**POSTPAID ENERGY METER**

**DESCRIPTION:**

The project is aimed to design an embedded postpaid energy meter using the microcontroller 8051, to provide the automation for the electricity department.

The project is designed in such a way that the controller will be interfaced to the energy meter. The energy meter will be connected to the loads and the microcontroller can read pulses from energy meter. An LCD will also be interfaced to the controller and will display the details of the power units consumed. This energy meter gives pulses depends upon power consumption by the loads and the number of units will be calculated and will be displayed on the LCD. So as per the number of units consumed, the amount will be calculated and will be paid by the user. Here a switch will also be interfaced to the controller. Whenever the switch is pressed, the controller starts calculating the units of power consumption.

This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Full wave bridge rectifier is used to rectify the ac output of secondary of 230/12V step down transformer.

# TECHNICAL SPECIFICATIONS:

**HARDWARE:**

Micro controller : AT89S52

Crystal : 11.0592 MHz

LED : 5mm Red LED

LCD : HD44780

Energy meter

Load

Switch

**POWER SUPPLY**

Transformer : 12V step down

Filter : 1000uf/25V

Voltage Regulator : 7805

**SOFTWARE:**

Keil micro vision

Proteus

UC flash

**APPLICATIONS:**

* Electricity department

**BLOCK DIAGRAM:**

16X2 LCD

Power Supply

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ENERGY METER

LOADS

SWITCH

**POWER SUPPLY BLOCK DIAGRAM**

Step down Transformer

Filter

Regulator

Output

Bridge Rectifier