

Quick Guide

Low Frequency AC/DC Current Probe CP2100 series

1. Overview

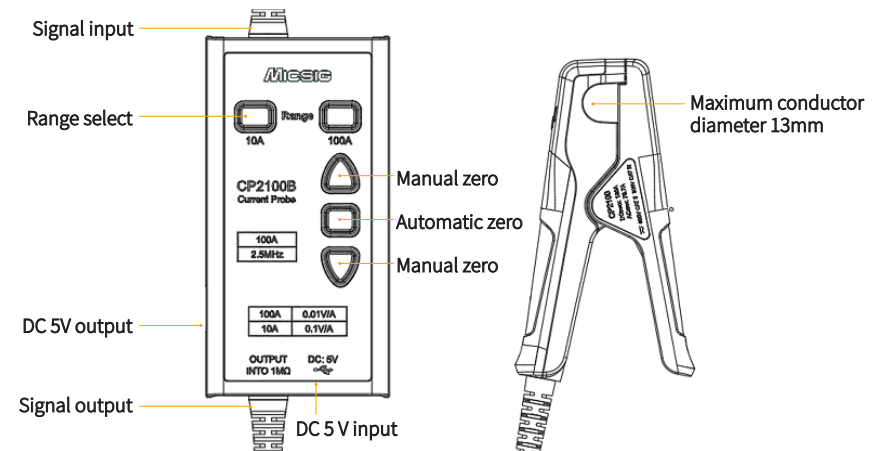
The CP2100 series is a current probe for DC and AC. It has a split design, a nice look, uses BNC, suits oscilloscopes and multimeters. The max current is 100Apk (70.7Arms), with 2 models: CP2100A (DC-800kHz), CP2100B (DC-2.5MHz) and 10A/100A ranges. It has auto and manual zero adjustment, is USB-powered, and is used in motor drives, power frequency, inverters, etc.



2. Characteristics

| | | |
|------------------------|---|-----------|
| 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 | 100ns | |
| Measuring range | 50mA~10Apk (10A) 1A~100Apk (100A) | |
| Max measurable current | 100Apk, 70.7Arms (DC+AC pk) | |
| Max working voltage | CAT III 300V CAT II 600V | |
| Max float voltage | CAT III 300V CAT II 600V | |
| Max conductor diameter | 13mm | |
| Overload indication | Buzzer beeps and Button light flashes | |
| Supply power | DC 5V | |
| Net weight | 290g | |
| Package weight | 1000g | |
| Operating temperature | 0~50° C | |
| Operating humidity | 5%~95% (0~40° C , No condensation) 5%~65% (40° C ~50° C , No condensation) | |
| CE Standard | EN 61010-2-032 | |
| EMC Standard | EN 61326-1:2013, EN 61326-2-1:2013 | |

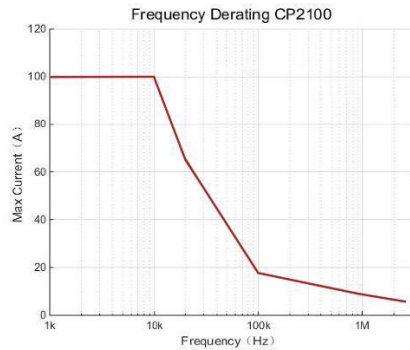
3. Appearance



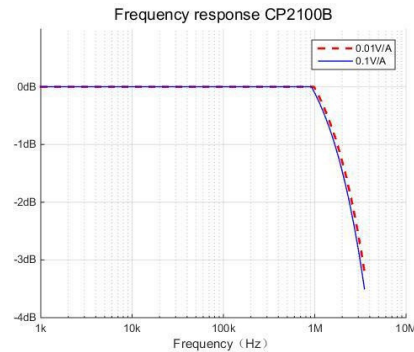
4. Operation Steps

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 1M Ω ; 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.

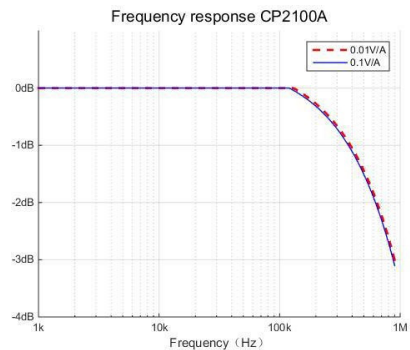
5. Characteristic Curve



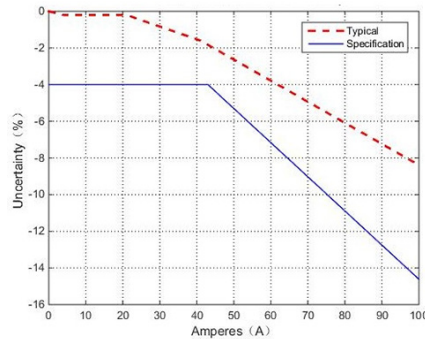
F1 - Maximum current vs Frequency curve



F2 - Amplitude-frequency characteristic curve - CP2100B



F3 - Amplitude-frequency characteristic curve - CP2100A



F4 - DC signal linearity (0.01V/A)

6. Warranty

- 1) Micsig warrants the main body of this probe for 1 year. During the warranty period, Micsig will be responsible for free maintenance for any failure caused by the quality of the product under normal use.
- 2) Under the following circumstances, Micsig will refuse to provide maintenance services or charge for a fee:
 - a. No packaging or anti-counterfeiting label.
 - b. Anti-counterfeit label has been altered or blurred beyond recognition.
 - c. Unauthorized disassembly, such as: changing wires, dismantling internal components, etc.
 - d. No sales voucher or the content of sales voucher does not match the product.

7. 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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