

50 AMP Power Supply that will not break the bank



Available from many online sources, these switch mode power supplies offer high current capability and are so cheap, that they warrant investigation in the suitability as a radio shack power supply.

With Chinese made, I always dismantle and inspect the construction, doing so primarily for safety reasons, some things are well made and some are only good for the rubbish bin. This unit is well made, with good isolation to high voltages from the PCB, using plastic barrier to the metal case.

The switching transistors are mounted on a separate aluminum heat sink that in turn is mounted on the aluminum frame, providing further heat dissipation, add to this the 60 mm fan circulating air, there is ample cooling for high current loads.

The bad:

The specs state that the fan is temperature activated, but in reality it runs all the time when power is applied. This is easily fixed with the addition of a thermal switch. I selected one that turns the fan on at 40 deg. C.



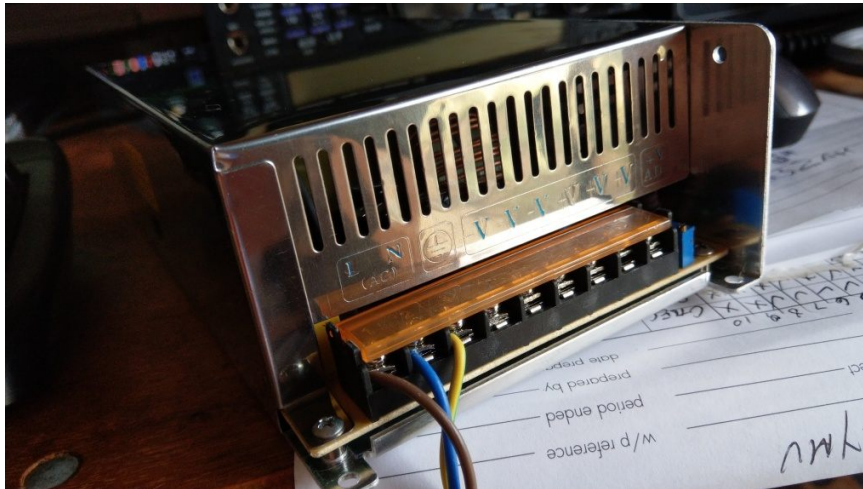
For convenience I fitted an on/off switch, not really a bad point, but I felt it to be a convenience option, to be able to turn the thing off without going to the power point.

These units are sold as a LED supply, the terminal strip has both the AC in and DC out, care must be exercised, as the only protection from the AC, is a plastic fold down cover. If you are placing this in a secure location, it will not be a problem, but if sitting on a bench or similar where objects can come in contact with the end of the unit, a safety hazard exists.

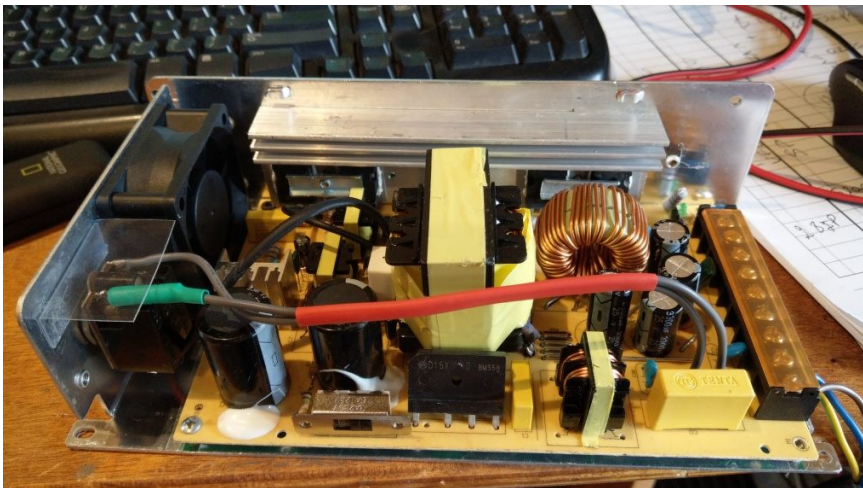
The output voltage is adjustable and has sufficient range to accommodate voltages of your choice. I have measured 11.17 to 15.73 Volts on the one I have. (Note the vendor states that the range is 12Volts +/- 10%).

Regarding Switch mode noise, I was not able to detect any on the HF or VHF/UHF frequencies; the unit does employ a very hefty Ring ferrite choke, clearly doing its job as expected. The AC voltage in is also filtered stopping any noise coming out via the 240 volt input.

For the grand sum of under \$60.00, this makes the basis for a good bench power supply.



Terminal Strip. This should be improved if exposed on a bench.



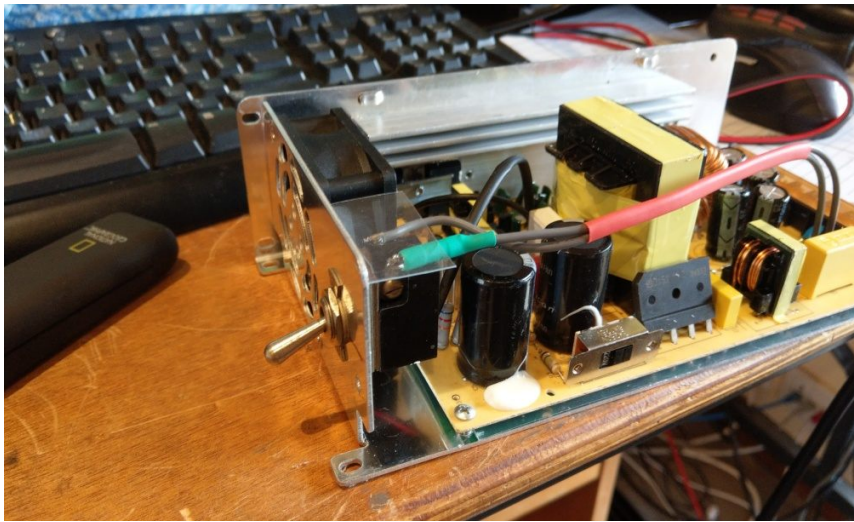
The picture shows the retrofitted on/off switch.

Remove the fuse from the PCB use the holes for the wires.

Fit the fuse at the switch end.

Fit a voltage barrier, using any stiff clear plastic.

The Fan N.O. thermal switch is physically attached to the heat sink.



eBay Search

PSU Unit - AC100-240V To DC 12V 50A 600W Power Supply Adapter

Thermal Switch - KDS9700 Temperature Thermostat Thermal Protection Normally Open - 40 deg. C.

De VK2YMU