vac at the full scale current rating of the coil.

Each single-phase assembly of the CTRC Rogowski coil consists of the flexible coil (various sizes available) and the signal conditioning module. The conditioning circuit requires an external 10-30 Vdc power (see ordering information).



Ordering Information

Rogowski Coil with Conditioning Circuit (one required per phase)

Part Number	Amps at Full Load	Nominal Diameter
CTRC-03100-0250	250	3.1 inches (79 mm)
CTRC-03100-0400	400	3.1 inches (79 mm)
CTRC-03100-0600	600	3.1 inches (79 mm)
CTRC-03100-1000	1000	3.1 inches (79 mm)
CTRC-04500-1000	1000	4.5 inches (114 mm)
CTRC-04500-1600	1600	4.5 inches (114 mm)
CTRC-04500-2000	2000	4.5 inches (114 mm)
CTRC-07500-1000	1000	7.5 inches (190 mm)
CTRC-07500-1600	1600	7.5 inches (190 mm)
CTRC-07500-2000	2000	7.5 inches (190 mm)
CTRC-07500-3200	3200	7.5 inches (190 mm)
CTRC-07500-4000	4000	7.5 inches (190 mm)
CTRC-12000-2000	2000	12 inches (305 mm)
CTRC-12000-3200	3200	12 inches (305 mm)
CTRC-12000-4000	4000	12 inches (305 mm)
CTRC-12000-5000	5000	12 inches (305 mm)
CTRC-12000-6000	6000	12 inches (305 mm)



WARNING

This product can expose you to chemicals including Antimony Trioxide, which is known to the State of California to cause cancer.

For more information go to:

www.P65Warnings.ca.gov

DC Power Supply

Part Number	Type	AC Input Voltage (Nominal)	Dimension
MDR-10-12	DIN-rail power supply, For up to 12 CTRC Conditioning Circuits	85-264 Vac (100-240)@0.84amps	0.9x3.5x3.9 inches (22.5x90x100 mm)



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