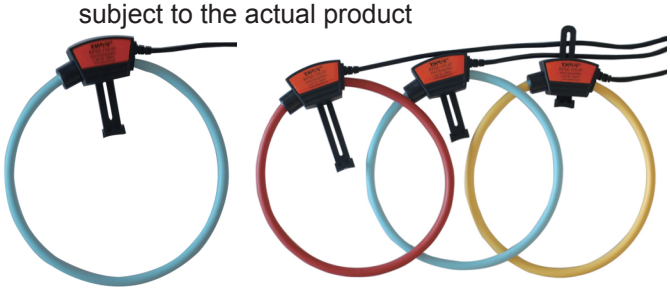
RFSZ Flexible Rogowski coil

Introduction to Rogowski coil

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 Vout=85mV, @60Hz/1kA Vout=85*60/50=102mV.If you want to get current waveform or frequency independent current value,It is necessary to addintegral circuit to realize 90° phase shift compensation and frequency equalization.

Product picture print for reference only, subject to the actual product



The RF series is a current sensor based on the principles of Rogowski coils , It is light in weight and cheap in price and comes in different sizes, Can also according to customer design requirements for special order. Non-magnetic saturation and shielded against the effects of external magnetic fields allows stable measurements from low currents to hundreds of kA.Provides accurate measurements forsmart meters , industrial motor control and power monitoring applications.Systems using ADC chips (ADS131M04) or power metering chips (ADE7753) that support the principle of Rogowski coils are more advantageous.

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

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

Model	RFSZ-80-85	RFSZ-105-85	RFSZ-150-85	RFSZ-180-85	RFSZ-240-85	RFSZ-300-85
coil length	293mm	363mm	493mm	593mm	723mm	943mm
Window diameter	80mm	105mm	150mm	180mm	240mm	300mm
Weight	100~180g					
coil resistance	150~650Ω					
Rated current	≤500KA					
accuracy	<0.5% 25℃					
position error	±1%					
output voltage	85mV/KA@50Hz 102mV/KA@60Hz					
Frequency range	10Hz~20KHz					
Linearity	±0.2% (10%~100%rated value)					
Phase shift	≤0.5°					
Specification of signal line	LIYCY(TP)Shielded double stranded cable					
Signal line 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 grade	IP67					

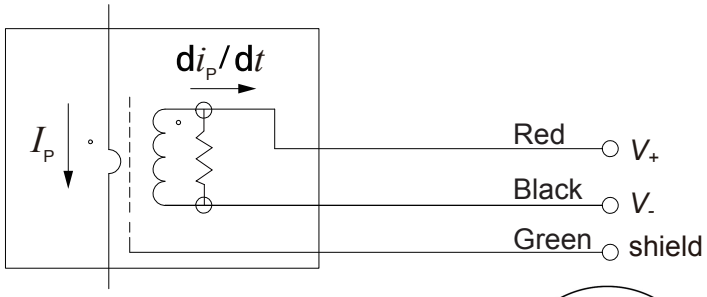
features

- Light weight and flexible installation
- Wide bandwidth range
- No lag, no saturation
- There is no danger of a second circuit
- Good linearity
- Multiple sizes can be customized

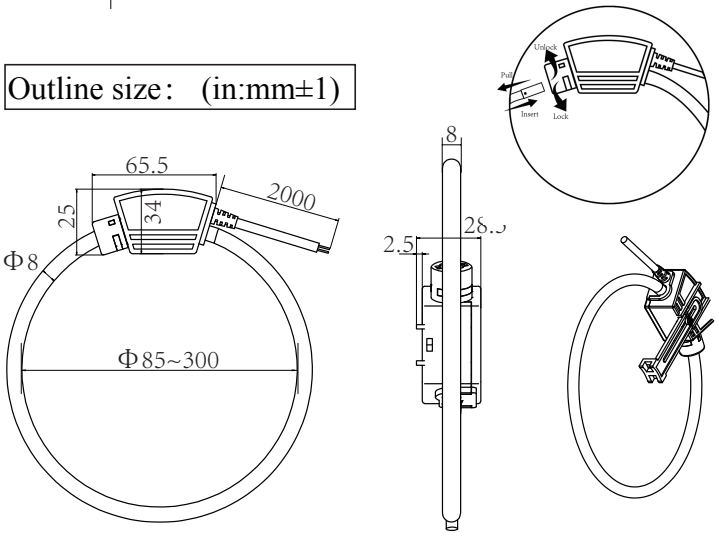
application

- Measuring instrument, laboratory instrument
- Power monitoring system
- Dc ripple measurement
- Harmonic and transient monitoring
- Power meter
- Power analyzer sensor

Connection diagram



Outline size: (in:mm±1)



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. Vout(RMS)=Amps(RMS)×Hertz×K×10^{-6},Where K depends on the manufacturer, the K value of 85mV model is 1.7.

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.