

# *Simple Free Energy Devices*

There is nothing magic about free-energy and by “free-energy” I mean something which produces output energy without the need for using a fuel which you have to buy.

## *Chapter 38 – The Tiny Generator*

I have already shown the very impressive 150 watt self-powered 110 mm diameter rotor generator designed, built and used daily by the South African developer who has so kindly shared his designs with us. He has continued to advance his designs and test many alternatives. His latest design has a very small rotor of only 48 mm in diameter and only one coil which both drives the rotor and extracts excess energy which charges up to seven 12-volt batteries as well as it's own drive battery. It is a very small and compact generator although the rate of charging is impressive:

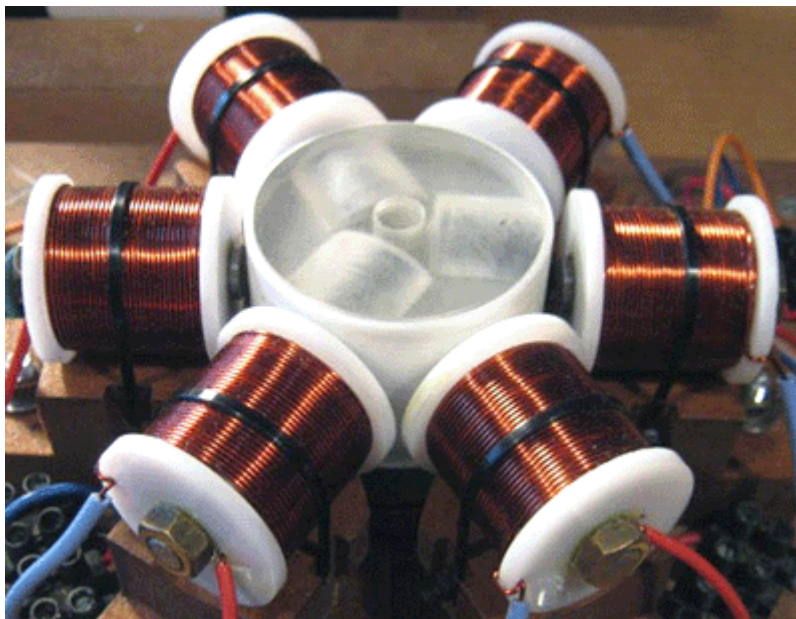


This generator has only one coil because with two coils the operation is so powerful that the rotor is liable to destroy itself. The rotor is made from a thick piece of acrylic plastic cut into a circular disc on a lathe and with three evenly spaced holes of 20 mm diameter drilled in it's side and a length of two-inch diameter plastic pipe around the outside to contain the magnets which are stacked inside the 20 mm holes.

The rotor is mounted on a bearing taken from an old disc drive:



This rotor has been used in earlier projects, initially with six coils:



And then later with two very small coils. However, this implementation uses just one coil and that is one taken from an old doorbell:





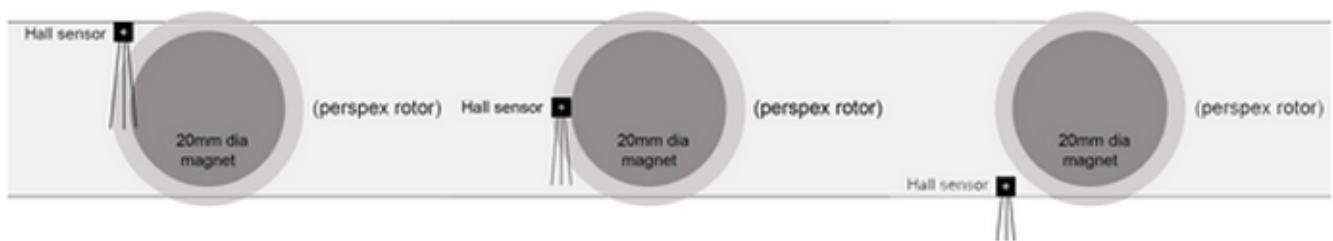
volts, cutting off the IRF840 FET transistor and so starving the coil of current, which in turn creates a magnetic pulse which drive the rotor on it's way.

When the FET switches off, it's drain pin "D" rises to a high voltage of around 600 volts. The three diodes connected in parallel pass that voltage spike across to the three 12-volt batteries causing them to charge very satisfactorily. However, as their charging current also passes through the 12-volt 7 Amp-Hour battery driving the circuit, that battery also gets charged (not as much as the top three batteries as the drive battery is also discharging into the circuit and that sort of an arrangement never charges as well as a battery which is not also discharging). This design is so effective that it produces 600-volt output spikes even if the rotor is just spun by hand.

The IRF840 FET is a 500 volt 32-amp pulse transistor.

The 2SC5353 transistor is a 700-volt, 5-amp pulse, with a low gain of 10, but it really does not need to be a power transistor and was used because it was to hand. Any high gain transistor with reasonable current handling ability should do, perhaps a TIP3055.

As with almost all free-energy devices, the setting up and adjustment makes a major difference. The rotor being so very small, it needs to be made very accurately – usually with a lathe or a 3D printer. The 20 mm diameter holes in the rotor each hold five ferrite magnets size 20 mm in diameter and 3 mm thick. Exactly where the Hall effect sensor is positioned is important, so it is mounted in a way which allows both horizontal and vertical adjustment. Obviously, the sensor must not touch the rotor and surprisingly, the gap between the sensor and the rotor can be anything up to 10 mm as that distance does not seem to make any great difference to performance. By contrast, the horizontal and vertical positioning does make a major difference and the developer describes it this way:

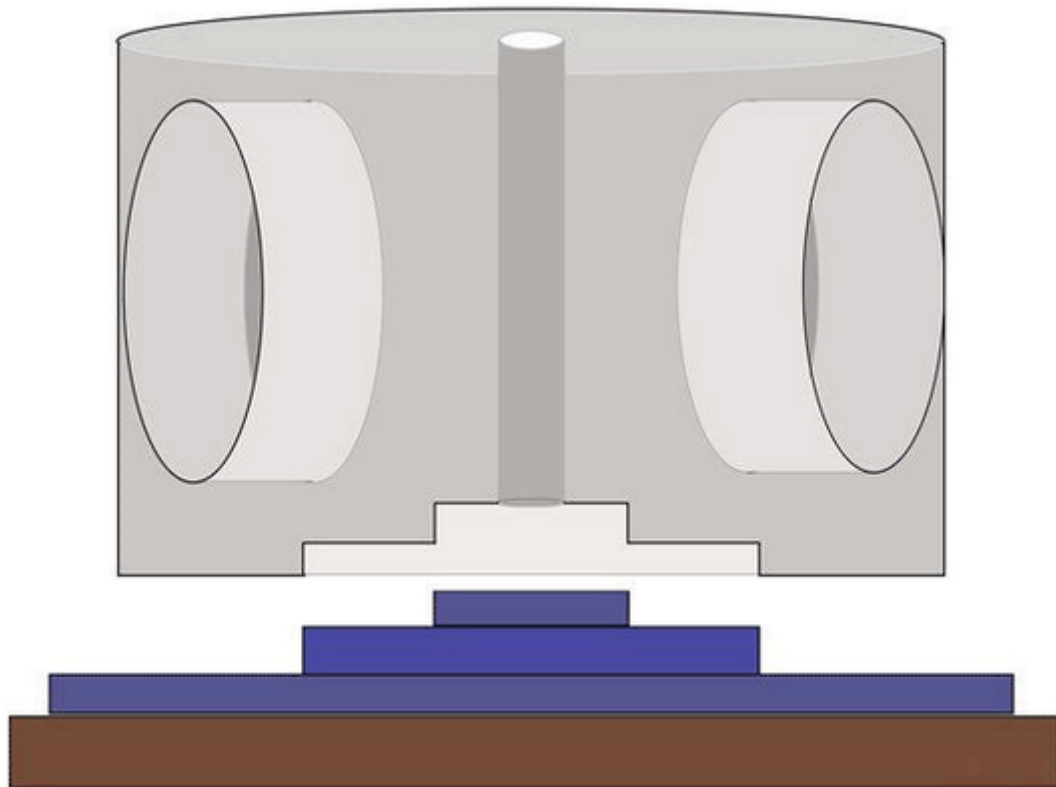


The magnetic effects of the rotor magnets are shown in this diagram. The dark grey region is the full magnet strength and the light grey area shows a reduced magnetic field effect.

The vertical position of the sensor determines both the current draw from the drive battery and the rotational speed of the rotor. At the top or bottom positions, the time of the passage of the magnet past the sensor is the shortest, and therefore the current draw from the drive battery is the least. In the centre position, the passage of the magnet past the sensor is obviously the longest, and this is a tempting position to use because it results in the most impressive raw power. It is not however the best position in most instances.

The light grey circle indicates the region of sensitivity to the magnet, which the sensor exhibits, usually about 5 mm. So the sensor can trigger 5 mm before the magnet arrives and still draws power for 5 mm after it passes by. This is important. Many folk seem to be very concerned about the *radial* position of the sensor and from a scientific point of view it is of course very worthy of close study. However, from a practical consideration, I would advise not to waste too much time on this point. Just use trial and error. Make sure that the Hall Sensor mount is adjustable horizontally as well as vertically, and move the sensor into the position which gives the best results.

The rotor is connected to it's base bearing using a push fit. For that arrangement to work well, the rotor construction has to be very accurate indeed. The arrangement is like this:



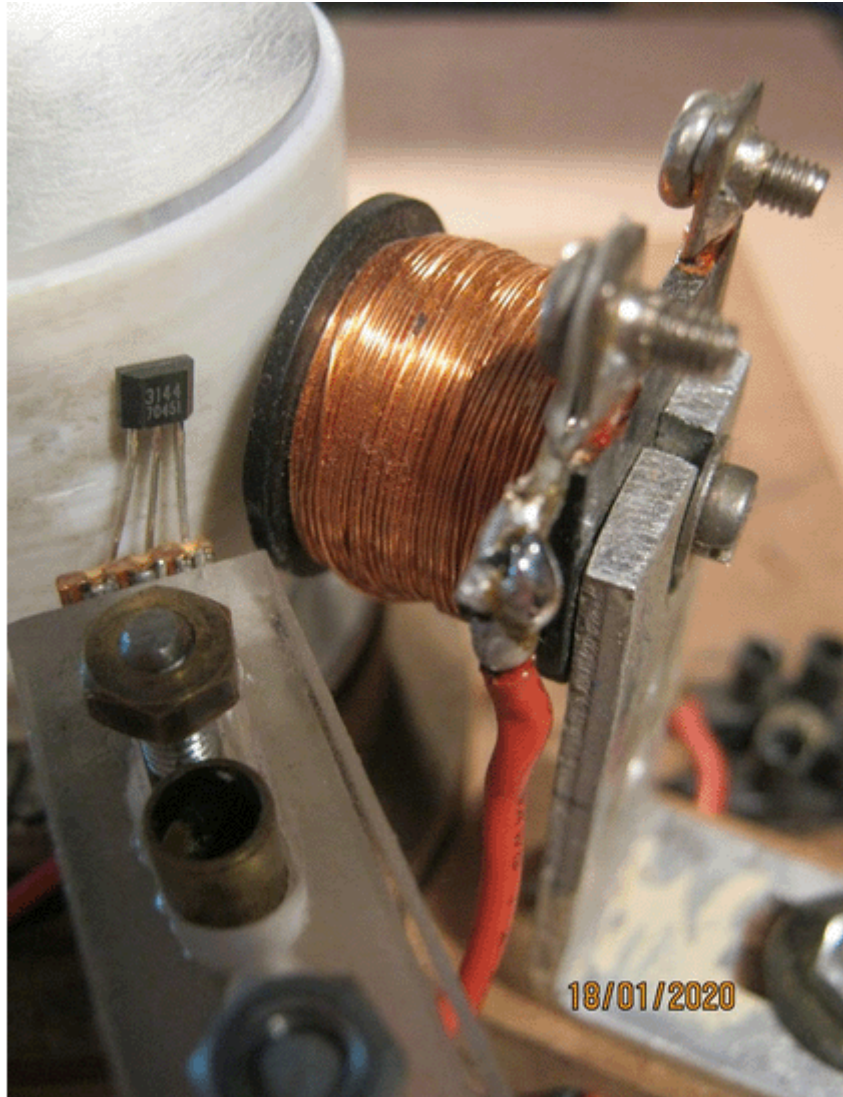
The overall unit is small:



The sensor is positioned about 1.5 mm away from the rotor and the coil is on a solid metal core, which,



since the core has to magnetise and demagnetise very quickly, will be made of iron or it's equivalent (not mild steel which becomes a permanent magnet):



The coil is wound with 0.3 mm diameter wire and the distance between the flanges is 15 mm and the width of the winding is 20 mm and the DC resistance is 10.6 ohms. Although this generator can easily charge seven batteries simultaneously, there is no need to use that many batteries if it does not suit you, you can charge a single 12-volt battery with this generator if you wish. Again, I should like to thank the South African developer for generously sharing his successful designs with us.

Patrick J. Kelly  
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