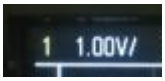
Quick equipment guide for SP EE16b

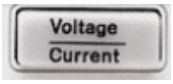
Oscilloscope: measure dynamic voltage signals

1. Connect  to  . (find 10x probes on the rack)
2. Connect  to signal node to be measured
3. Connect  to reference node
4. Check if  is on. Push it if it's off.
5. Adjust  to set  (1V per div works for most cases)
6. Adjust  to set the vertical position. Centering  works for most cases with 1.00V/div
7. Zoom in the waveform if necessary by adjusting knobs in 5-6.
8. For measuring dynamic signals, you should set the horizontal & trigger settings correctly. Pushing [Auto Scale] button does the job automatically with proper scaling settings. The autoscaling function works in many cases but you can also set the horizontal & trigger settings manually.

Power supply: almost ideal voltage (or current) source

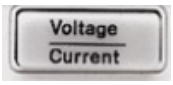
1. **<u>Set current limit</u>**
   a) Press 

. You should see 

blinking.
   b) Press 

to make 

blinking
   c) Adjust  to set the current limit to 

   *In most cases, 0.1A (=100mA) should work.
   d) Press 

again to go back to 

blinking
   e) Press 

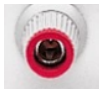
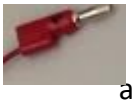
again to go back to 

2. **Check if the voltage level is set to zero**
   a) Press 

and 

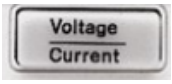
and see if the voltage is zero for +6V terminal 

3. **Connect** the +6V terminal 

to your circuit.
   a) Connect  to the supply node of your circuit via  and  .
   b) Connect  to the reference node of your circuit through  and  .

4. **Turn on** the supply **set the voltage level**
   a) Press 

(if 

is not blinking press 

to set the supply to voltage mode)
   a) Adjust  <u>slowly</u> to set the voltage level.

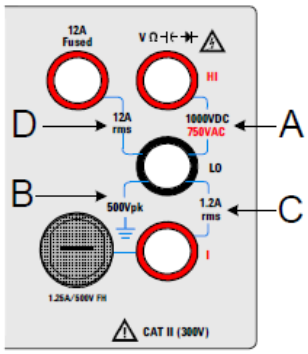
Multimeter: reads 'DC' voltage, current, resistance

1. **Disconnect** all connections from multimeter
2. **Press** 

or 

or 

depending on the parameter to be measured
3. **Make connections** between meter and the circuit (be careful choosing right ports)



A: Voltage & resistance, C & D: Current

4. **Read** the value on screen and **disconnect** connections
5. Most trouble happens when measuring current. <u>Avoid current measurement unless necessary</u>

Breadboard: connects components to make a prototype circuit

Below figure shows internal connections & one example of making a circuit on breadboard.