

# EXTECH AC/DC CLAMP METER

This guide covers the major features of this product - it does not cover all of the available functions. This guide is not intended to replace the original equipment manual. Please refer to the manual for more detailed operating instructions and safety information.

## SAFETY NOTES

1. Do not touch exposed energized wires directly with your hands.
2. Do not exceed the maximum allowable input range of any function.
3. Do not apply voltage to meter when resistance function is selected.
4. When changing ranges using the selector switch always disconnect the test leads from the circuit under test.
5. Set Function Dial to appropriate position before measuring.
6. Set the Function Dial to OFF when meter is not in use.

## EQUIPMENT DESCRIPTION

The Extech AC/DC Clamp Meter [1] measures AC/DC Current, AC/DC Voltage, Resistance, Capacitance, Frequency, Duty Cycle, Temperature, Diode Test, and Circuit Continuity.

For the most part, this meter will be used to measure the current flowing through a wire to a device that isn't able to be plugged into a Watts Up Pro Meter (e.g. lighting, large appliances).

While this device will measure voltage and resistance as well, it is recommended that the Digital Multimeter be used for this purpose as it has greater functionality.



Figure 1: Extech AC/DC Clamp Meter

## EQUIPMENT OPERATION

### DIAL

The dial [2] indicates the type of measurement being made and the maximum value that can be measured. For example, if the dial is set to the 40A DC setting, it can only measure up to 40A of DC current. If the voltage measured is actually 60A, then the LCD screen will show a 1 in the far left. If you aren't sure of the approximate size of the value you are going to be measuring, it is best to start on the highest setting and work your way down. As you decrease the maximum readable value, you will be able to read the measurement with greater accuracy.

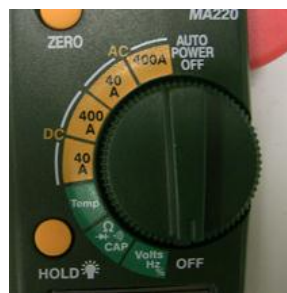


Figure 2: Dial

### CURRENT MEASUREMENT

1. Remove any test leads from the meter before making any current clamp measurement.
2. Set the Function Dial to **400A DC**, **40A DC** (for DC circuits) [3], **400A AC** or **40A AC** (for AC circuits) [4] range. If the range of the measured circuit is not known, select the higher range first and then move to the lower range if necessary.



Figure 3: DC Current Dial Settings



Figure 4: AC Current Dial Settings


3. For DC current measurement, press  the button to null the meter display
4. Fully enclose one conductor inside the jaw using the trigger [5]. Electrical cords are usually composed of three or four conductors – so clamping this meter over the main electrical cord will not provide a measurement. Instead you will need to find the individual conductors [6], which are often located inside a breaker box.



Figure 5: Opening Jaw Using Trigger



Figure 6: Enclose One Conductor

## VOLTAGE MEASUREMENT

1. Set the Function Dial to the **Volts/Hz/%** position [7].
2. Insert the black into the negative (**COM**) jack and the red test lead into the positive (**V $\Omega$** ) jack [8].
3. Set AC or DC with the **MODE** button. You will see the letters **AC** and **DC** alternate on the LCD screen as you push the button
4. Use the **Hz/%** button to ensure that the meter is measuring voltage (either a mV or V should be displayed in the top right corner of the LCD screen).
5. Use the **RANGE** button to switch between mV and V depending on the size of the measurement you are taking.
6. Connect the black test lead to the negative side of the circuit and the red test lead to the positive side of the circuit on either side of the location across which you are measuring voltage [9]. **Do not touch exposed energized wires directly with your hands.** If the probes must be physically attached to the wires, turn off the power to the circuit before doing so.



Figure 7: Voltage Dial Setting



Figure 8: Test Lead Jacks



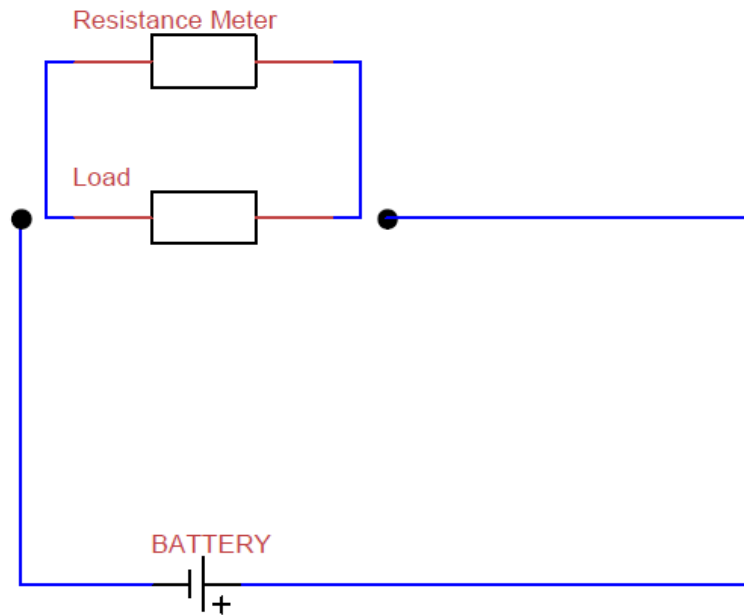





Figure 11: Measuring Resistance

## HOLD

Pressing  the button will lock the currently displayed value on the LCD Screen.

If the meter appears not to be working (number won't change on the screen) it is often because the  button has been pressed. **HOLD** will be displayed on the screen when the meter is in **HOLD** mode.

Pressing  again will release it from **HOLD** mode.