International Journal for Modern Trends in Science and Technology
Volume: 03, Issue No: 05, May 2017
ISSN: 2455-3778
http://www.ijmtst.com

Automatic Power Backup for Mobile Phones Using Free Energy

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To Cite this Article
Raja R, Arivuselvan.A, Allwin Ramesh.G, Venkatraman.J and S.Muthukannan, "Automatic Power Backup for Mobile Phones Using Free Energy", International Journal for Modern Trends in Science and Technology, Vol. 03, Issue 05, May 2017, pp. 324-327.

ABSTRACT

More than 90% of power in this world is generated using electromagnets based on the faraday's law of electro-magnetic induction principle. So many new technologies were discovered which led to a drastic change in the perception of electric energy. But at the same time there is misconception of FREE ENERGY. Energy becomes free only at a point after which we don't have to pay for power generation after commissioning the unit. By using the magnetic force of magnets continuous motion (Energy) is generated.In this paper we are presenting a portable automatic power back up for USB charging purposes which are independently charging the battery without seeking any other power sources.

Keywords- *Electromagnetic Induction, free energy, neodymium magnets, Rectifier, chopper, battery.*

I. INTRODUCTION

The economic development of a country depends on the energy security for driving and improving the quality of the life of the people. Normally the electric energy generation caused global warming and green house effect. Without affecting the environment, electric power generation is possible in the way of using renewable energy. Solar and wind energy is the largest energy generating sources in till date.

In present scenario, India is one of the fastest growing countries in terms of energy consumption. India is currently the seventh greatest electricity consuming country (accounting for about 3.5% of the world total annual electricity consumption), but will soon overtake both Germany and Canada. India being located in the tropical region endowed with abundant renewable energy sources i.e., solar, wind, and biomass which are perennial in nature. So the renewable energy is the efficient one to produce electric power without affecting environment.

In this paper, we present free energy concept to generate electric power for mobile charging and emergency light, etc. This product consists of a DC fan as wind system, converters, battery and neodymium magnets. The fan will be made to rotate by the principle of like poles repel each other. Thisrotation of fan is sufficient to generate some power without using any fuel. The generated power will be store in a power bank and we can use for charging the mobile in remote area. This power does not require any fuel. Hence it is totally greeny. Also the size of the product is very small, we can easily portable.

II. CONSTRUCTION

The prototype model of the free energy generator contains these components:

1) Set of Neodymium (Nd) magnets

2) Small Electric motor
3) Rectifier
4) Boost converter

Normally dc motor/generator consists of a rotor & a stator. Here stator part is stationary and rotor part is rotating part. Both part having copper coil which is called as conductor. Stator and rotor made up of a ferromagnetic material. The inner periphery of the stator & the outer periphery of the rotor cuts by slots. In these slots of the stator or rotor kept conductor. These conductors are interconnected to form round windings. The voltage is induced through armature windings & which current is passed along field winding. In some machines instead of windings permanent magnet are used. Which is provides the main flux of the machine. The dc fan is used because internal windings of the dc fan just act as a generator (here). The windings are coiled around a cavity in which the rotor shaft is inserted & rotated to generate the electric power.

Neodymium magnet placed on the wings of the dc fan evenly like same pole and same direction may be a north (or) South Pole and these magnetic are isolate (or) attraction of poles. Due to this isolation and placing magnetic field produced upward direction .The large size magnet, faced on isolated magnet, which is also produced magnetic field in downward direction, so repel between of both magnetic field causes fan to rotate. Now as the shaft rotates in between the windings, it cuts the flux created by the windings & a small amount of voltage is produced in the conductor and that power will be collected by the 2wires are coming out of the fan.

Fig.1 Free energy generator's internal view

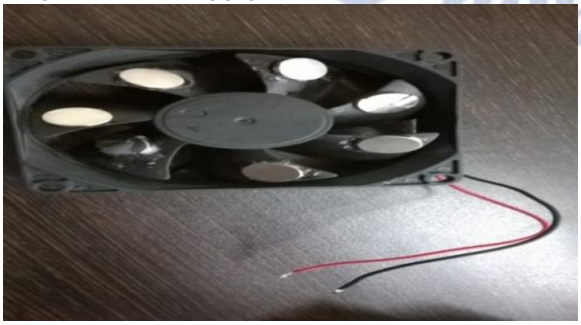

Fig.2 Fixing magnets on motor blades

III INSTALATION

Normally we know free Energy Generator was fitted onto the 2 wheelers in-front of vehicle, but here a small dc fan consist as a generator and wins of the motor blade has installed neodymium magnet, magnets are installed like same poles, and required another one big magnet, that magnet is normally greater size than installed disc type magnet, that magnet oppose opposite magnet. So here the rotation will occur. This rotation is sufficient to generate small amount of power. The generated power fed to converter unit to boost up the voltage and then the power is stored in a battery.

IV BOOST CONVERTER

The boost or step-up regulator regulates the average DC output voltage at a higher level than the input or source voltage. This is accomplished through controlled switching where the dc input voltage is turned on and off periodically, resulting in a higher average output voltage.

General boost converter configuration

The below circuit represents a boost type switching mode regulator. A boost converter using a power MOSFET, dc input voltage source, switch S, diode D, boost inductor L, filter capacitor C, and load resistance R. The average output voltage level is varied by adjusting the duty cycle of the converter switch. The duty cycle can be varied by controlling the ON and OFF period of the switch.

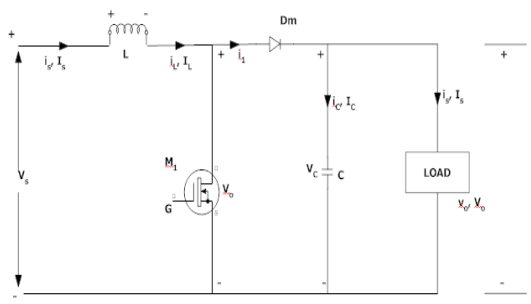

Fig.3 Conventional Boost Converter

During mode 1

Operation of the converter the power switch S is switched to ON stage, the input voltage source supply energy to the inductor, the diode D is reversed biased , thus isolating the output stage. The supply current which raises flows through the inductor L and capacitor releases energy to output load terminals.

During mode 2

Operation of the converter the power switch S is switched to OFF stage, the diode D is forward biased due to the energy stored in the inductor and

the input source and the inductor supplies energy to load through the capacitor and the diode D. thus the inductor current decays until the next mode 1 operation will start. The equivalent circuits for these two modes of operation are shown in figure3.

V EXPERIMENTAL RESULTS AND DISCUSSION

The following results were tabulated while performing the experiments for free energy generator with magnets.

Fig. 4 Fan rotation

Voltage Booster:

As we can see that, the voltage produced from this generator is free but of a very small value which is not of much use. So a voltage booster and a current booster will be added with the generator to increase the voltage of the output to a usable value.

Table1. Output from free energy generator

S. No.	Initial Voltage (V)	Boost Voltage (V)	Current (A)	Power (W)
1	0	0	0	0
2	0.5	0.5	0.002	0.001
3	0.75	0.75	0.005	0.003
4	1.5	12	0.006	0.072

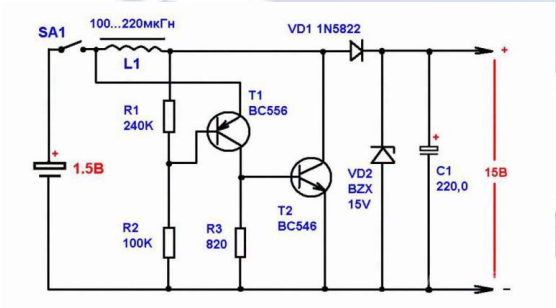

Fig4. Boost Converter

Power Bank

The power bank is used to store the power extracted from the generator. So we can go for a light weight, high capacity and eco friendly mobile power bank for most portable devices that can be used anytime or anywhere. The product adopts high performance Li-I batteries. The given micro-USB cable not only charges the Power bank but it can also be used to charge devices with micro-USB inputs 5V/2.1A (max). Provides adequate back-up power anywhere you go.

Performance

- Provides adequate power back-up anywhere you go.
- Plug & play
- Flashlight
- Auto-Off when there is no attached device being charged.
- Short-circuit, over charge, over discharge and leakage protected.

Power Bank Overview

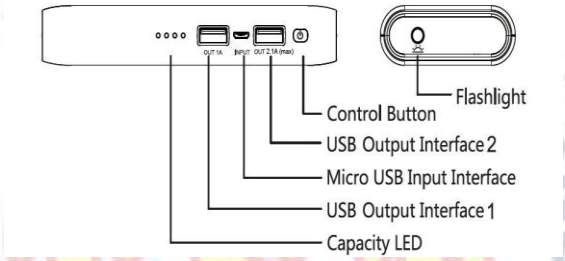

Table2: Technical parameters

ITEM	SPEC	FEATURES
Capacity	3.7/10000mAh	High-energy green lithium-ion battery cell
Input Voltage	DC 4.75-5.25V	Smart managing system voltage input
Input Current	2000mAh(MAX)	Smart managing system current input
Rated Output Voltage	DC 5.0V±0.25V	Smart detecting voltage output management system
Output Current	USB1:1000mAh USB2:2100mAh(MAX)	Smart detecting current output management system

VI FUTURE WORK AND CONCLUSIONS

In this paper, by integrating the basics of a generator and a motor, we have successfully come with a newer concept of free energy generator which runs on almost no input & gives a valuable amount of electric energy which can be used for many purposes. This paper revolves around the construction, working and applications of free energy generator & its future enhancements. This design technique may prove to be a pioneer in the field of research of free energy. Now it is possible to get free electricity from the stuffs from our home without looking for the wall source. This concept of free energy is can be made using magnets & simple motors.

The main advantages of this product is,

- The power bank will charge up automatically without looking for a supply source.
- Cost effective
- No pollution
- Easy to use
- It will be useful for continuous traveling persons.

In this paper, the objective is to automatically charge the power bank without any wall sources and we achieved somewhat nearer to the objective. For the 5 volt output voltage, we can get only a few milliamperes (mA), and we cannot achieve 2A rating. This takes longer time (around 70 hrs) to charge up a battery. However we are trying for the maximum current output in the future by further research.

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