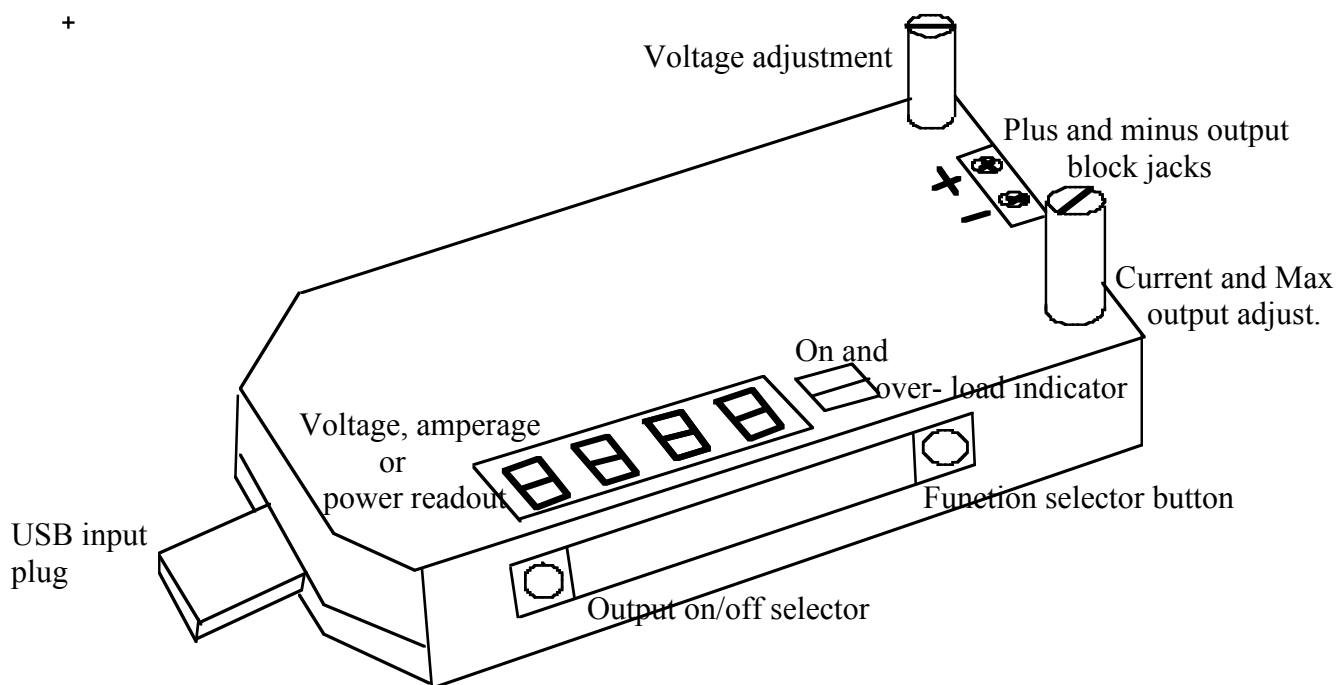


Instructions for using the WUZHI USB Power Supply

This very small DC power supply will plug into a USB computer outlet or phone charger that will produce around 2 amps. The output of the power supply can be adjusted to produce variable voltage from 0.5 to 30 V with current up to a pre-selected current maximum (which will be limited by the amount of current supplied at the input from the USB source).



Attaching wires to the plus and minus output jacks will require a Phillips jeweler's screwdriver. It is suggested that a short length of red and black insulated wire be initially attached to these output jacks and left in place since repeated attachment is inconvenient.

Before attaching a load to the output, plug the power supply into a USB output and the indicator lights will come on and should read 0000 and the on light to the right of the readout should not be on. If the top green light is on and perhaps the output reads other than zero, press the on off button (to the left on the front side) which will return the output to zero and the green light will go off. The on/off toggle will always read zero output when "off" and will indicate the output situation when "on" with the green light lit.

To prepare for our next test, toggle the on/off selector to on and the green light to the right of the readout will light. Since nothing is connected to the output the current and power will read zero but something may appear to indicate voltage. Press the function selector button several times and 0.00A, 0.00P and ???U will appear. (The V may look like a U). Several pressings of the function selector button will lead to a continued alternation of indications of P, A and U. When U comes up press the button again at it will stop cycling and stay at U (voltage). At this point turn the voltage adjustment knob (probably counter clock wise) until the output reads 0.5U. This is near the lowest possible voltage. For our

next test we will need a little less than 6 V so turn the voltage adjustment clock-wise until the voltage reads about 5.9U. If you press the function a few time the output will begin to cycle through 0.00P, 5.9U and 0.00A

To test the power supply it is suggested that a 12 ohm 3 watt power resistor be attached to the output wires with two alligator clip leads. In the following we will assume this is what you have done.

With the 12-ohm power resistor attached to the output, be careful because it will get hot. Either alternate the readings by single pressings of the function button or place it on cycle. The readings should be a little less than 0.50A, 3.00P and 5.9U. This is the maximum that the power resistor can take and it should be fairly hot to the touch. Pressing the on/off button will shut off the output. All readings will return to zero and the green “on” light should turn off.

This power supply has the ability to preset a current maximum. This is done as follows: With the output function set on A, short out the output wires with a single alligator lead. An orange light will appear below the on/off light and a current will be displayed. Adjust the current knob until the desired maximum output current appears. Disconnect the short and the orange light will go off. To test this with the 12-ohm power resistor, set the maximum current as directed above to 0.5A. Remove the short and attach the 12-ohm power resistor. Perhaps in cycle read out, increase the voltage and when the current reaches 0.5A the orange light below the “on” light will begin to glow. By increasing the voltage, you will not be able to increase the current above 0.5A.

Summary of the above steps:

1. Attach red and black output wires to the output jacks. Tighten securely.
2. Plug into a USB jack. Press the on/off button until a green light appears in the “on” light. (If it is desired to set the maximum output current at this step now, skip to step 5 follow the directions and return to step 3.)
3. Press the function selector until ???U appears and turn voltage adjustment for desired voltage if it is known, otherwise adjust it to lower than you expect to need.
4. Attach load to output and read outputs A, P, U individually or in cycle mode. Adjust voltage to desired values.
5. If some current maximum is desired, short the output and an orange light appears below the green “on” light. Adjust the current knob to the desired maximum current. Remove the short and with the desired load attached, increasing the voltage will not allow the current to go beyond this selected maximum value.

Corrections, comments, etc. <Layton@physics.ucla.edu>