How to make an inverter from batteries

How to make an inverter from batteries

Earlier, our power (electrical) requirements were so less. But now, the scenario has changed a lot. From a simple induction to complex washing machines, from a Cell phone to our high end gadgets, every equipment related with our daily use requires power supply. It is the main reason for the recent increase in use of inverters at our home. There are different types of inverter available in market, but these circuits are complicated, high end and costly. So, let"s make our own inverter at home.

This circuit design does not have any functional limit and comes with an efficiency of more than 75%. And in addition, it is capable of compensating almost all of our power needs and that too at very most of your power requirement at a very reasonable cost.

The circuit of this inverter is dissimilar when compared to the commonly used inverters as it does not have involvement of a separate oscillator circuit to power up the fitted transistors. In place of that, in our circuit, both halves of the circuit functions like a re-generative process (just like full wave bridge rectifiers).

Whatever we do to balance both the parts of the circuit, there will always be a misbalance in the resistance values and transformers windings. This is the reason that both parts of the circuit can never operate at the same point of time.

Now suppose that the first part of the circuit starts conducting first. The biasing voltage for the first half is being fed by the second part"s transformer winding through R2. As soon as the first part completes its conduction stage, the output of the battery is grounded by the collectors.

The process drains out any available voltage to the base through R2 and thus the conduction of the first part stops completely. At this instance, the transistors in the second part get the chance for conduction. and hence this cycle keeps continuing.

Take an aluminium sheet and make/cut the sheet into two parts of nearly 5x5 inch. Drill holes for fitting the power transistors. The holes should be approximately 3mm in diameter. Drill/Make suitable holes to enable easy and firmed fitment on the cabinet of the inverter.

Place the complete PCB and transformer assembly inside the metal cabinet. Keep in mind that ventilation in the cabinet should be good. Attach the input/output points including fuse holder with the cabinet and connect them in accordance with the circuit diagram placed above.

Operational checks of the circuit before using it on full scale is quite necessary. To test it, carry out a connection of 50-60 watt bulb with the inverter"s o/p socket. After that, place a battery (12 volt) with the inverter"s i/p socket. The bulb will light up brightly which will indicate that the circuit connection is right and

out inverter is ready to go on field. However, if the bulb does not light up, Then recheck the connections.

The power output of the inverter is nearly in the range of 70-80 watt and the backup time is completely load dependent. It can be used to power bulbs, CFL lights, fans and other small electrical appliances like soldering iron etc. The efficiency of this inverter is 75% approximately.

The biggest advantage : The circuit unit is small and easy to carry. It may also be connected to your vehicles battery itself when outdoors so that the trouble of carrying an extra battery is eliminated.

Need to provide more details like1. Size of heat sink calculation based on maximum power output2. If both the transistors are mounted on the same heat sink, their collectors will be shorted. Mica or some other electrical insulator but thermal conductor is required to attach the heat sink to transistors or two seperate heat sinks.3. Also u need to use heat sink paste to properly attach the transistors to heat sink4. Need to give efficiency information as it is battery operated. I guess this is not efficient.

Contact us for free full report

Web: https://sumthingtasty.co.za/contact-us/
Email: energystorage2000@gmail.com
WhatsApp: 8613816583346