

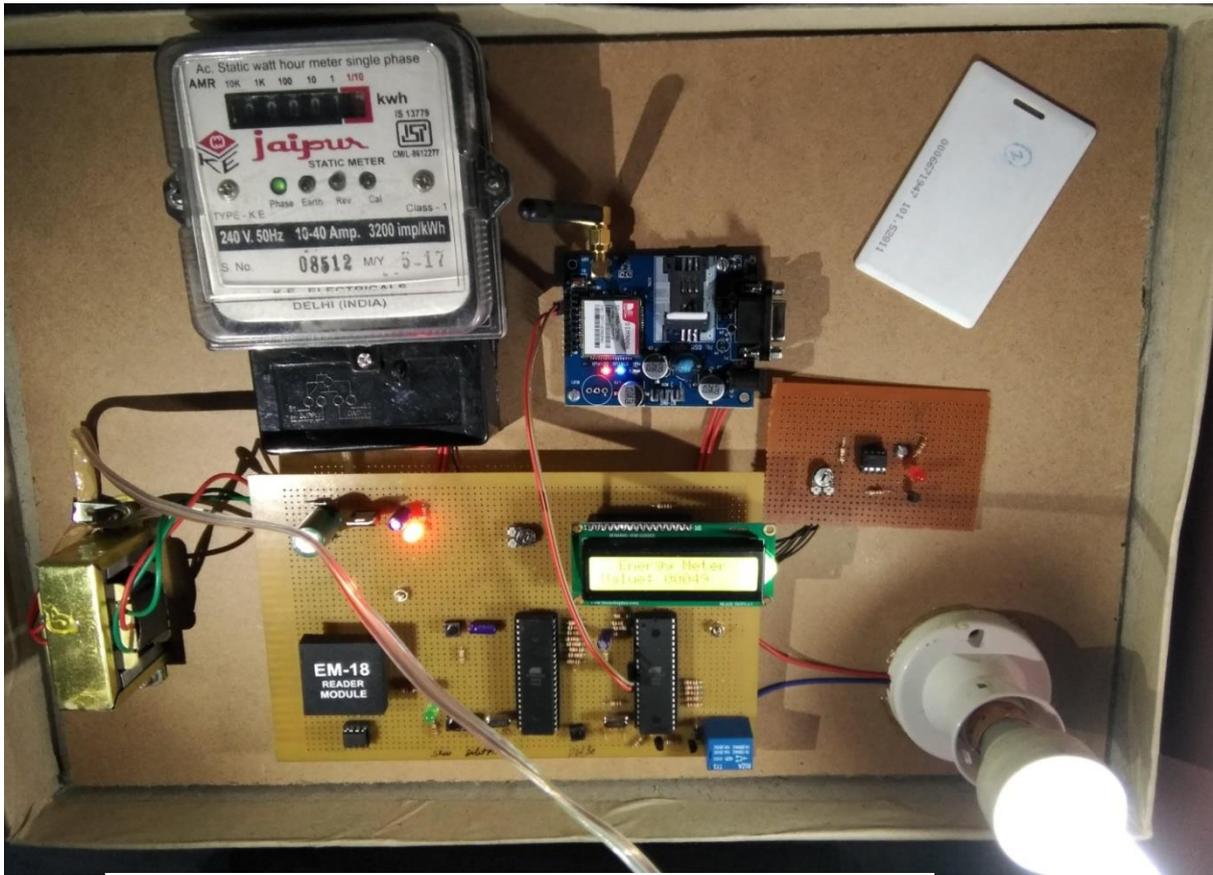
“SMART CARD BASED PREPAID ELECTRICITY SYSTEM”

Supervised by:Er. PRASHANT YADAV (Faculty Electrical Dept. REC Banda)

Abstract:

Electricity has become one of the basic requirements for people and widely used for domestic, industrial and agricultural purposes. The energy billing system used nowadays are labour and time consuming. There is no proper way to know the consumer's maximum demand, usage details. This paper presents a prepaid energy meter to facilitate energy consumption measurement and to know consumer's maximum demand. The major components are PIC microcontroller, Voltage and Current transformer, Precision rectifier, Zero Crossing Detector, Logical Circuit and GSM. This paper demonstrates the use of prepaid energy meter system. If we use this system it will be beneficial for the consumer to manage power. It is easy to operate and cost effective. Another advantage of the prepaid system is that the human errors in taking meter readings and processing bills can be reduced to a large extent. Using GSM it is easy to monitor the Energy Meter and prevent Energy theft. If any problem occurred in the system all the information are obtained through GSM.

“A Smart Card Based Prepaid Electricity System” system consists of Energy Meter and the GSM network. The system provides efficient power meter reading, usage notification and consumer's maximum demand using GSM network. GSM modem utilizes the GSM network to send equivalent unit for the recharged amount to the Microcontroller and send message to the consumers end. The message consists of details like recharged amount and power consumption. In the energy provider side this system is used to update the consumer account and the database. The ‘intelligence’ of the meter is incorporated in the electricity meter. It has three basic functions: measure the electricity used (or generated), remotely switch the electricity off and remotely control the maximum electricity consumption. The electricity meter communicates by means of a modem. An important characteristic is the communication infrastructure used by the smart meter for this communication. Amongst the possibilities are Power Line Carrier (PLC, using the existing electricity grid); a wireless modem (GSM or GPRS) or an existing permanent internet connection (ADSL). An interface connects the smart meter to home appliances or a home display. Appliances can be controlled directly and the display can be used to show (historic) energy data and energy cost.



MADE BY:



NEHA SINGH



ARCHANA VERMA



PREETI ANAND



HARSHITA BUNDELA

ELECTRICAL FINAL YEAR STUDENTS REC BANDA