

## **DTMF BASED IRRIGATION WATER PUMP CONTROL**

### **AIM:**

Design and Development of DTMF based irrigation water pump control.

### **PURPOSE:**

Because of advancement in technology it became easy for human beings to ease their work and at the same time complete the work with less human force, less time and with better results. In this project we look forward to telephonic signaling approach using Dual tone multi-frequency technique in controlling the various electrical loads such as irrigation water pumps situated in inaccessible areas. The present work is based on the principle of Dual tone multi frequency (DTMF) signal received from any mobile phone to switch on-off the desired electrical loads such as in our farms, in factories, tube wells, irrigation water pumps etc. Here we develop project like DTMF based irrigation water pump control.

### **DESCRIPTION:**

This project includes DTMF module (CM8870), which is connected to Arduino digital pins. AC pump motor controlled by relay which is connected to Arduino digital pin.

### **WORKING:**

Here we control irrigation water pump using mobile phone through DTMF technology. DTMF have provision with audio jack. Mobile phone connected to DTMF audio jack. Any key pressed in dial pad then it converts into DTMF tone. DTMF tones converts into 4 bit number format. By pressing keys in dial pad pump motor will be ON and OFF. Motor status will display on 16X2 LCD display.

## TECHNICAL SPECIFICATIONS:

### HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
DTMF Module	:	CM8870
Relay	:	12v DC Coil type
Pump	:	AC 230V
Power Source	:	12v 2 amp Adaptor

### SOFTWARE:

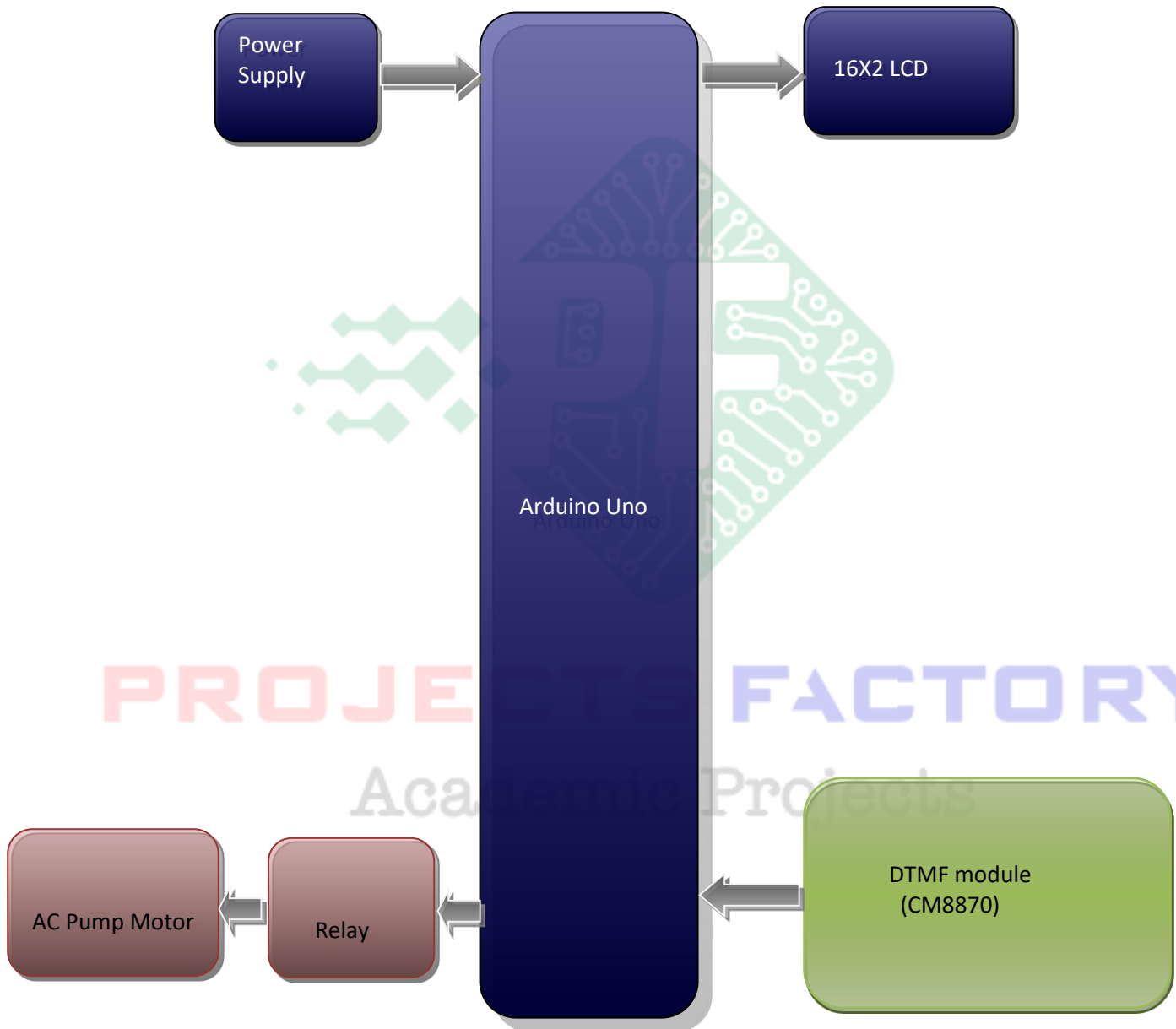
Arduino IDE  
Proteus based circuit diagram

### APPLICATIONS:

- Irrigation Applications
- Hydroponic Applications

**PROJECTS FACTORY**  
Academic Projects

**BLOCK DIAGRAM:**



## POWER SUPPLY BLOCKDIAGRAM:



## INTERFACES COVERED:

- We have covered DTMF module (CM8870) interfacing
- AC pump and relay interface

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