

**Micsig**<sup>®</sup>

# AC/DC Current Probes

CP2100A/CP2100B



**Shenzhen Micsig Instruments Co., Ltd.**

<b>Version</b>	<b>Modified content</b>	<b>Release time</b>
1.0	First edition	2019.05
1.1	Parameter modification	2019.12

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# **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 use this product within the range allowed by the end-user**
- **Please use this product as required**
- **Please ground this product through the USB power cord**

# 1. Product Introduction

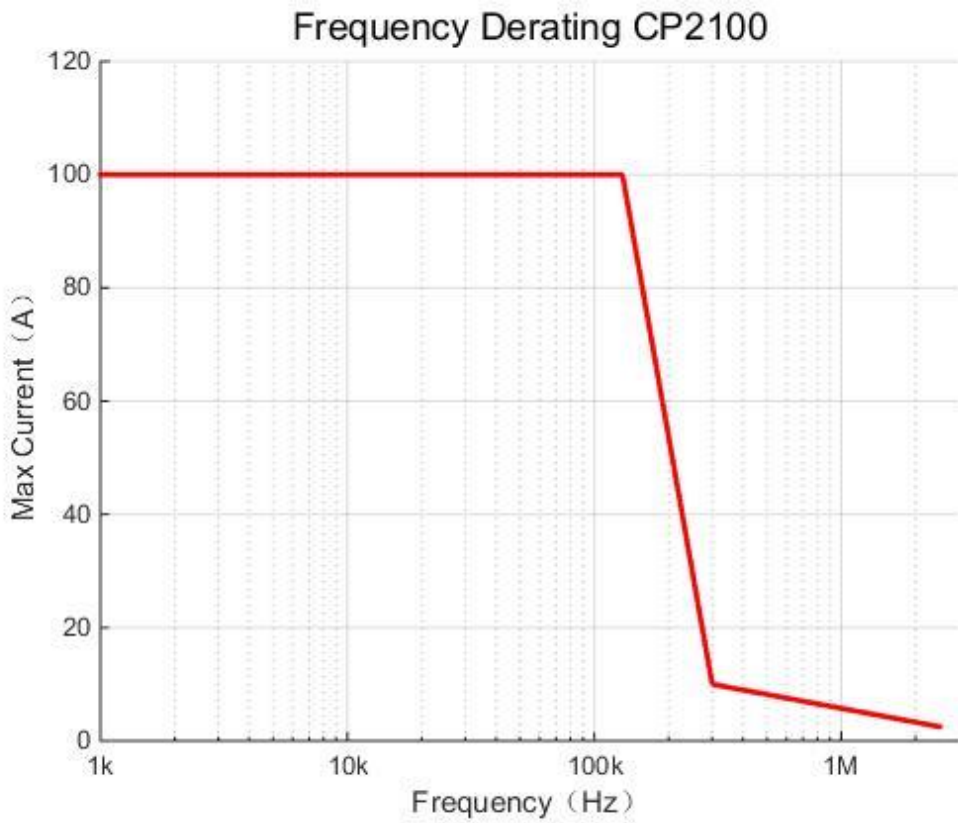
The CP2100 series is a current probe that can measure both DC and AC. It adopts split design and has small and beautiful appearance. It uses a standard BNC interface and is suitable for oscilloscopes. It can also be used for multimeters via connector. The maximum current can be measured to 100Apk (70Arms); it has 2 models: CP2100A and CP2100B, CP2100A can measure bandwidth to DC 800KHz, CP2100B can measure bandwidth to DC 2MHz; 2 optional measuring ranges: 10A and 100A. Automatic and manual zero adjustment, powered by USB, no additional power supply, making measurement more convenient. Often used in motor drives, industrial frequency, inverters, power supplies, avionics and other fields.

## 2. Appearance

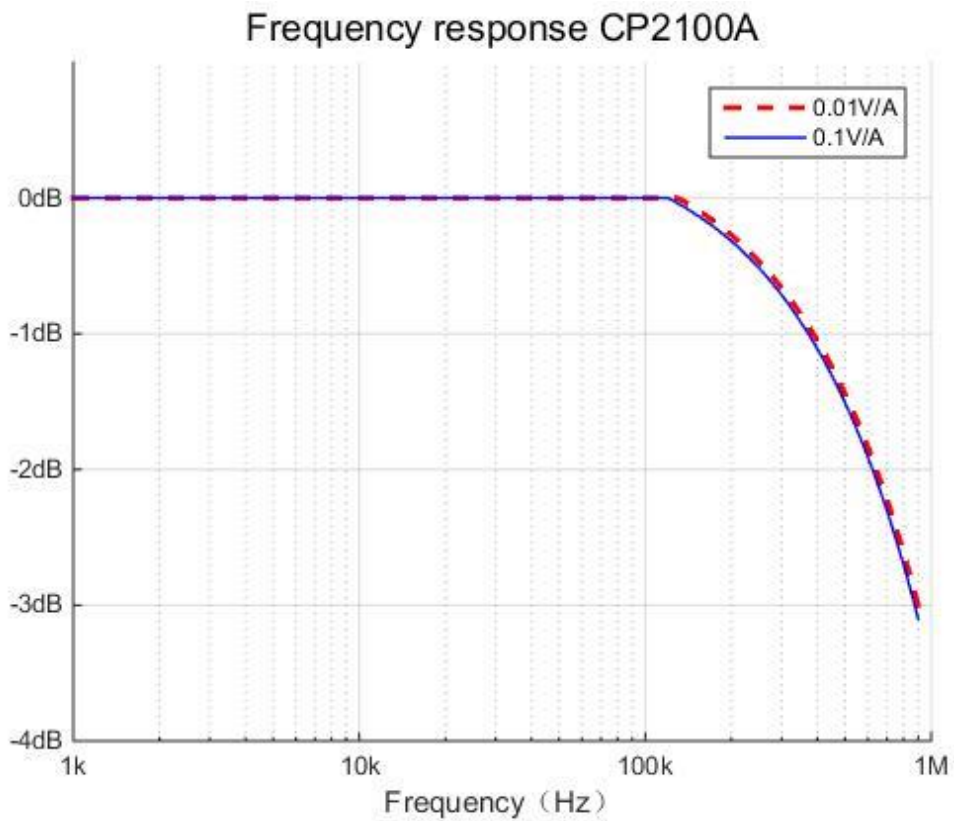


# 3. Specifications

<b>Model</b>	CP2100A	CP2100B
<b>Bandwidth</b>	DC~800KHz	DC~2MHz
<b>Rise time</b>	≤437.5ns	≤140ns
<b>Range</b>	10A/100A	
<b>Output sensitivity</b>	0.1V/A (10A) 0.01V/A (100A)	
<b>DC accuracy (typical)</b>	3%±50mA (10A) 4%±50mA (100A, 500mA~40Apk) 15% (100A, 40Apk~100Apk)	
<b>Signal delay</b>	<150ns (10A) <200ns (100A)	
<b>DC linearity (typical)</b>	typical on page 6	
<b>Measuring range</b>	50mA~10Apk (10A) 1A~100Apk (100A)	
<b>Maximum measuring current</b>	100Apk, 70.7Arms (DC+ACpk) 200Apk-pk, 70.7Arms (AC)	
<b>Maximum working voltage</b>	CAT III 300V CAT II 600V	
<b>Maximum floating voltage</b>	CAT III 300V CAT II 600V	
<b>Maximum conductor diameter</b>	13mm	
<b>Overload indication</b>	The buzzer sounds long and the button light flashes	
<b>Supplied power</b>	DC 5V	
<b>Probe head size</b>	11*6.1*2.5cm	
<b>Control box size</b>	10.8*5.6*2.6cm	
<b>Length</b>	228cm	
<b>Weight</b>	290g	
<b>Package weight</b>	1000g	
<b>Package dimensions</b>	29.5*23.6*5.7cm	
<b>Operating temperature</b>	0~50°C	
<b>Storage temperature</b>	-20°C~80°C	
<b>Operating humidity</b>	5%~95%(0~40°C, No condensation) 5%~65%(40°C~50°C, No condensation)	
<b>Operating altitude</b>	≤3000m	
<b>Storage altitude</b>	≤12000m	

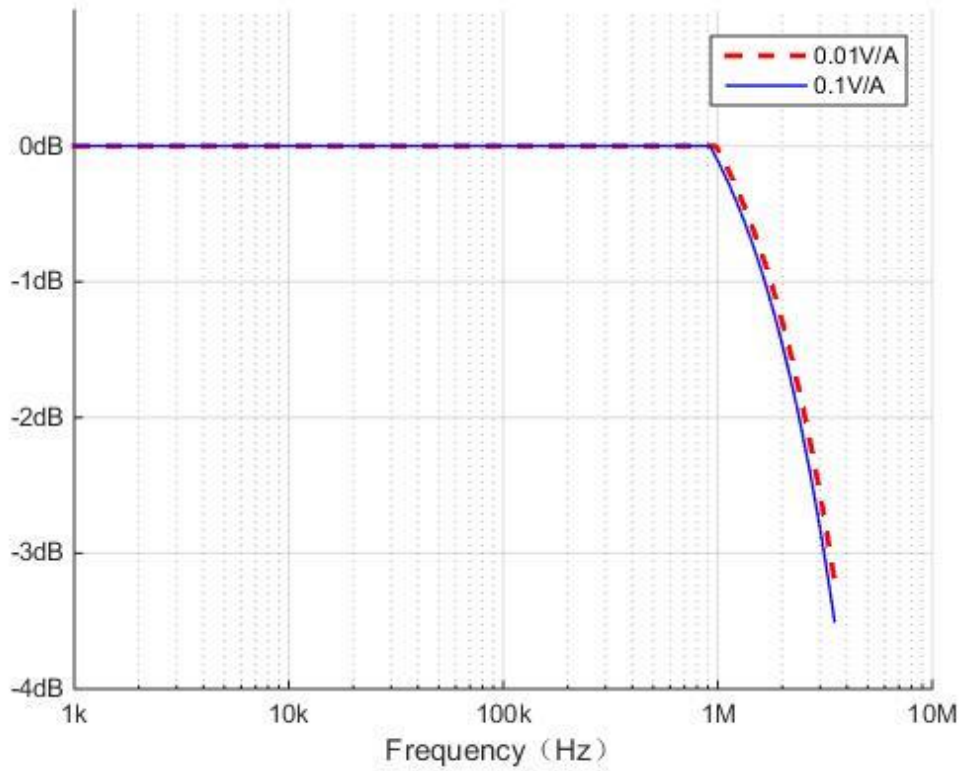


Maximum current VS Frequency curve

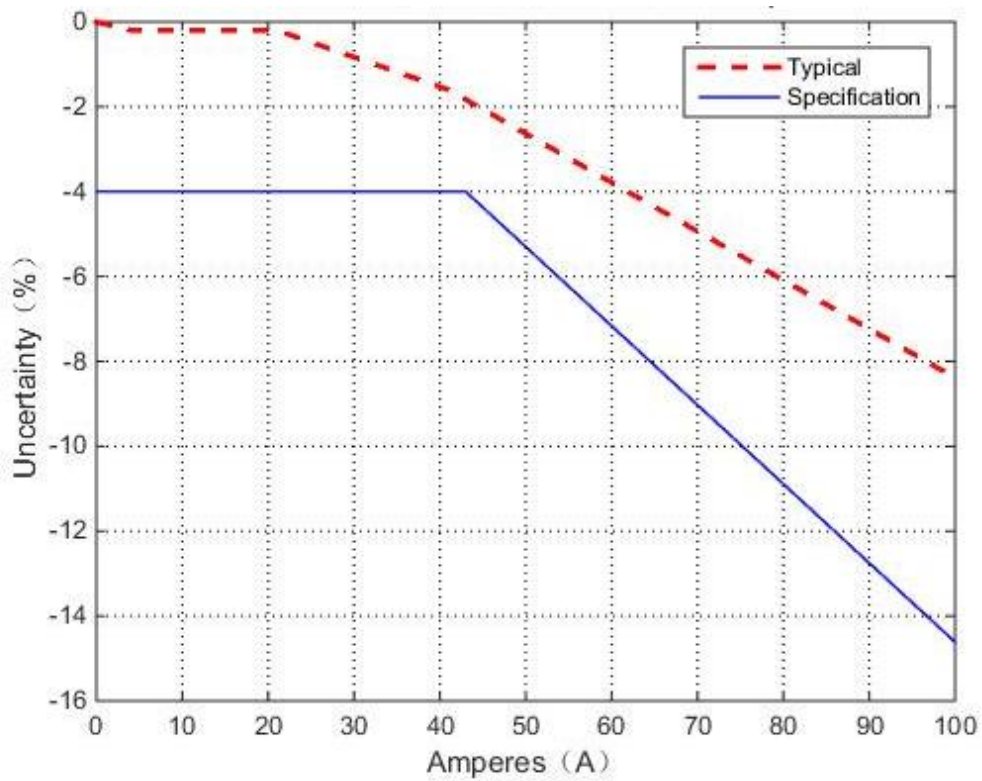


Amplitude-frequency characteristic curve-CP2100A

### Frequency response CP2100B



Amplitude-frequency characteristic curve-CP2100B



DC signal linearity (0.01V/A)



## 4. Instructions

- 1、 Connect the BNC of the current probe to the oscilloscope (or other instruments), and connect the USB cable to power the current probe;
- 2、 Select the appropriate range on the probe according to current range, the corresponding button light will turn Green;
- 3、 Adjust the oscilloscope settings: input impedance  $1M\Omega$ ; select probe to Current or display as A; Set attenuation factor for corresponding channel, range 100A (0.01V/A) set to 100X, range 10A (0.1V/A) set to 10X;
- 4、 Press Automatic zero adjustment button to realize zero adjustment of the probe, after success, the buzzer “beep” one time; if “beep” three times, indicating that the zero adjustment has failed; Manual zero adjustment is also possible; the external magnetic field may have a slight influence on the DC zero position of the probe, do not move it in a large range after the zero adjustment is completed;
- 5、 Open the jaws to clamp the conductor under test according to the direction indicated by the clamp head. Note: If the measured current flows in the opposite direction to the clamp head, 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. 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 and 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 the dirt. Do not use water.

In order to ensure the performance of the product, it is recommended to check or calibrate once a year.



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