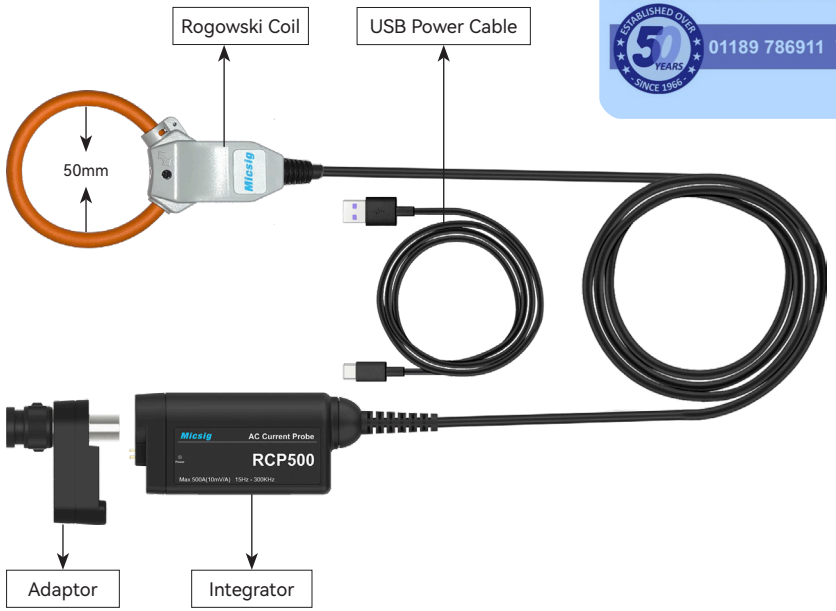
RCP500 Rogowski AC Current Probe

User Guide



Introduction

The RCP500 Rogowski AC Current Probe measures AC current up to 500A pk, minimum to 200mA pk, with bandwidth ranging from 15Hz to 300KHz, 1% accuracy, and has less than 2mV noise.

It adopts the Rogowski coil current measurement system: within the range, the output signal of the system and the current signal to be measured are always linear, so the accuracy will not change with the current; the coil does not contain magnetic saturation components and no magnetic core and saturation phenomenon, no trouble of heating; the Rogowski coil does not contain ferromagnetic materials and so has no hysteresis effect, the phase difference between the output signal and the current waveform is extremely low, which can be less than 0.8° .

The RCP500 is compactly designed with exquisite appearance, suitable for Micsig UPI multi-function probe interface, when used with some Micsig new oscilloscope, no need extra battery or power supply. It can also be used with Micsig PA05 adapter to adapt to any other manufacturer's oscilloscope.

The AC current probes can measure current signals with complex waveforms, such as transient inrush currents of power devices, sinusoidal currents of three-phase power supply systems, harmonic components of measured currents, current measurement of IGBTs and MOSFETs, etc.

Safety Precautions

※ Measurable circuits should be CAT III 1000V / CAT IV 600V or below

※ Make sure the BNC terminal is grounded reliably

※ Make sure turn off the circuit under test, before connecting to the probe ring

※ Do not use if Rogowski coil or cable sheath is damaged or exposed metal

※ Do not use in wet environment

※ Do not touch the instrument or the measured object with wet hands

※ Please cut off the power after user

Specifications

Model Name	RCP500
Bandwidth	15Hz - 300KHz (-3dB)
Current Range	200mA (pk) - 500A (pk)
Output Connector	Powered BNC / External BNC
Output Sensitivity	10mV/A
Typical Accuracy	1%
Phase Accuracy	≤ 0.8° (45Hz-66Hz)
Temperature Coefficient	Operating temp. range + 0.05 × Accuracy Specification /℃ (23℃ ±5℃)
Conductor Positional Accuracy	Within ±1% (Deviation from the Center)
Influence of External Magnetic Fields	1.5% f.s. or below (400A/m,50Hz/60Hz)
Offset Voltage	±1mV or below
Max Voltage	AC 10kV RMS (1 minute), (50Hz/60Hz) (Rogowski coil part only)
Output Impedance	High resistance
Output Noise	＜ 2mV rms
Conductor Under Test Diameter	≤ Φ50mm
Power Supply	Micsig UPI Multi-function probe interface; Adapter (USB power)
Coil to Integrator Cable Length	2m (customizable)
Integrator Dimensions	37*22*82mm
Rogowski Coil Inner Diameter	50mm (customizable)
Rogowski Coil Thickness	Approx. ϕ6mm
Environmental Characteristics	
Operating Temperature	-20-70℃
Storage Temperature	-30℃ -70℃
Operating Humidity	Max 80%，no condensation
Operating Altitude	≤ 2000m
Operating Place	Indoor use, Pollution Degree 2.

Micsig

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