

RFSY Flexible Rogowski coil



Rogowski Coil Introduction

The Roche coil is also called a differential current sensor and it is an "empty"Core "ring coil,Arrange a ring around the conductor,Thus an alternating magnetic field generated by the current induces a voltage in the coil.The coil is actually a transformer coupled to the conductor under test,And the voltage directly output from the coil is proportional to the rate of change of the current.

For example :@50Hz/1kA $V_{out}=50mV$,

@60Hz/1kA $V_{out}=50*60/50=60mV$ 。

If you want to get current waveform or frequency independent current value,It is necessary to add integral circuit to realize 90°phase shift compensation and frequency equalization

We provide 4-20mA, 0-5V, 0-1A, 333mV and other integrators suitable for more use scenarios.

Product features

- Light weight, flexible installation
- Wide bandwidth range
- No hysteresis, no saturation
- A secondary circuit does no harm
- Good linearity
- A variety of sizes can be customized

Product application

- Power monitoring system
- Dc ripple measurement
- Harmonic and transient monitoring
- Laboratory instrument, measuring instrument
- Power meter, power analyzer sensor

Product picture :(the printed words are for reference only, subject to the actual product)



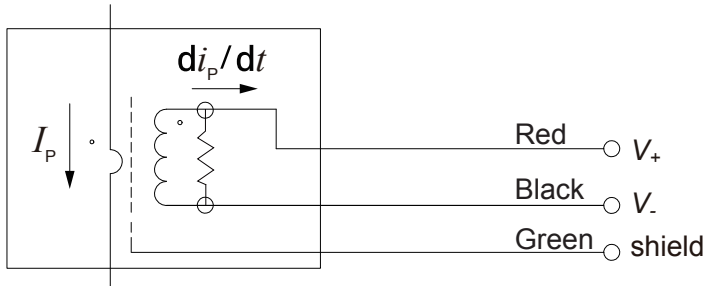
The RF series is a current sensor based on Rogowski coil principle, Its light weight low prices have different size options,Can also according to customer design requirements for special order. No magnetic saturation with shielding layer,Can resist the influence of the external magnetic field,Therefore can be in the range of from low current to hundreds of kA stability measurement. Available in smart meters, industrial motor control and power monitoring applications to provide accurate measurement.Use the principle of ADC chip support Rogowski coil (ADS131M04) or electricity metering chip (ADE7753) system.

Electrical parameters: (The following parameters are typical values and actual values will be subject to product testing)

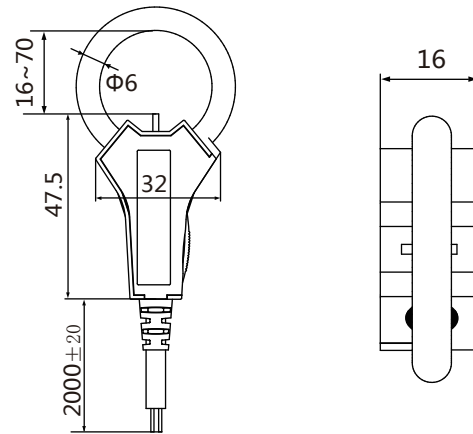
Model	RFSY-16-50	RFSY-24-50	RFSY-36-50	RFSY-50-50	RFSY-70-50
coil length	82mm	104mm	138mm	184mm	235mm
Window diameter	16mm	24mm	36mm	50mm	70mm
weight	100~140g				
Coil resistance	40~120 Ω				
Rated current	≤500KA				
Accuracy	<0.5% 25℃				
Position error	±2%				
Output Voltage	50mV/KA@50Hz 60mV/KA@60Hz				
Frequency range	10Hz~20KHz				
Linearity	±0.2% (10%~100%rated value)				
Angular difference	≤0.5°				
Connect the cable type	LIYCY (TP) Shielded twin twisted cable				
Connecting cable length	2M (default)				
Working temperature	-30℃~+80℃				
Storage temperature	-40℃~+80℃				
Working voltage	1000VRMS CATIII/600VRMS CAT IV				
Electric strength	7400VRMS/1min				
Material	TPR UL97-V0				
Protection level	IP67				

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Connection diagram



Outline size: (in:mm±0.5)



notice:

1. According to Rogowski coil principle, the output voltage is proportional to the derivative of the input current (DI/DT).
2. The output voltage is a sinusoidal waveform of constant rated frequency in Hz, measured by RMS values.
3. $V_{out}(RMS) = \text{Amps}(RMS) \times \text{Hertz} \times K \times 10^{-6}$, Where K depends on the manufacturer, the K value of 85mV model is 1.

warning:

Do not apply any form of mechanical force (For example, twisting, piercing, excessive pressure, excessive bending, etc) apply pressure to the coil, this greatly reduces the accuracy of the device.