

Empirical Analysis for Generation of Electricity Through Power Reactor

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Abstract: We distinguish that in technological era, there is massive demand of electricity in various region like Industrial area, domestic appliances, hospitals and many more, but we are unable to fulfil the demand of electricity. Hence we have demonstrated the concept of power reactor which has capability to transform the world. It works on the principle of energy conversion. While generation of electricity in thermal power plant coal, petroleum product, etc. burned out to steam water and get pressurized steam. The steam is given to swivel turbine and the electricity is obtained through alternator. In power reactor it will produce electricity for self-operate and the power get inverted to achieve greater voltage and current. This helps us to conserve fossil fuel. This concept can be adopted in most of the devices like airplane, cars, bikes, satellites, etc. The major element in reactor is a transformer which step ups and step downs the voltage and two batteries which charge each other continuously and output is taken out. This power reactor is in tall in home or in industrial area then definitely we can minimised the electricity expenses and help india to be part of Atmanirbhar Bharat.

Keywords: Power reactor, Transformer, Electricity, Alternator, Battery.

I. INTRODUCTION

In the entire world the major source of electricity is thermal energy and this energy is produced by burning fossil fuels like coal. Petroleum product etc. These resourced takes thousands of years to form, with the increase of electricity in day to day life the fossil fuel comes to end in our earth because it is non-renewable. So we have demonstrated a device having ability to replace our major energy source i.e. thermal energy. These project can be implement in various purpose such like cars, bikes, Home etc. And it doesn't require any other source or fuel to run. In these project we have designed power reactor. This project is definitely helps to make atmanirbhar Bharat-a visionary mission by our Aunorable prime Minister.

II. IMPLIMENTATION

There is very limited availability of fossil fuel in the Earth and soon it will end and vanished. If you hear news like 'There is no more fuel available in our Earth and only 1 or 2 years electric supply remain' then what we will do? Behalf of this point we have design a device named the power reactor which generates electricity without any input, without any source, without any solar panel. This only knows to give electric output.

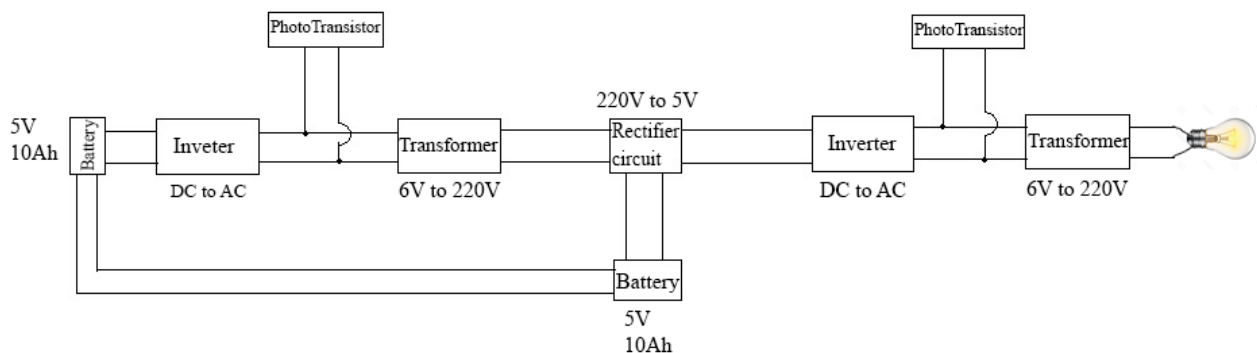


Fig. 1 Block Diagram

Block diagram consist of

- Invertor
- Photo Transistor
- Transformer
- Battery
- Rectifier circuit

The second battery is used to charge the first battery and a voltage loop is created. The power reactor works on this principle. And the output is taken from the third inverter and step up transformer that is 220V and 2A.

Here total one inverter and one transformer is used. Firstly the battery gives input to inverter and it converts DC into AC (typically 50 Hz) and the step up transformer converts 6V into 220V. A photo transistor is placed between inverter and transformer to give external current. Then a step down transformer and a rectifier circuit is placed to step down and rectify 220V to 6V. The rectifier is used to charge the battery and a voltage loop is created. The power reactor works on this principle. And the output is taken from the inverter and step up transformer that is 220V and 2A.

III. CIRCUIT COMPONENT

A. *Inverter*

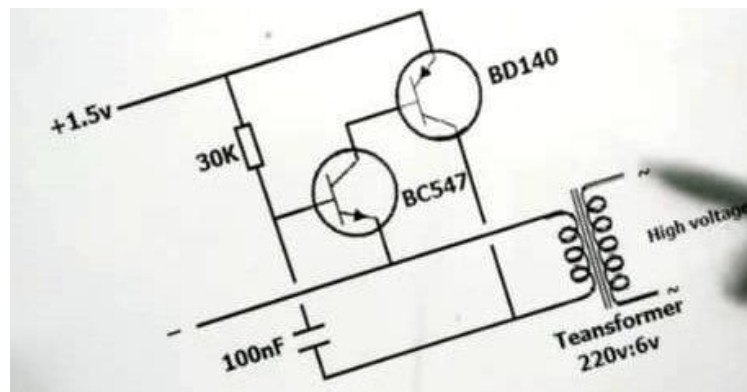


Fig. 2 Invertor Diagram

An inverter is an electric apparatus that changes direct current (DC) to alternating current (AC). It is not the same thing as an alternator, which converts mechanical energy into alternating current. Here we have used two transistors i.e. BC547 and BD140. This transistor plays an important role for conversion of DC to AC. Then after the voltage is increased from 6V to 220V by the 6V to 220V step-up transformer.

B. *Transformer*

A transformer is a passive electrical device that transfers electrical energy from one electrical circuit to another, or multiple circuits. A varying current in any one coil of the transformer produces a varying magnetic flux in the transformer's core, which induces a varying electromotive force across any other coils wound around the same core. Electrical energy can be transferred between separate coils without a metallic (conductive) connection between the two circuits. Faraday's law of induction, discovered in 1831, describes the induced voltage effect in any coil due to a changing magnetic flux encircled by the coil.

Transformers are most commonly used for increasing low AC voltages at high current (a step-up transformer) or decreasing high AC voltages at low current (a step-down transformer) in electric power applications, and for coupling the stages of signal processing circuits. Transformers can also be used for isolation, where the voltage in equals the voltage out, with separate coils not electrically bonded to one another. Transformer has 230V primary winding and non-center tapped secondary winding. The transformer has flying colored insulated connecting leads (Approx. 100 mm long). The Transformer act as step down transformer reducing AC - 230V to AC - 6V. The Transformer gives outputs of 6V and 0V. The Transformer's construction is written below with details of Solid Core and Winding.

C. *Photo Transistor:*

The phototransistor uses the basic bipolar transistor concept as the basis of its operation. In fact a phototransistor can be made by exposing the semiconductor of an ordinary transistor to light. Very early photo transistors were made by not covering the plastic encapsulation of the bipolar transistor with black paint. The photo-transistor operates because light striking the semiconductor frees electrons / holes and causes current to flow in the base region.

Photo-transistors are operated in their active regime, although the base connection is generally left open circuit or disconnected because it is often not required. The base of the photo transistor would only be used to bias the transistor so that additional collector current was flowing and this would mask any current flowing as a result of the photo-action. For operation the bias conditions are quite simple. The collector of an NPN transistor is made positive with respect to the emitter or negative for a PNP transistor.

D. *Power Transistor BD140*

BD140 is a famous PNP type transistor, it is used in many electronics circuits, this transistor can handle current up to 1.5A or 1500mA, due to which it can be used to drive loads up to 1.5A in electronic circuits, for example high power LEDs, relays, motors and more, with these features it has lots of other features like its high collector emitter and collector base voltage that is 80 volts, make it an ideal transistor to use in circuits using 80 volts DC or below 80 volts. Moreover the collector dissipation of this transistor is around 12.5 watt due to which it's a good transistor to use in audio amplifier circuits. The minimum base voltage or saturation voltage of the transistor is -0.5V.

E. *Rectifier*

Rectifier is a circuit which is used to convert AC into pulsating DC after which it is provided to filter circuit which filter the pulsating dc by removing the unwanted ac component present in DC output.

IV. HARWARE IMPLIMENTED

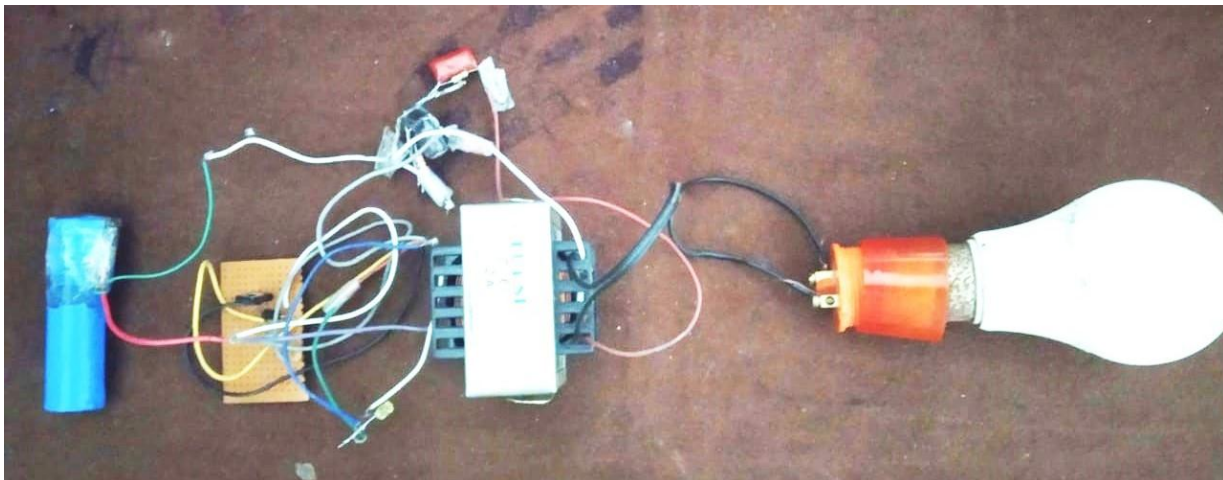


Fig. 3 Hardware Implimentation

V. ADVANTAGES

- It applicable of most of equipments.
- It dont required any fuel
- It cant creat harm to enviornment in term of polution
- It is portable device with minimum space

VI. APPLICATION

- Used in bikes as power sources.
- Used in satellite.
- Robots.
- Used in car as power sources.

VII. CONCLUSION

Here we have attempted the power reactor which generate the electricity without any external source, hence this project is very used full for power generation domain, helps us to make the indian as Atmanirbahr Bharat. It save the electricity and extra resource's required for the generation of electricity.



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