

CP2100 Series AC/DC Current Probe

User Manual



Product Introduction

The CP2100 series current probe is a BNC type that can measure both DC and AC. With split design and compact look, it also can be connected to multimeters via connector. Automatic and manual zero adjustment, powered by USB, no need additional power supply, making measurement more convenient, often used in motor drives, industrial frequency, inverters, power supplies, avionics and other fields.

Safety Precautions

- The measurable circuit should be CAT II 600V or below
- Do not measure bare conductors
- Do not touch the measured conductor and sensor head during measurement
- Do not use in a humid environment
- Do not touch the instrument or the measured object with wet hands
- Please ground this product through the USB power cord
- Please use this product as required

Specifications

Model	CP2100A	CP2100B
Bandwidth	DC~800KHz	DC~2.5MHz
Rise time	≤437.5ns	≤140ns
Range	10A/100A	
Output sensitivity	0.1V/A (10A) ; 0.01V/A (100A)	
DC accuracy (typical)	3%±50mA (10A) ; 4%±50mA (100A, 500mA~40Apk) 15% (100A, 40Apk~100Apk)	
Signal delay	<150ns (10A) ; <200ns (100A)	
Measuring range	50mA~10Apk (10A) ; 1A~100Apk (100A)	
Max measurable current	100Apk, 70.7Arms (DC+AC pk) 200Apk-pk, 70.7Arms (AC)	
Max working voltage	CAT III 300V CAT II 600V	
Max float voltage	CAT III 300V CAT II 600V	
Max conductor diameter	13mm	
Overload indication	The buzzer beeps and button light flashes	
Supplied power	DC 5V	
Net weight	290g	
Package weight	1000g	
Operating temperature	0~40°C	
Operating humidity	5%~95% (0~40°C, No condensation) 5%~65% (40°C~50°C, No condensation)	

Operation Instructions

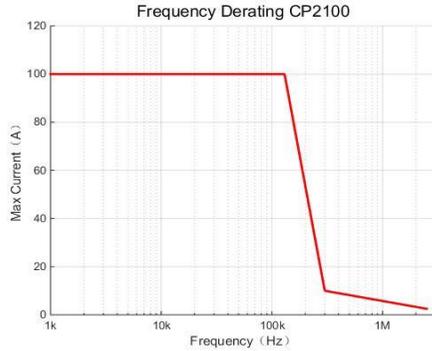
1. Connect BNC interface to the oscilloscope (or other instruments), then plug the USB cable to power the probe;
2. Select appropriate range according to current range, the corresponding button light will turn Green;
3. Adjust the oscilloscope settings: Input impedance 1MΩ; select probe to Current or display as A; Set attenuation ratio on corresponding channel, 100A (0.01V/A) to 100X, range 10A (0.1V/A) to 10X;
4. Press Zero button to do zero calibration, after success, the buzzer will “beep” one time; if “beep” three times, meaning zero calibration has failed; can also go Manual to adjustment. The external magnetic field may have slight influence on the DC zero position, do not move it in a large range after zero adjustment is completed;
5. Clamp the conductor under test according to the direction indicated by the jaws. Note: If the measured current

flows in the opposite direction, the output will be negative;

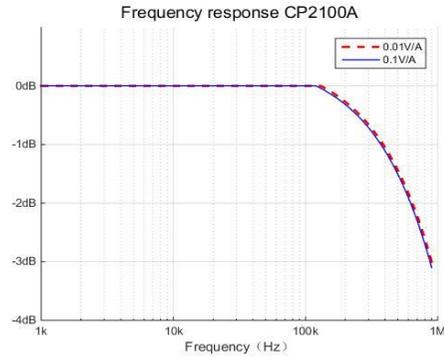
6. Adjust the oscilloscope to get the best waveform;

Note: When the current exceeds the range, the buzzer will beep for a long time and the button light will flash.

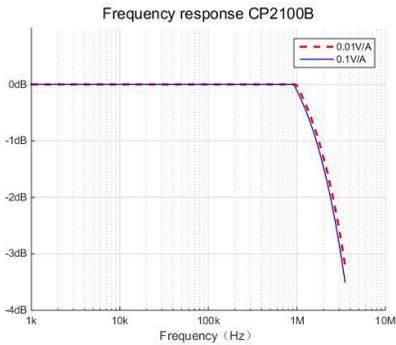
References



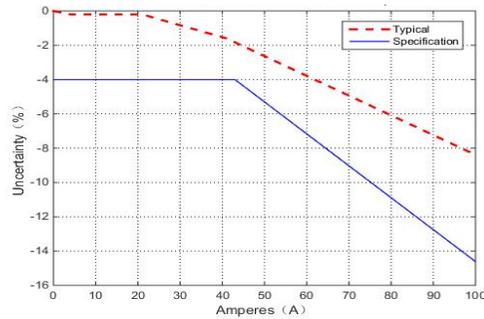
F1 - Maximum current vs Frequency curve



F2 - Amplitude-frequency characteristic curve - CP2100A



F3 - Amplitude-frequency characteristic curve-CP2100B



F4 - DC signal linearity (0.01V/A)

Maintenance

During the warranty period of the product (one-year) and under normal use, the company will be responsible for free repairs due to fault caused by the quality of the product itself, and the product must not be disassembled or repaired without Micsig permission. Please keep the product dry, clean and tidy. If there is dirt, use a soft cloth or sponge with alcohol to wipe off. Do not use water. In order to ensure the performance of the product, it is recommended to check or calibrate once a year.

Statement

The information provided in this document is subject to change in future versions without notice. In addition, to the maximum extent permitted by applicable laws, Micsig does not provide any express or implied warranty for this manual and any information contained in it.



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