DUALGSM MODEMS BASED IRRIGATION WATER PUMP CONTROLLER FOR ILLITERATES

This project aims in providing a user friendly, reliable and automated water pumping system for illiterates. Now a day's technology is running with time, it completely occupied the life style of human beings. Even though there is such an importance for technology in our routine life there are even people whose life styles are very far to this well known term technology. So it is our responsibility to design few reliable systems which can be even efficiently used by them. This basic idea gave birth to the project GSM based irrigation water pump controller for illiterates and this project aims in introducing the automation technology into the lives of the illiterates.

Here the automation process is done through the wireless GSM technology and the end user need not require any knowledge about the operation of the GSM mobile. For the efficient usage of the device the end user should know the basic switch operation which is more than sufficient to use this device efficiently.

In our project we make use of two microcontrollers one is dedicated at the water pump and the other with the user. The GSM modem present at the user end is interfaced with few control buttons via micro controller. The each control button has a dedicated functionality such as getting the power status at the motor, turn ON the motor etc. Whenever a control button is pressed it is identified by the microcontroller and generates an equivalent command with respect to the button pressed and forwards the same to the water pump with the help of modem. The modem at the motor receives the commands from the user and feeds the same to the microcontroller and the controller performs the equivalent action with respect to the commands received. Here commands are shared between the modems by using the SMS service.

The design of this system is very much sensitive and should be handled with utmost care because the microcontroller is a 5 volts device and it is employed to monitor the high voltage motors. So every small parameter should be given high importance while

designing the interfacing circuit between the controller and the water pump. The major advantage of this device is, it can be operated by the illiterates and the status of the motor can also be known by a simple LED indication more over the device is very economical and can be brought available to the common man.

Features:

1. User friendly interfacing.
2. Controls high voltage water pumps.
3. Wireless control of remote water pump.
4. Feedback generated with the help of LED indicator.
5. Highly sensitive.

Applications:

1. Utilized for irrigation purpose.
2. For house hold automations.

This project provides exposure to the fallowing technologies:

1. GSM modem.
2. Conversion of AC supply to DC supply.
3. Interfacing modem and microcontroller.
4. Embedded C programming.
5. Design of PCB.

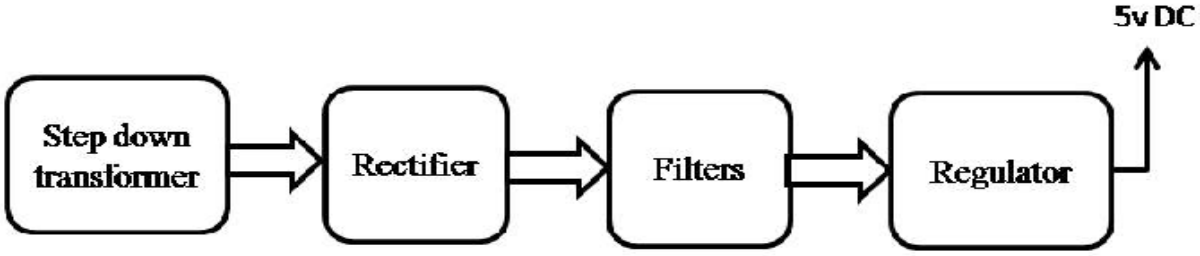
The major building blocks of this project are:

1. Regulated power supply.
2. GSM modem at the user end.
3. GSM modem with the remote electrical device (water pump).
4. Microcontroller at the user end.
5. Microcontroller at the remote electrical device (water pump).
6. Control buttons.
7. LCD display with driver.
8. Reset.
9. Crystal oscillator.
10. LED indicators.

Software's used:

1. PIC-C compiler for Embedded C programming.
2. PIC kit 2 programmer for dumping code into Micro controller.
3. Express SCH for Circuit design.
4. Proteus for hardware simulation.

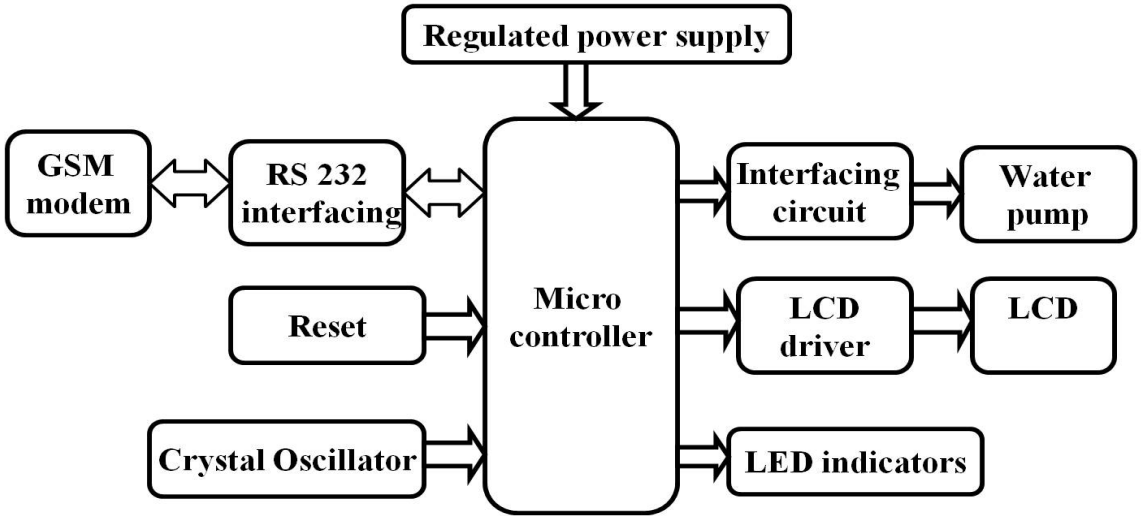
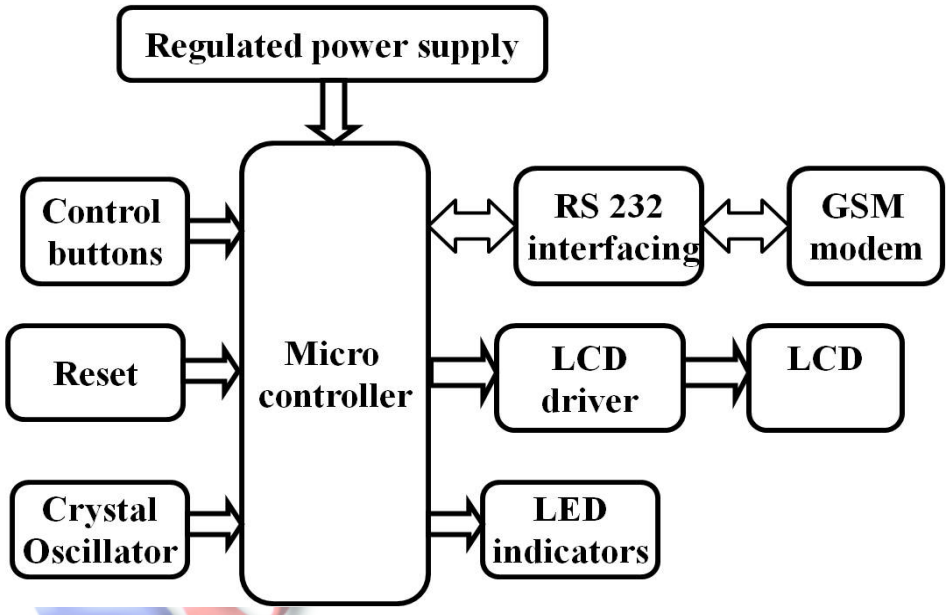
Regulated Power Supply:



Block diagram:

Dual GSM modems based irrigation water pump controller for illiterates

1.At Water pump



Dual GSM modems based irrigation water pump controller for illiterates
2.At User