

FR Series Rogowski Coil Sensors



I. PRODUCT INTRODUCTION

FR series Rogowski coil sensor is also called flexible current sensor and current sensor. It is a toroidal coil that is wound evenly over non-ferromagnetic material. It has no hysteresis effect, almost zero phase error, no magnetic saturation, and good linearity. The output signal is the differential of current vs. time. By integrating the output voltage signal, the input current can be truly restored, and its measurement current range can range from milliamperes to millions of amperes. Mainly used for AC leakage current, high current, high harmonic current, complex waveform current, transient inrush current, phase, electric power, power, power factor and other detection. With integrator, easy to integrate into other equipment, such as: electric energy meter field calibrator, multi-function energy meter, oscilloscope, digital multimeter, cable identification instrument, cable fault detector, double clamp grounding resistance tester, double clamp phase voltmeters, digital current recorders, etc., can measure and compare a variety of electrical parameters in an uninterrupted state.

FR series Rogowski coil sensor without any exposed metal conductor, non-contact measurement, safe and reliable; it's small size, light weight, exquisite appearance, soft and flexible, suitable for narrow environments and cable intensive places; wide measurement range, high precision, reliability, wide response frequency bandwidth, users can customize coil length according to demand. Widely used in electricity, communications, meteorology, railways, oil fields, construction, measurement, research and teaching units, industrial and mining enterprises and other fields. Particularly suitable for industrial environments such as relay protection, thyristor rectification, frequency control, semiconductor switches, power electronics conversion equipment, arc welding and other serious signal distortion

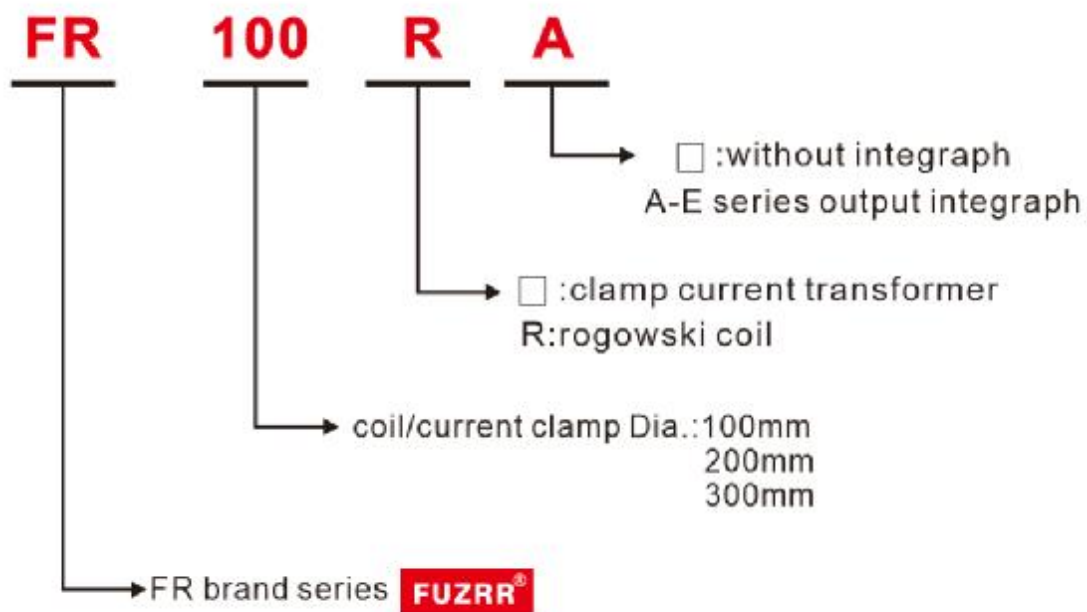
II. Product Features

☆Using special materials, good flexibility and wear resistance

☆Good linearity, stability and consistency

- ☆High precision and strong anti-interference ability
- ☆Integrating low noise, suitable for measuring milliamper current
- ☆Wide broadband, suitable for measuring high-frequency current
- ☆ Wide current range, milliamper to 100kA can be accurately measured

1. NAMING RULES



Coil Parameters Table

Model Number	FR100R	FR200R	FR300R
Coil Length	315mm	630mm	950mm
Coil Inside Dia.	φ 100mm	φ 200mm	φ 300mm
Weight	80g	100g	120g

Model Number	FR100RD	FR200RD	FR300RD
Coil Length	315mm	630mm	950mm
Coil Inside Dia.	φ 100mm	φ 200mm	φ 300mm
Weight	80g	100g	120g

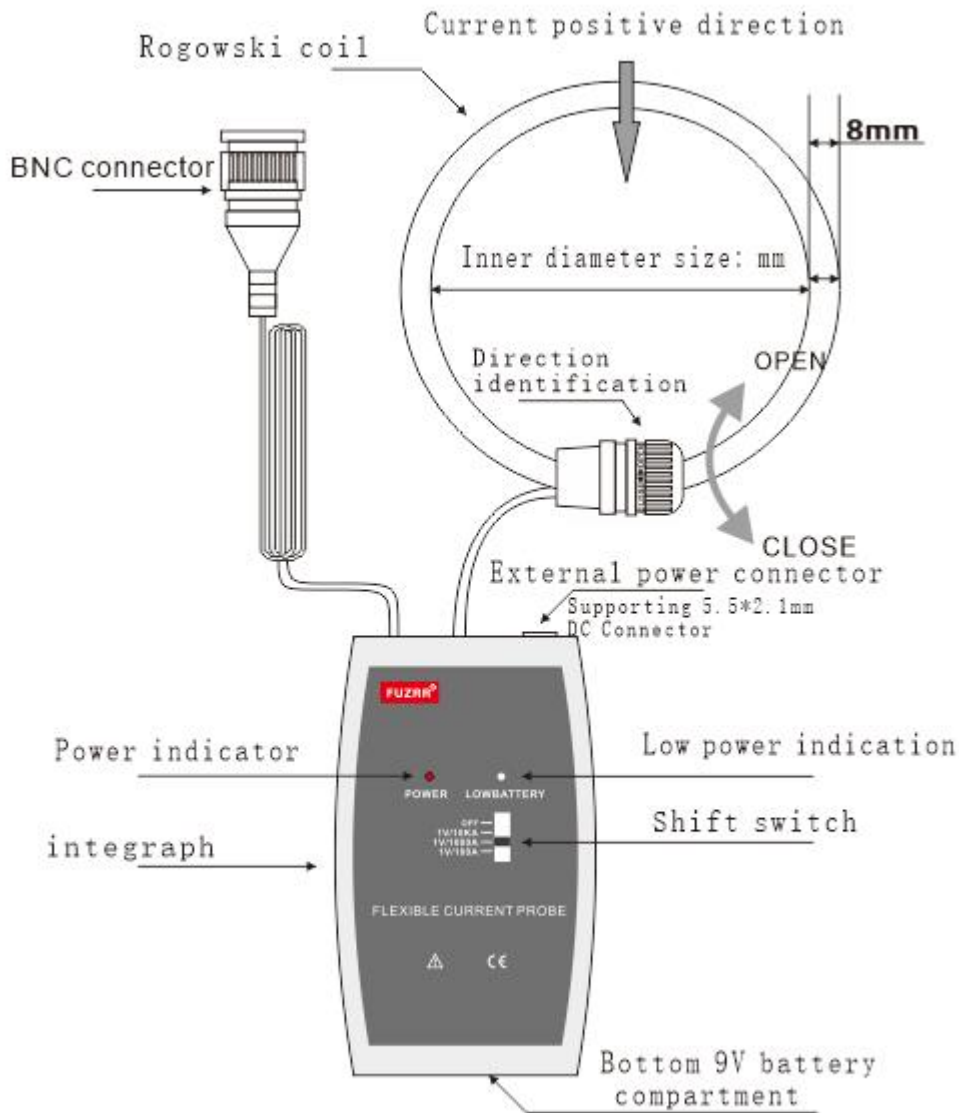
2. Integrator Parameters Table

Model	A	B	C	D	E
Output Signal	AC:1V/1A	AC:1V/100A	DC:4~20mA/100A	AC:3V/100A	DC:10V/100A
	AC:1V/10A	AC:1V/1000A	DC:4~20mA/1000A	AC:3V/1000A	DC:10V/1000A
	AC:1V/100A	AC:1V/10kA	DC:4~20mA/10kA	AC:3V/10kA	DC:10V/10kA
Coil Color	Black	Blue	Blue	Blue	Blue
Built-in Battery	9V Dry battery	9V Dry battery	N/A	9V Dry battery	N/A
External Power Supply	External power supply input: 8~12V	External power supply input: 8~12V	External power supply input: 24V	External power supply input: 8~12V	External power supply input: 24V
Power Consumption	6mA	6mA	10mA	6mA	10mA
Standard Interface	BNC	BNC	BNC	BNC	BNC

3. TECHNICAL PARAMETERS

Function	AC leakage current, high current, high harmonic current, complex waveform current, transient impulse current, phase, electric power, power, power factor, etc.
Test Method	Flexible CT: The output signal is the differential of current vs. time. By integrating the output voltage signal, the input current can be truly restored.
Coil Line Thickness Dia.	Φ8mm
Output	only coil output: 100mV/1000A, output of the supporting integrator see the Integrator Parameters Table
Power Supply Voltage	supply integrator voltage
Low Current Indication	have
Accuracy Level	± 1.0% FS (23 °C ± 2 °C, 70% RH or less, the wire is at the center of the coil)
Phase Error	≤1° (50Hz/60Hz; 23°C±2°C)
Out Interface	BNC connector (optional audio plug, banana plug, bare wire)
Output Line Length	pliers to adapter 50cm, signal output 2m
Electric Field Interference	hysteresis effect, strong resistance to external electric field interference
Conductor Position	The tested wire is in the center of the coil, position error affects ≤±0.5% FS (1cm away from the port position)
Response Frequency	without integrator: 0.1Hz ~ 10MHz , matched integrator: 0.1Hz ~ 1MHz
Line Voltage	circuit test below AC 1000V
Working Temperature and Humidity	-20°C~50°C; below 80%rh
Storage Temperature and Humidity	-10°C~60°C; below 70%rh
Insulation Strength	AC 2000V/rms (between coil and shuck)
Suitable for Safety Regulations	IEC1010-1, IEC1010-2-032, Pollution Level 2, CAT IV 1000V

4. PRODUCT STRUCTURE



GuangZhou ZhengNeng Electronics Technology Co.

Address: 2F, No.15 Baoshu Road, Taihe, Baiyun District, Guangzhou, Guangdong, China

Toll-free call: 4000-1515-38

Tel: 86-20-36544172

Fax: 86-20-37319075

Post: 510540

Website: www.znel.e.com