

PREPAID ENERGY METER

DESCRIPTION:

The project is aimed to design an embedded prepaid energy meter to avoid the late bill payments of electricity bill.

The project is designed in such a way that the microcontroller will be interfaced to the keypad as well as to the energy meter. Here the keypad interfaced to the controller will be used to enter the recharge amount, as it is a prototype for the real system. An LCD will also be interfaced to the controller and will display the details of the amount recharged. The energy meter will be connected to the loads and the microcontroller can read pulses from energy meter. This energy meter gives pulses depends upon power consumption and the amount will get deducted based on the power consumption. Whenever the amount reaches to zero the system won't allow the loads to run by automatically switching of the relay. Here a buzzer will also be provided to alert the user to recharge.

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
Buzzer		
Keypad		
Energymeter		
Load		
Relay		

POWER SUPPLY

Transformer	:	12V step down
Filter	:	1000uf/25V
Voltage Regulator	:	7805

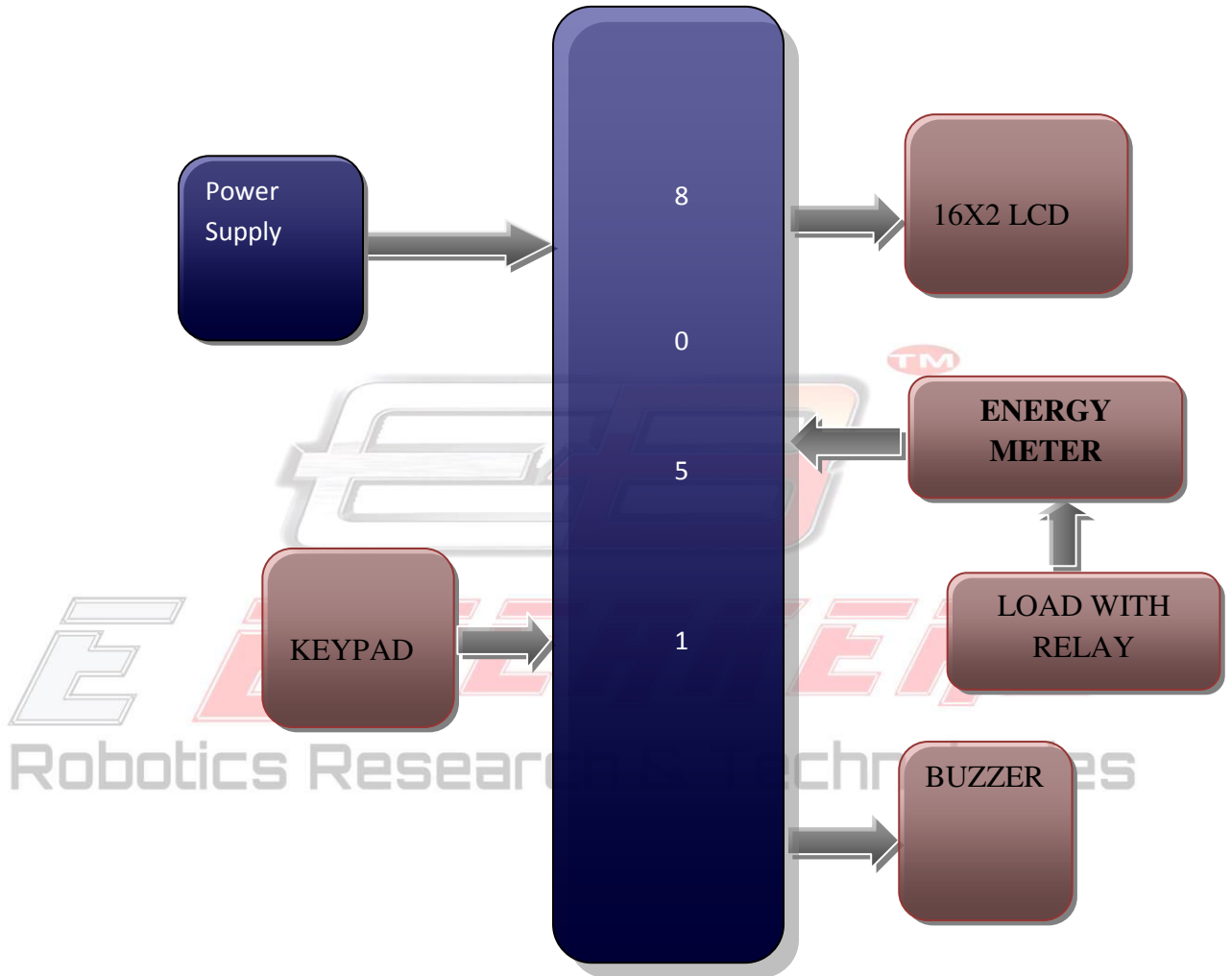
SOFTWARE:

Keil micro vision
Proteus
UC flash

APPLICATIONS:

- Electricity department

BLOCK DIAGRAM:



POWER SUPPLY BLOCK DIAGRAM

