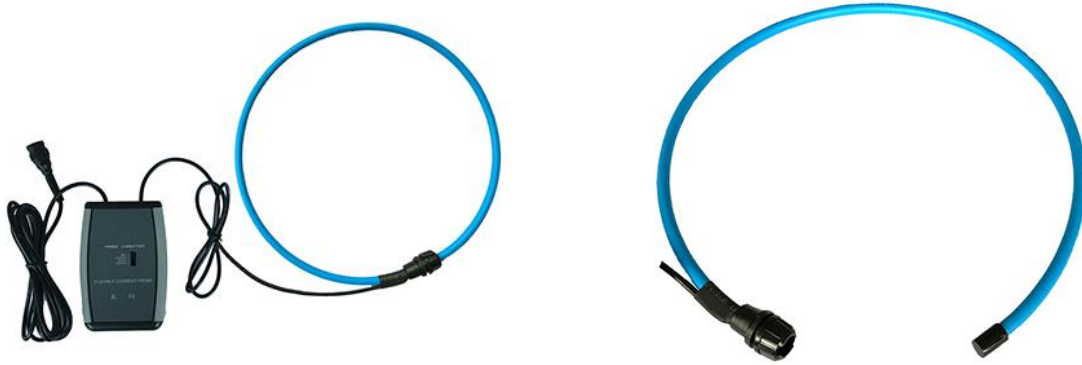


## FR100RD Series Rogowski Coil Current Sensor (with integrator)



### I . Characteristic

The FR100RD Rogowski coil current sensor is a toroidal coil wound evenly on a non-ferromagnetic material, with no hysteresis effect, almost zero phase error, no magnetic saturation, and extremely high linearity. The output signal is the differential of current to time. By integrating the output voltage signal, the input current can be truly restored, and the measurement current range can be from milliamperes to tens of thousands of amperes. Mainly used for the detection of AC leakage current, large current, high harmonic current, complex waveform current, transient impulse current, phase, electric energy, power, power factor, etc. With the integrator, it is easy to integrate into other equipment, such as: electric energy meter field calibrator, multi-function electric energy meter, oscilloscope, digital multimeter, cable identification instrument, cable fault detector, double clamp ground resistance tester, double clamp phase Voltammeters, digital current recorders, etc., can measure and compare various electrical parameters in the state of uninterrupted power.

FR100RD flexible coil current sensor coil part has no exposed metal conductor, non-contact measurement, safe and reliable; it is small in size, light in weight, beautiful in appearance, soft and flexible, suitable for narrow environments and places with dense wiring; wide measurement range and high precision, Strong reliability, wide response frequency, users can customize the coil length according to their needs. It is widely used in electric power, communication, meteorology, railway, oil field, construction, measurement, scientific research and teaching units, industrial and mining enterprises and other fields. It is especially suitable for industrial environments with severe signal distortion, such as relay protection, Silicon controlled rectifier, variable frequency speed regulation, semiconductor switches, power electronic conversion equipment, and arc welding.

### II . Model Specifications

Model	FR100RD	FR200RD	FR300RD
Coil length	315mm	630mm	950mm
Coil inner diameter	φ100mm	φ200mm	φ300mm
Quality	About 230g	About 250g	About 270g

### III. Technical Specification

Features	Detection of AC leakage current, large current, high harmonic current, complex waveform current, transient impulse current, phase, electrical energy, power, power factor, etc.
Detection method	Flexible CT: The output signal is the differential of the current to time. By integrating the output voltage signal, the input current can be truly restored
Coil diameter	$\phi$ 8mm
Range	0A ~ 10kA
Resolution	0.1A
Output	0.3mV/A 3mV/A 30mV/A third gear (0-5V, 4-20mA and other outputs can be customized)
Power supply	9V 6F22 battery
Low battery indication	Have
Power consumption	The voltage output is 6 mA, and an alkaline dry battery is expected to continuously supply power for 80 hours
Accuracy class	$\pm 1.0\%$ FS (50Hz/60Hz); $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$ , below 70%RH, the wire is in the center of the coil)
Phase error	$\leq 1^{\circ}$ (50Hz/60Hz; $23^{\circ}\text{C} \pm 2^{\circ}\text{C}$ )
Output Interface	BNC connector (optional audio plug, banana plug, bare wire)
Output cable length	2m
Electric field disturbance	No hysteresis effect, no external electric field interference
Wire position	The tested lead is in the center of the coil, and the influence of position error is $\leq \pm 0.3\%$ FS
Response frequency	0.1Hz ~ 10MHz
Line voltage	Line test below AC 1000V
Working temperature and humidity	$-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$ ; below 80%rh
Storage temperature and humidity	$-10^{\circ}\text{C} \sim 60^{\circ}\text{C}$ ; below 70%rh
Dielectric strength	AC 2000V/rms (both ends of the coil)
Suitable for safety regulations	IEC1010-1, IEC1010-2-032, Pollution Degree 2, CAT IV 1000V
Random accessories	Sensor: 1 piece

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