FQ-RCT02

FLEXIBLE ROGOWSKI COIL 6000A AC CURRENT SENSOR

The FQ-RCT02 flexible current sensor is an AC current sensor composed of a flexible Rogowski coil. The flexible current sensor permits measurements on conductors where standard clamp-on probes cannot be used. In particular, it can be installed in tight spaces, around cable bundles, around wide or large bus bars, or even wrapped around irregular shapes. It is suitable for large current measuring. They combine the benefits of a thin, flexible, clip-around Rogowski (sensor) coil with a signal conditioner providing accurate, true RMS measurement, of voltage output 100mV/kA. Models range from 1A to 100,000Arms with an accuracy of 1% of reading. Rated EN 61010, 600V CAT IV, 1000V CAT III. Low cost AC current measurement probe designed to plug into digital multimeters, oscilloscopes, power quality analysis and power or harmonic meters. The length of the rogowski coil current sensor can be selected from 40cm to 100cm. Fits around large or small conductors. Capable of getting into tight or difficult spaces. Ideal for measuring AC current in a group of conductors.

Features

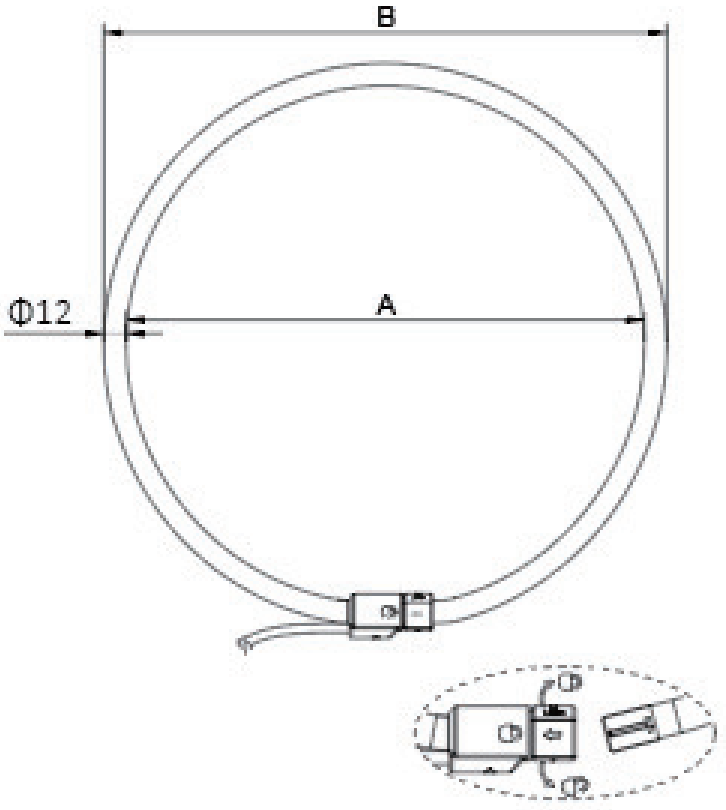
1. CNAS, UL, CE mark;
2. High times harmonic measurement;
3. Frequency 0.1Hz-10MHz Bandwidth;
4. Conforms to EN 61010, 1000V CAT III;
5. Measurement range of 1A to 100KA AC;
6. Low phase shift for power measurement;
7. High permeability magnetic material core;
8. Improved ergonomic design & easy operation;
9. 100mV/kA or 85mV/kA or 50mV/kA output signal;
10. Excellent linearity 0.2% for current measurement;
11. Holding wire diameter: ϕ305mm/190mm/120mm;
12. Designed for DMMs, oscilloscopes, recorders, power and harmonic meters;

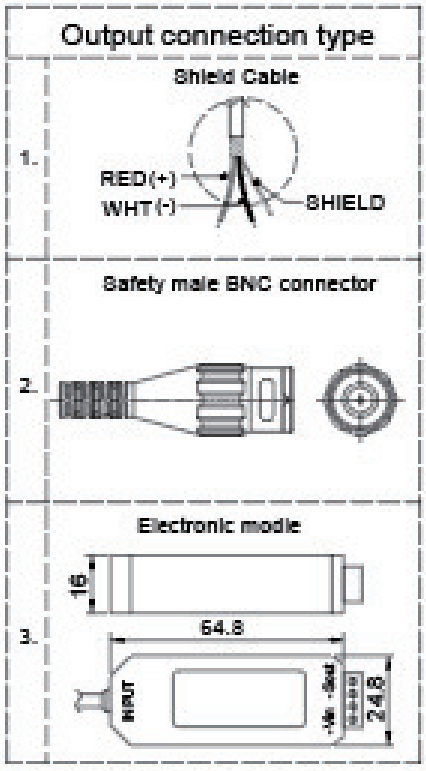
Application

1. Multimeter;
2. Oscilloscope;
3. Power meter;
4. Power recorders;
5. Energy sub-meters;
6. Power quality meter;
7. Power load monitoring;
8. Power quality analyzer;
9. Energy meter calibrator;
10. Data logging/recording;
11. Power monitoring device;
12. Power and harmonic meters;
13. Lightning current measurement;
14. Measuring around cable bundles;

Dimension

Dimensions(mm)	FQ-RCT02-120	FQ-RCT02-190	FQ-RCT02-305
Window A	120	190	305
Coil OD B	145	205	335
Coil Length C	400	600	1000
Output connection	1. UL2586-ESB 2x24AWG L=150cm (as required)		
	2. Coax terminated with safety male BNC connector L=250cm (as required)		
	3. UL2586-ESB 2x24AWG L=150cm (as required) with integrator		



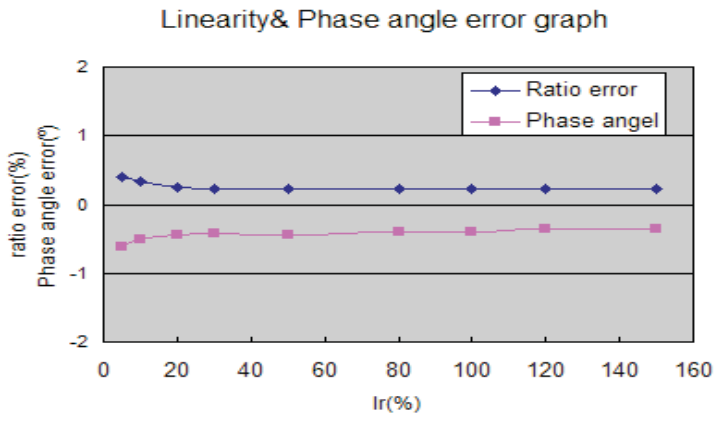


Parameters

Electrical parameters				
Model		**FQ-RCT02-120**	**FQ-RCT02-190**	**FQ-RCT02-305**
Current range		1A - 100kA		
Frequency		10Hz - 200kHz		
Output voltage	Rated current	1000A/2000A	2000A/3000A	3000A/6000A
	50Hz	100mV/200mV AC	200mV/300mV AC	300mV/600mV AC
Max output		10kA or 100kA		
Accuracy		<1% @25°C (45-65Hz)		
Phase error		<60’ @25°C (45-65Hz)		
Output sensitivity		50mV/kA, 85mV/kA, 100mV/kA (50Hz)		
Coil section diameter		8mm		
Output sensitivity		±2% Max (No Calibration)		
		±0.5% @25°C (With Calibration)		
Linearity error		±0.2% RD		
Position Sensitivity		±1%		
External Influence		±1% Max		
Bandwidth		0.1Hz - 10MHz(-3dB)		
Power Supply		/		
Lead length		2.5m		
Standard		EN 61010-1, EN 61010-2-032, EN 61010-2-031 IEC60044-1, & IEC61869-2, 1000V CAT III		
Weight		150g - 230g		
Degree of protection		IP67		
Operation temperature		-30°C to +80°C		
Storage temperature		-40°C to +90°C		

Notes: Can be customized current probe according to user requirements!

Linearity & Phase Angle Error Graph



Current range 20~ 2000A @ 25°C

Position Sensitivity

Bus bar Position		Window A of coil (Φmm)			Position error
		120	190	305	
Φ (mm)	●	<12.5	<20	<35	<0.5%
Angel (°)	●	90°~270°			<1%
Radius(mm)	r	<12	<16	<20	<2%

Usage Instruction