

RI-CTF Series



Ø8 Screw type flexible Rogowski coil with cable tie fixings

- Measured current 1A to 500kA - High linearity
- Wide dynamic range
- Not damaged by large overloads
- Excellent degree of rejection to external current conductor
- No danger from open-circuited secondary
- Zero power consumption
- Small position error
- Soft and light, easy to install
- Long-term stability
- Wide dynamic range
- IP68 protection level

Product Description

The RI-CTF series is a new generation of flexible Rogowski coil current sensors from Rayleigh Instruments, which are especially suited to measuring in combination with portable devices. RI-CTF coils have different sizes to cope with different conductors. The new generation of coil strengthens the shielding layer and greatly reduces the influence of external magnetic fields; it can be directly connected to our rail-mounted and panel-type meters without the need for external integrators.

The RI-CTF series coils have IP68 protection grade, which is extremely suitable for outdoor use.

They can be used in similar circumstances to current transformers but for many applications they have considerable advantages.

The transducer does not measure direct currents but, unlike a current transformer, it can carry out accurate measurements of AC component even if there is a large superimposed DC component, since there is no iron core causing saturation. This feature is particularly useful for measuring ripple currents for example in battery charging systems.

Applications

- Smart meter
- Rectifier current measurement
- Arc fault current
- Power quality analysis
- Motor overload/short circuit protection
- Grid harmonic monitoring, active filter
- Large complex conductor ground fault monitoring
- Power failure indicator, transmission line fault diagnostic device, line distance measurement
- Current monitoring of power frequency and intermediate frequency welding machine
- Medium and high voltage switchgear protection system
- Capacitor discharge, lightning current detection
- Remote Terminal Unit (RTU)
- Synchronous Phasor Measurement Unit (PMU)
- Current measurement on the secondary side of the electric furnace

General

Rated current	100A, 600A, 3000A, 6000A... (Unlimited)
Ratio @ 50Hz - Calibrated (<0.5% tolerance)	..., 22.5mV/kA, 50mV/kA, 85mV/kA, 100mV/kA, ...
Ratio @ 50Hz - Uncalibrated (<0.5% tolerance)	..., 56mV/kA, 95mV/kA, 108mV/kA
Sensitivity temperature drift coefficient	Calibrated, <100ppm/°C Uncalibrated, <50ppm/°C
Internal resistance temperature drift coefficient *	Uncalibrated, <3800ppm/°C
Read Accuracy	0.5%class (Vertically centered position)
Internal resistance	50...250 Ω
Position Error **	<1%
Output on 0A (zero drift)	<0.05mV
Phase error	<0.5°(45Hz...65Hz)
Linearity	±0.1% (1%...100%)
Bandwidth(3dB)	1Hz...20kHz
Coil Section	8mm
Lead length (default)	2 meter

* The internal resistance temperature drift characteristic diagram of the coil with calibration, please contact customer service to obtain;

** The position error of the metering type RI-CTF series is less than 0.5%.

Environmental Conditions

Operating temperature range	-40°C...85°C
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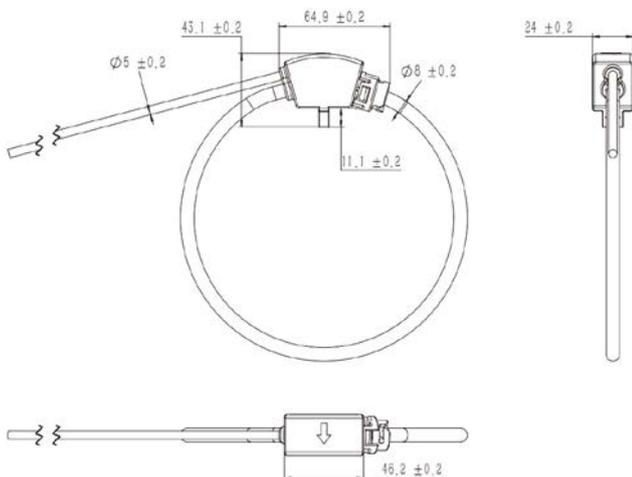
Mechanical

Coil & cable	Ø8mm Thermoplastic rubber flame retardant UL 94 V-0 rated
Couplings	PC, ABS, UL 94 V-0 rated
Colour (coil)	Orange, Yellow, Red, Green, Blue, Grey

Conformity

Certifications	RoHs 2.0, CE, IP68
Safety (applicable voltage range)	1000V CATIII, 600V CATIV

Dimensions (mm)



Information Required with Order

Window Size	Ratio	Lead Length	Model Reference
Ø50	22.5mV/kA	2M	RI-CTF050
Ø100	56mV/kA	2M	RI-CTF100
Ø150	85mV/kA	2M	RI-CTF150
Ø200	95mV/kA	2M	RI-CTF200