RFID R/W BASED PREPAID ENERGY METER

ABSTRACT

Radio Frequency Identification (RFID) Card Readers provide a low-cost solution to read passive RFID transponder tags up to 2 inches away. The RFID Card Readers can be used in a wide variety of hobbyist and commercial applications, including access control, automatic identification, robotics navigation, inventory tracking, payment systems, and car immobilization. The RFID card reader read the RFID tag in range and outputs unique identification code of the RFID tag. The RFID reader can interface to microcontroller or PC and the unique identification code of the RFID tag received by the RFID reader is send through serial at baud rate of 9600.

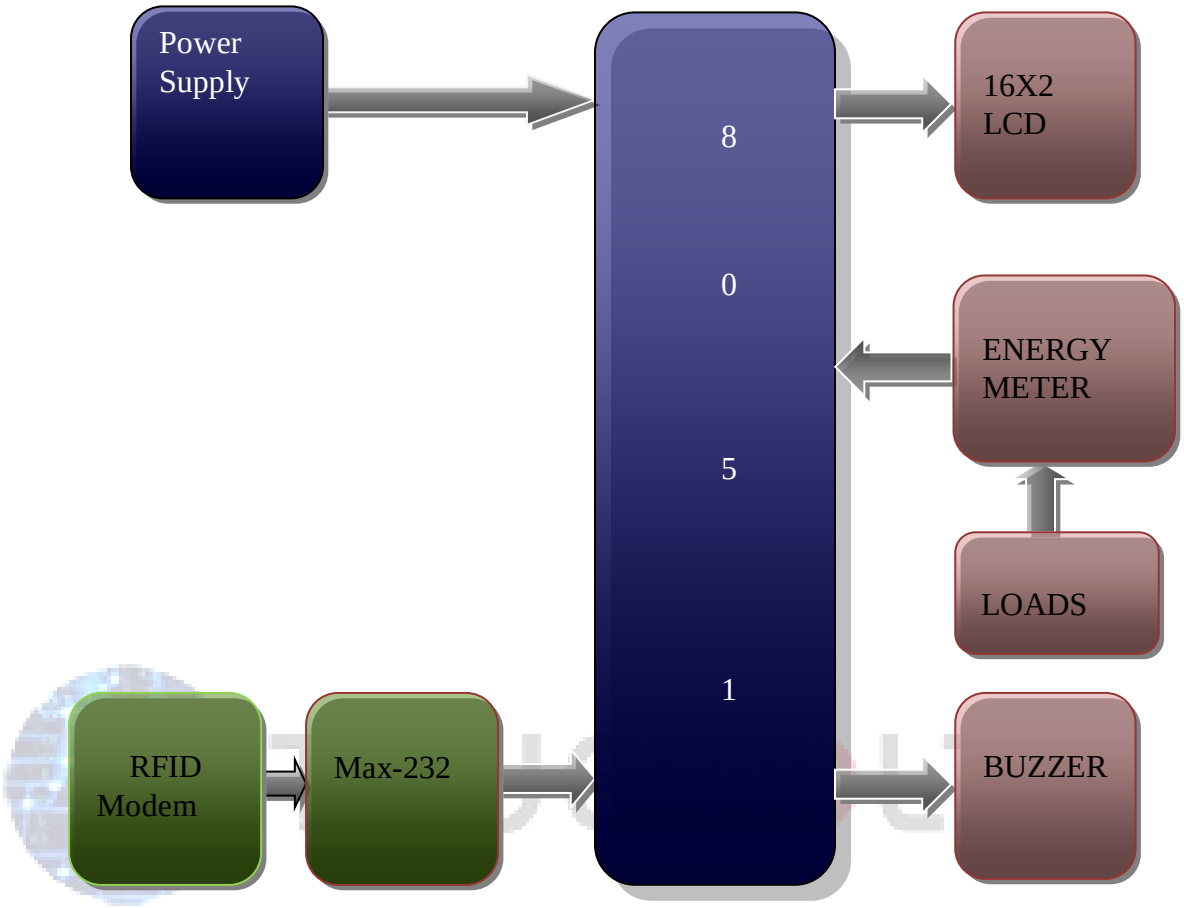
This project is built on 8051 micro controller, which is interfaced with an RFID reader through serial communication. The concept of the project is to replace the conventional post paid energy meter system with the prepaid energy meter system like the mobile phone prepaid connection. To accomplish this we use RFID cards which are issued by the electricity department to individual users, the card is unique with a code in it and an amount of user flexible recharge. When the user wants to use the system he needs to show the card to the reader, then the unique code inside the card is recognized by the reader, and starts deducting the amount as per the quantized unit charge, when the usage completes the amount present in the account then the energy meter stops power supply to the user. An LCD is interfaced to the project to display the status of the system.

In this project 7805 is a regulator and it avoids noise spikes in power supply. RFID modem is connected to microcontroller through serial port. These RFID modem works under 9600 or 4800 baud rates. 16X2 LCD connected to microcontroller through digital I/O lines. Switch is connected to microcontroller through positive logic.

APPLICATIONS:

- Electricity department

BLOCK DIAGRAM:



POWER SUPPLY BLOCK DIAGRAM: