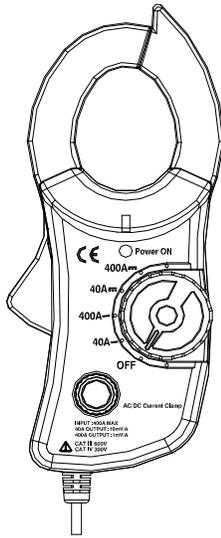


## TENMA AC/DC CURRENT CLAMP OPERATOR'S MANUAL



Please read this manual and all important safety information before switching the unit on.

### SAFETY NOTES:

- Do not exceed the maximum allowable input range of any function.
- Set the function switch OFF when the meter is not in use.

### INTRODUCTION

The AC/DC A Current Clamp is a transducer which will allow your multimeter to measure electrical or/and electronic current up to 400 amps AC/DC, with a frequency response to 50/60Hz. When measuring current with this clamp, there is no need to break a circuit or to affect the isolation.

When measuring DC current, a simple operating knob is designed for zero calibration adjustment.

### APPLICATION PROCEDURES

1. Insert the black banana plug into the COM jack and the red banana plug into the V jack of any multimeter with a minimum input impedance of 10k ohms.
2. Set the power switch from "OFF" to the desired range, 40A (output: 10mV/A) or 400A (1mV/A) position. The green LED will light to

indicate that the clamp is switched on.

3. For current measurement below 40A, set the unit to 40A range and set the multimeter to 400mV or 600mV AC range for AC current measurements, or 400mV or 600mV DC range for DC current measurements. If the measured current exceeds 40A, set the unit to 400A range.
4. When performing DC current measurement, always turn the zero adjustment knob 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 40A range of clamp unit is selected, the measured current value in A. For example, if the multimeter reads 100mV, the measured current is  $100\text{mV}/(10\text{mV/A})=10\text{A}$ .

When 400A range is selected, the measured current value in A. For example, if the multimeter reads 100mV, the measured current is  $100\text{mV}/(1\text{mV/A})=100\text{A}$ .

### 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 and is positive
2. Also during 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 turn zero adjustment knob.

### Non-Contact AC Voltage Measurements

**WARNING:** Risk of Electrocution. Before use, always test the Voltage Detector on a known live circuit to verify proper operation

1. Touch the probe tip, near the jaw opening, to or near the suspected hot conductor or insert into the hot side of the electrical outlet.

2. If AC voltage is present, the detector LED will illuminate.

**NOTE:** The conductors in electrical cord sets are often twisted. For best results, rub the probe tip along a length of the cord to assure placing the tip in close proximity to the live conductor.

**NOTE:** The detector is designed with high sensitivity. Static electricity or other sources of energy may randomly trip the sensor. This is normal operation

### OPERATOR SAFETY

1. Do not clamp around conductors with voltages equal to or exceeding 600V DC or 600V rms AC.
2. To avoid physical injury, never conduct measurements on bare conductors or conductors with cracked or frayed insulator.

### SPECIFICATIONS

#### GENERAL

Captured Conductor Size:  $\Phi$ 30mm 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: Two "AAA" 1.5V Battery

**ELECTRICAL** (At 23±5°C, 70% R.H. maximum)

#### Effective Measurement Range

40A (output: 10mV/A): DC or rms AC for 400mV or 600mV range of the multimeter.

400A (output: 1mV/A): DC or rms AC for 400mV or 600mV range of the multimeter.

#### Accuracy

##### DCA range: 40A

0~40.0ADC:  $\pm$  (2.5% +0.1A)

##### DC range :400A

0~400ADC:  $\pm$  (2.8% +0.5A)

##### ACA range: 40A(50/60Hz)

0~40.0AAC:  $\pm$  (2.5% +0.1A)

##### ACA range: 400A(50/60Hz)

0~400AAC:  $\pm$  (2.8% +0.5A)

### SAFETY INFORMATION

The instrument complies with class II, overvoltage CAT III - 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.