

Battery charger circuit using SCR

<https://youtu.be/1g4UmVuZeYo>

The principle behind the circuit lies in controlling the switching of an SCR based on the charging and discharging of the battery. Here the SCR acts as a rectifier as well as a switch to allow the rectified DC voltage to be fed to charge the battery. In case the battery gets fully charged, this situation is detected using a comparator circuit and SCR is turned off.

When the battery charge drops below a threshold level, the comparator output is so as to turn the SCR on and the battery gets charging again. Here the comparator compares the voltage across the battery with a reference voltage.

The battery is charged with small amount of AC voltage or DC voltage. So if you want to charge your battery with AC source then should follow these steps, we need first limit the large AC voltage, need to filter the AC voltage to remove the noise, regulate and get the constant voltage and then give the resulting voltage to the battery for charging. Once charging is completed the circuit should automatically turned off.

The AC source is given to the step down transformer which converts the large AC source into limited AC source, filter the AC voltage and remove the noise and then give that voltage to the SCR where it will rectify the AC and give the resulting voltage to the battery for charging.

Main features of this project:

1. portable circuit and can be carried anywhere.
2. used as an automatic battery charger.

Major blocks present in this project:

1. Power supply
2. Transformer
3. SCR
4. Battery

Block Diagram:

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