

HV250 Operating Instructions **REV814**

The HV250 high voltage power supply is a low cost solution producing 25,000 volts open circuit and up to 1 ma short circuit current. Circuitry is very forgiving allowing short circuit operation for charging capacitors to open circuit operation for generating field potentials. Arcing of the output for demonstration purpose for short periods of time is also possible.

Input power can be any DC source of 7 to 12 volts capable of supplying 1 amp. Batteries can also be used for portable operation. Output voltage can be changed by changing the input voltage between the limits of 7 to 12 volts. Voltage value will be approximately proportional to the input voltage. You may also use batteries or a suitable bench type power supply. Observe proper grounding!

To keep costs down the unit is built in an open channel that can be easily enclosed if the need be.

The unit is can be used to charge capacitors, ion production, shocking devices for animal control, and many high voltage applications.

Operation

1. Place unit on a suitable surface
2. Connect up 12 volt source of dc power noting the polarity. Red is plus and black is negative. It is suggested to add a simple switch in the plus feed line. An LED and 220 ohm resistor can make a good "power on" indicator. Factory assembled units will include 12 v dc 2 amp regulated adapter capable of operating from 100 to 250 vac. A mating plug and jack is included.
3. Study the figure and note proper grounding for your application. This is important !!
4. Connect to desired load and note any excessive heating, arcing or corona.
5. Always use caution as unit can produce an annoying to painful electrical shock.

DANGER!!

Charging capacitors can be very dangerous as lethal amounts can remain in the unit even though power is removed

Fig 4 Side view of assembly and multiplier section

The high-voltage ground return should always be connected to whatever you are Powering with the unit. For instance if you want to discharge a spark, use the other connection that is connected directly to the HIGH VOLTAGE RETURN wire. This way the high current discharge forms a loop the just goes into that particular section.

If you were to discharge the high-voltage into something else that was grounded a lot of the discharge current could come back through the earth ground of the socket plate screw and cause damage. The only exception to this would be if you are running the unit to produce ions where you are only using the high-voltage to put ions into the air than you would take that high-voltage return lead and connect it to the ground screw on the unit along with the other ground.

