IoT BASED SMART POWER GRID SYSTEM

ABSTRACT

A smart grid consists of a power network with ‘intelligent’ entities that can operate, communicate, and interact autonomously, in order to efficiently deliver electricity to the customers. In this project the generator power depending on the power demand when the consumed load demand is increased above the (source) voltage, loads have the inefficient power from the transformer. We can avoid this problem by load sharing technique. In this project transformer power is shared automatically depending on the load demand. In this project we are using two transformers one is act as the main transformer and remaining one acts as additional transformer. The load is connected these two generators parallel.

The current transformer will convert the load current in to lower values; that current output will be converted in to voltage with the help of the shunt resistor. Then the corresponding the AC voltage will be rectified with the help of the precision rectifier. The precision rectifier circuit connected to the microcontroller circuit.

The NODE MCU controllers is using in this project. When the consumed load is more than the transformer, the microcontroller activate the relay setup. So the second transformer is connected to the load through the relay. So the transformer is shared according to the consumed power. We use IoT technology that allows the authorities to monitor and check faults over internet.

BLOCK DIAGRAM