

57282 AC/DC mA CURRENT CLAMP OPERATOR'S MANUAL



INTRODUCTION

The AC/DC mA Current Clamp is a transducer which will allow your multimeter to measure low electrical and/or electronic current up to 80 amperes AC/DC, with a frequency response up to 20kHz. When measuring current with this clamp, there is no need to break a circuit or to affect the isolation.

The extended measurement jaws allow performing measurements in a narrow space. When measuring DC current, a simple operating pushbutton is designed for zero adjustment. The clamp adapter is applicable to leakage detection or monitoring.

APPLICATION PROCEDURES

1. Insert the black banana plug into the COM jack and the red banana plug into the V-Ω jack of any multimeter with a minimum input impedance of 10k ohms.

2. Set the power switch from "OFF" to the desired range, 20A (output: 100mV/A) or 80A (10mV/A) position. The green LED will light to indicate that the clamp is switched on.
3. For current measurement below 20A, set the unit to 20A range and set the multimeter to 200mV or 2V AC range for AC current measurements, or 200mV or 2V DC range for DC current measurements. If the measured current exceeds 20A, set the unit to 80A range.
4. When performing DC current measurement, always push the zero adjustment button on the clamp until the multimeter reads zero.
5. Clamp the jaws around the current-carrying conductor and interpret the reading according to Step 3 above.
6. When 20A range of clamp unit is selected, the measured current value is in mA. For example, if the multimeter reads 100mV, the measured current is $100\text{mV}/(100\text{mV/A})=1\text{A}$.

When 80A range is selected, the measured current value is in A. For example, if the multimeter reads 50mV, the measured current is $50\text{mV}/(10\text{mV/A})=5\text{A}$.

APPLICATION NOTES

1. In the case of DC current, the output is positive when the current flows from the upside to the underside of the clamp. The red banana plug is positive.
2. In the case of DC current measurement, a hysteresis effect can occur so that it is impossible to zero the clamp properly. To eliminate this effect, open and close the jaws several times and push zero adjustment button.

OPERATOR SAFETY

1. Do not clamp around conductors with voltages equal to or exceeding 300V DC or 240V rms AC.
2. To avoid physical injury, measurements on bare conductors or conductors with a

cracked or frayed insulator are forbidden.

SPECIFICATIONS

GENERAL

Captured Conductor Size: Φ 12.5mm maximum

Low Battery Indicator: red LED lighting

Operating Temperature: 0°C to 50°C, 70% R.H.

Storage Temperature: -20°C to +70°C, 80% R.H.

Battery Type: 9V DC NEDA 1604, 6F22, 006P

Battery Life: 80 hours typical with alkaline

Weight: 240g typical

Dimensions: 190mm(H) \times 70mm(W) \times 38mm(D)

Output: banana plug

ELECTRICAL (At 23 \pm 5°C, 70% R.H. maximum)

Effective Measurement Range

20A (output: 100mV/A=1mV/10mA): <2A use DC or rms AC for 200mV range of the multimeter, >2A use DC or rms AC for 2V range of the multimeter.
80A (10mV/A): DC or rms AC for 200mV range of the multimeter.

Accuracy

Current Clamp Accuracy:

DCA range: 10mA~20A

(output: 100mV/A = 1mV/10mA)

$\pm(3\% \pm 5mA)$

DC range 100mA~ 80A

(output: 1mV/A)

$\pm(3\% \pm 0.3A)$ 100mA ~ 40A

$\pm(4\% \pm 0.3A)$ 40A ~80A

ACA range: 10mA~20A

(output: 100mV/A = 1mV/10mA)

$\pm(3\% \pm 5mA)$ 10mA ~ 20A (40Hz~2kHz)

$\pm(4\% \pm 30mA)$ 10mA ~20A (2kHz~10kHz)

$\pm(6\% \pm 30mA)$ 10mA ~ 20A (10kHz~20kHz)

$\pm(8\% \pm 30mA)$ 10A ~20A (40Hz~20kHz)

AC range 100mA~ 80A

(output: 1mV/A)

$\pm(2\% \pm 30mA)$ 100mA ~ 80A (40Hz~1kHz)

$\pm(4\% \pm 30mA)$ 100mA ~80A (1kHz~2kHz)

$\pm(6\% \pm 30mA)$ 100mA ~ 80A (3kHz~5kHz)

$\pm(8\% \pm 0.3A)$ 40A ~80A (40Hz~5kHz)

Load Resistance: 10k Ω typical

SAFETY INFORMATION

The instrument complies with class II, overvoltage CAT II - 600V of the EN 61010-1, and EN 61010-2-032 standards. Pollution degree 2 in accordance with IEC 664 indoor use. If the equipment is used in a manner not specified, the protection provided by the equipment may be impaired.