

Primer on the use of the multimeter

- How to set and read a multimeter



Fig. 1: Multimeter as Ammeter



Fig. 2: Multimeter as Voltmeter

The experiments require the use of Ammeters to measure current and voltmeters to measure voltage. The meters supplied with the kits can read both current and voltage depending on how their terminals are connected. Figures 1 and 2 show the multimeter connected to act as an ammeter and a multimeter connected to as a voltmeter.

For the ammeter, the black wire is inserted into the hole labeled “COM”. The red wire is inserted in the hole labeled “10ADC” (see Fig. 1). The dial is then turned so that the arrow points to 10A. At this setting, the ammeter will record anything from 0 to 10 amps of direct current. The 10AD stands for the 10 amp setting and the DC stands for direct current.

For the voltmeter, the black wire is inserted into the hole labeled “COM”. The red wire is inserted in the hole labeled “VΩmA”. Since we are working with direct current volts, the arrow is set to point to 2 (See Fig. 2). To read voltage from direct current, use the setting under the label V_{DC} . The symbol —|—|—|— stands for direct current.

The display contains three digits and a decimal point. The value 1.00 is a thousand times bigger than .001. The value 3.50 is ten times larger than the value 0.35. It is always important to keep track of the decimal place.

It is also important to keep track of the units. Under the setting described, the ammeter will always read in Amps and the voltmeter will always read in Volts. Remember that 2.40 volts is ten times larger than 0.24 volts.

If you want to use other features of the multimeter, discuss new settings with the instructor.