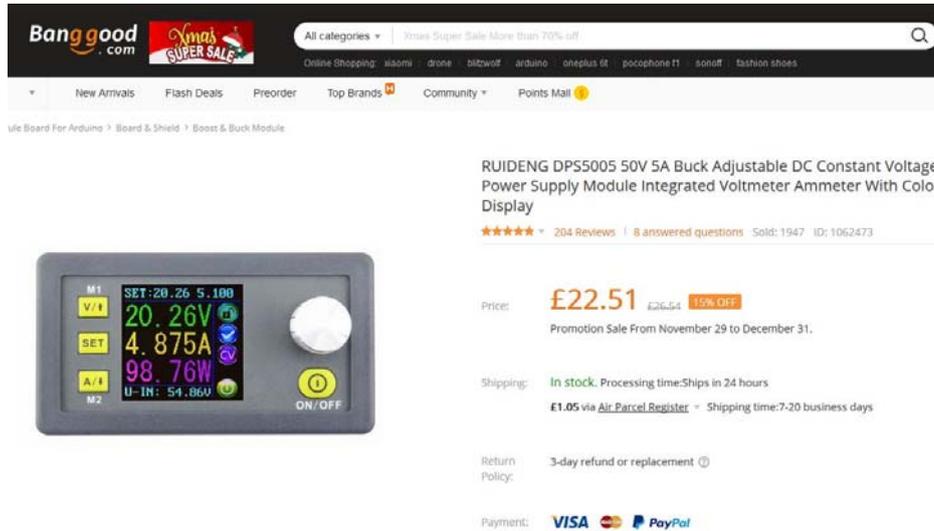


3D POTM

January 2019

The Littlest Power Supply

About 18 months ago, whilst nosing about the Banggood website I happened across the listing for this little device.



The screenshot shows the Banggood website interface. The product title is "RUIDENG DPS5005 50V 5A Buck Adjustable DC Constant Voltage Power Supply Module Integrated Voltmeter Ammeter With Color Display". The price is listed as £22.51, with a 15% discount from £26.54. The product has 204 reviews and 8 answered questions. The shipping information indicates it is in stock and ships in 24 hours, with a shipping cost of £1.05 via Air Parcel Register. Payment options include VISA, Mastercard, and PayPal.

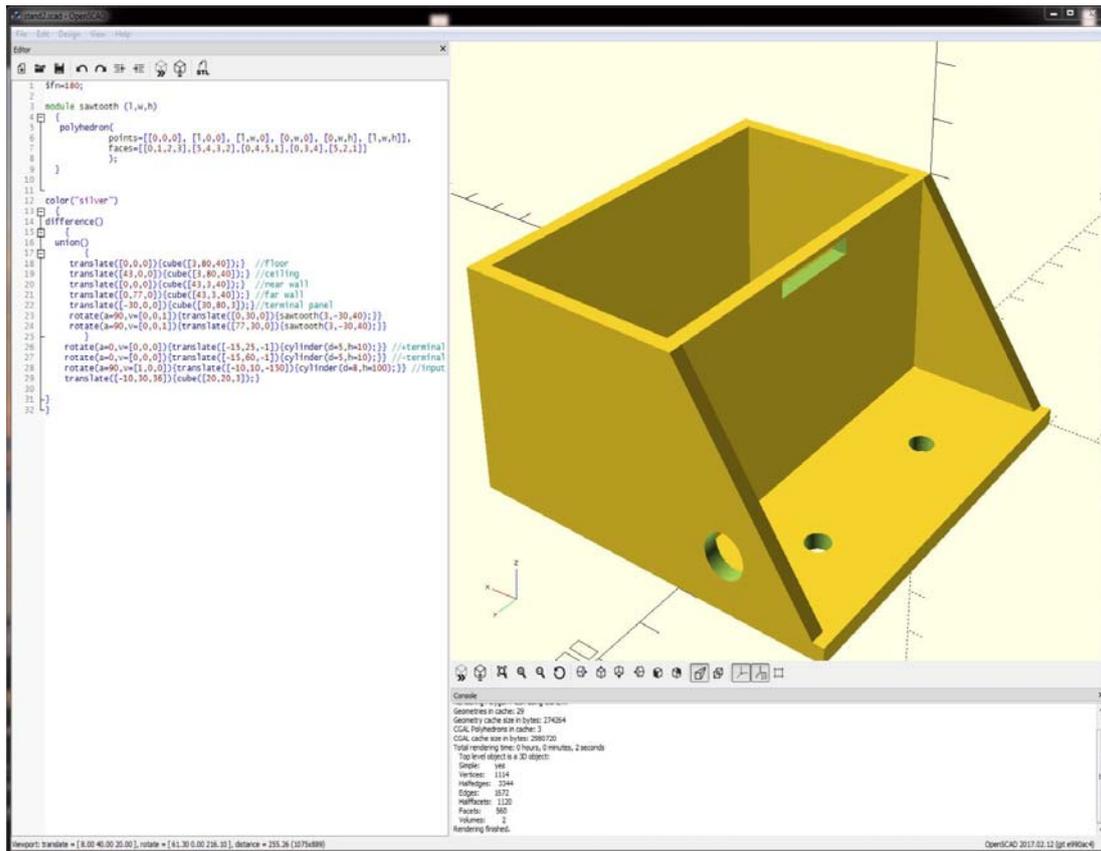
The reviews were good, in fact so good that I was a little skeptical that the device could be as good as they were saying it was, but I was intrigued enough to 'pull the trigger' and order one.

They come in a range of capabilities. From 20V/2A to 80V and 20A. You need to supply the power from a transformer/rectifier/smoothing or from a switch mode supply, the Ruideng module simply controls it. The higher current modules come in two parts to accommodate heatsinking. Because I already had some very good bench power supplies, I did not need an extreme version of the module, and so I settled on a 50V/5A version for about £20. Since I bought mine they have updated the module to include remote control and communications for a few pounds extra. I have no need for these facilities, so I don't feel I've missed out.

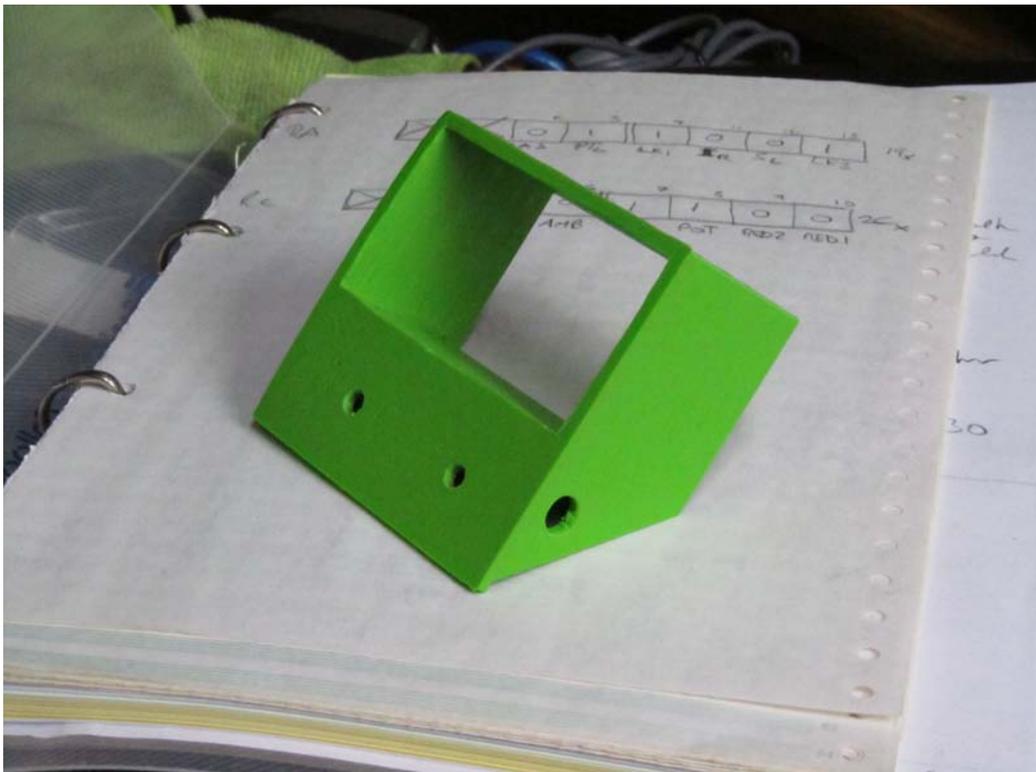
When it arrived I tested it, and was quite amazed at how capable a supply it was. It fits in an 80mm x 40 mm cutout. Thermally it is remarkable, it just does not get hot, even when passing significant power. My plan was to build a little 50V/5A supply in a metal box with a toroidal transformer, someday, when I'm doing nothing else, (as if!).

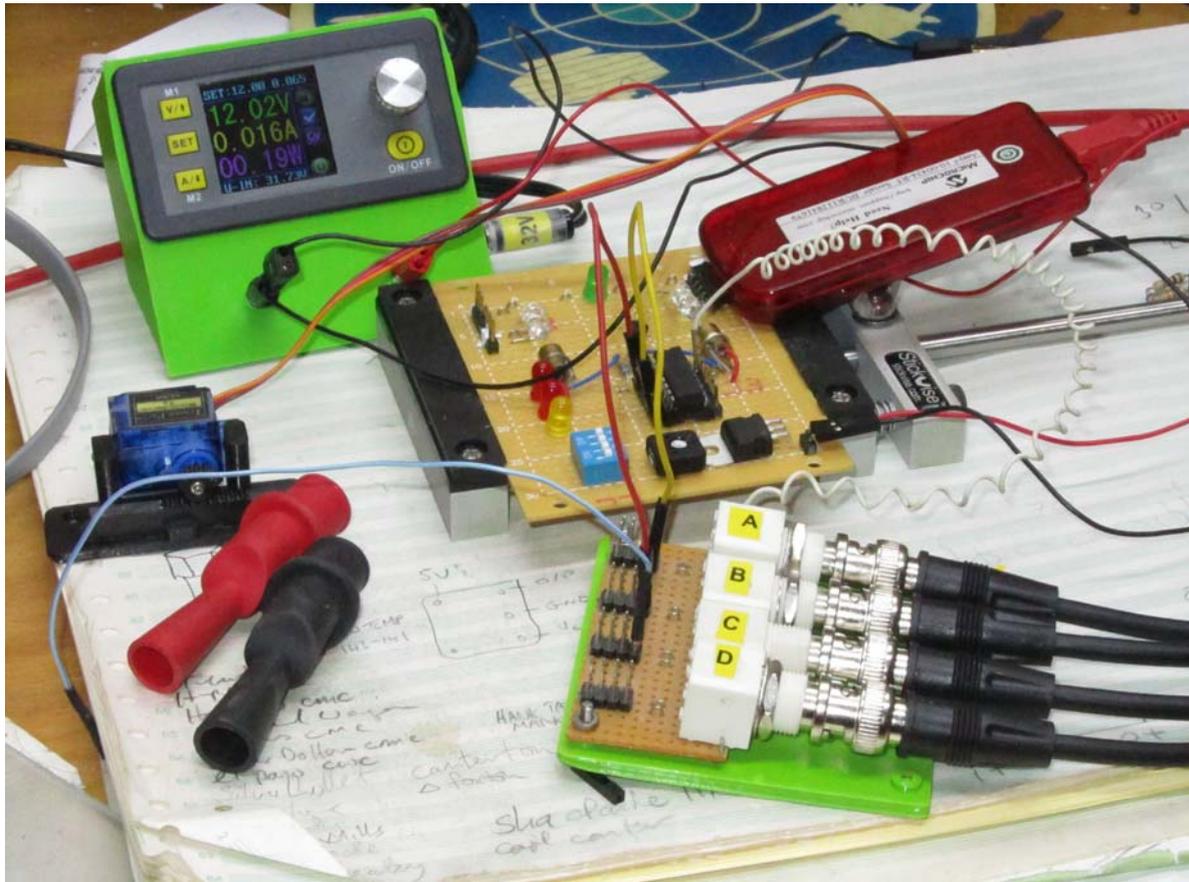
However a need arose to have a portable supply that I could throw in a rucksack, for the informal MERG sessions in Prestwick, and at that point it occurred to me that I could power this little module from a laptop supply, just as I do with my TS100 soldering iron, indeed the same supply could do both.

Half an hour in OpenSCAD designed a little enclosure to take the module, an input jack, the same as the TS100, and a couple of output binding posts. I used 2mm posts instead of the more usual 4mm banana posts, they are tidier for small devices.



A couple of hours printing produced the first prototype. It was a bit snug, but worked fine, after a wee trim with a scalpel. Half an hour to prepare/ cut / solder the two input and two output wires, and the littlest power supply is complete.





Here it is being used during the development of a coming Pocket Money Project. A 32V/3A supply brick from an long since discarded printer/scanner supplies the power, and the little supply sits next to the breadboard or veroboard I am working on.

So successful has it been that I now use it in preference to my 'big' bench supply, because it's neater, totally quiet (no fan), and always in my eyeline whilst I am working. If space is at a premium, for either storage space or working space, then the littlest power supply can be a great addition to your electronics setup.