

Appendix K: Using a Mutimeter

A multimeter can be used as an ammeter to measure current, as a voltmeter to measure potential difference, and as an ohmmeter to measure resistance. It can measure both AC and DC currents and voltages. To avoid damaging the multimeter and other components in a circuit, it is critical to use the correct setting for the kind of measurement you will be making.



Figure 1: A typical multimeter

Using the multimeter as a voltmeter

- 1 Set the dial to the symbol with the line and dots next to V) to measure DC voltage (see Fig. 2 below).
- 2 Plug the red probe lead into the socket labeled VΩHz.
- 3 Plug the black lead into the socket labeled COM.
- 4 To measure the potential difference across a resistor, touch the red and black leads on opposite sides of the resistor. See the circuit diagram in Fig 2.
- 5 Record the absolute value shown on the multimeter's screen.

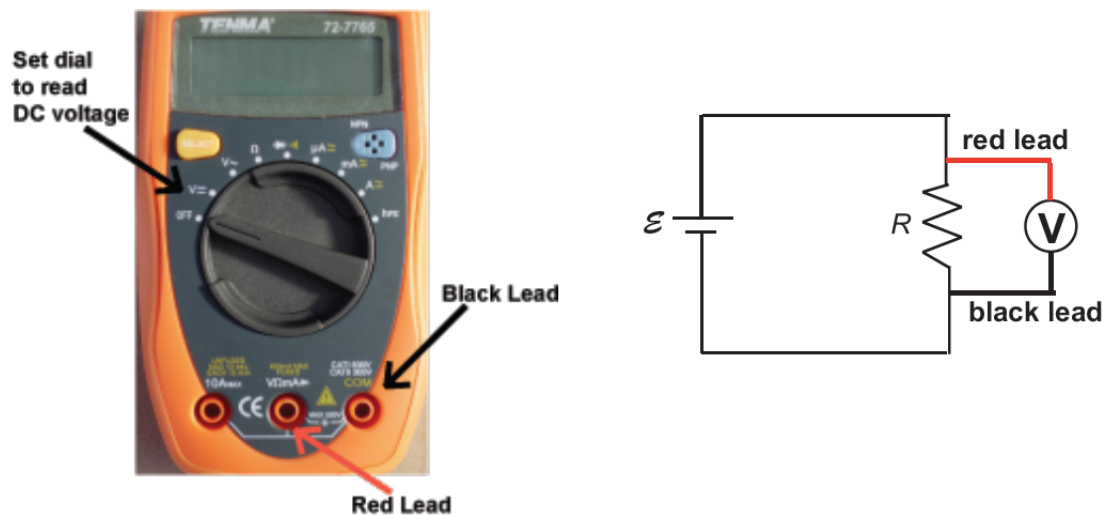


Figure 2: Using a multimeter as a voltmeter

Using the multimeter as an ammeter

- 1 Set the dial to mA to measure current (see Fig. 3 below).
- 2 Plug the red probe lead into the socket labeled VΩHz.
- 3 Plug the black lead into the socket labeled COM.
- 4 To measure the current through a resistor, connect the ammeter in series with the resistor. See the circuit diagram in Fig. 3. In general, you will have to disconnect the circuit to clip the red and black leads into the circuit.
- 5 Record the value shown on the multimeter's screen.

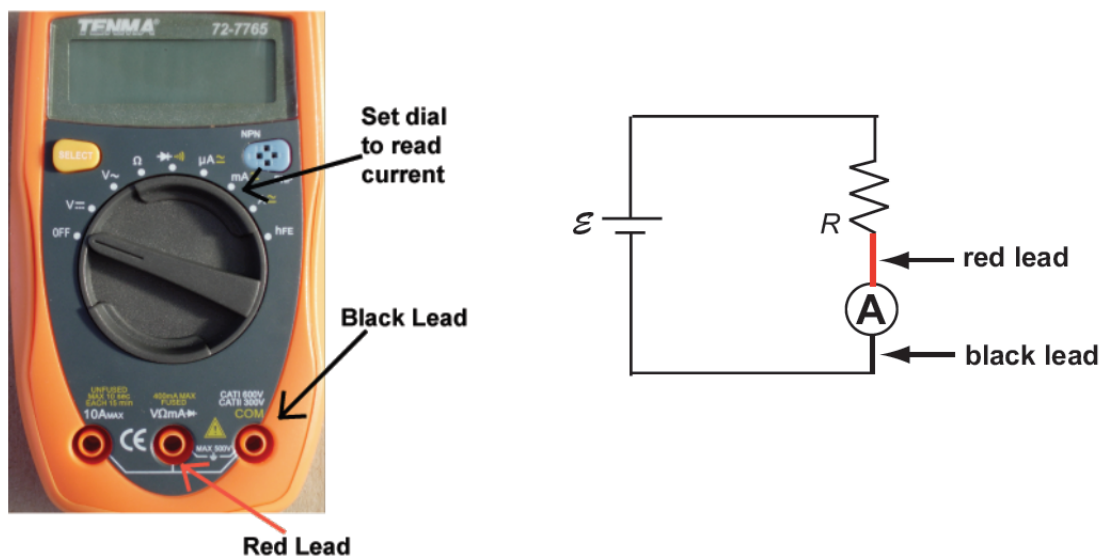


Figure 3: Using a multimeter as an ammeter