Operate Direct on Line Starter Using GSM

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Abstract: **Direct On Line starter are used in now a days are extensively used all over the world for the run the motor. Agriculture is the most important field as compared to others in India. The underground water level use slowly falling down and as well as rainfall is also reduced due to deforestation, in order to get the maximum yield agriculture. The different methods of supplying water to the fields are surface irrigation, sub surface irrigation and sprinkler irrigation. The stored or diverted water is passed to the agricultural lands through some suitable distribution system. The Aim of the paper to develop a simpler and cheaper solution that will provide remote control for motors through mobile phones using messages. There is a tremendous risen the mobile phone users during the past few years. Remote monitoring through internet based monitoring is one go the common approaches. The price of such system varies greatly depending on speed and bandwidth requirements.**

Keywords: **Direct on Line Starter.**

1. Introduction

India is basically an agriculture country, and all its resources depend on the agricultural output. Even in the modern span of industrialization, agricultures are the key area that decides the economic growth of the country. Agriculture also accounts for 8.56% of the country total exports. Agriculture is most important field as compared to others in India. The underground water level is slowly falling down and as well as rainfall is also reduced due to deforestation. It is necessary to supply the optimum quantity of water, and it should be supplied periodically. The different method of supplying water to the fields is surface irrigation, sub surface irrigation and sprinkler irrigation. The stored or diverted water is passed to the agricultural lands through some suitable distribution system. The main Aim of the paper to develop a simpler and cheaper solution that will provide remote control for motors through mobile phones using messages. There is a tremendous risen the mobile phone users during the past few years. Remote monitoring through internet based monitoring is one go the common approaches. The price of such system varies greatly depending on speed and bandwidth requirements. This work provides short messaging service (SMS) approach offer simple interface with only destination mobile phone address and message requirements without any protocol. So this method is suitable for remote monitoring of systems with moderate complexity.

2. Literature review

M. Priyadharsini, V. Arunbalaji, T. Karthikaa "GSM Based Motor control for irrigation System" Agriculture is a subsistence of majority Indians and has great effect the economy of the country. In a Country India, where climatic condition change sustain-ably and irrigation facilities are poor. The main source for irrigation Process is ground water. Nowadays ground water level is reduced drastically. in order to compensate this problem farmer are using both well and bore well to utilize ground water. This Paper Describes the automatic control of motor pumps by checking the level of well and bore well as a source for irrigation Process. It prevents motor from dry running, single phasing and overloading. This Paper presents the start the motor using GSM network. And send information to the user. User Sends messages to the controller to turn on /off the motor by using network.
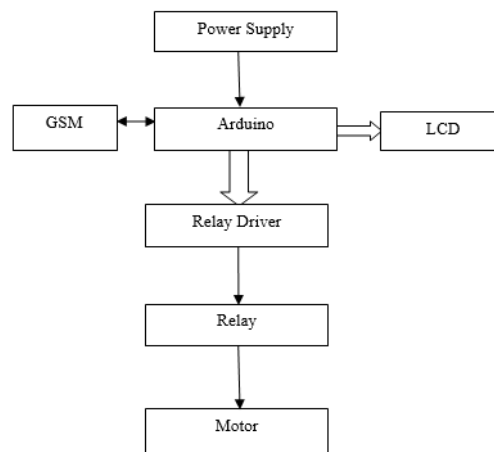
3. Block diagram

Fig. 1. Block diagram

4. Working

When we start the Switch of AC supply single phase 230 volts. then this supply convert AC into DC supply due to Adaptor. And supply goes to Arduino. In this System center Part is Arduino UNO. This the Main Part of Our Project. The Arduino UNO is an open source it is AT-mega328 cheap. This board has 14 digital input or output. Current supply is one amp this supply also given to the GSM (Global System for Mobile). GSM also operate on Twelve volt one Amp. We use LCD for

International Journal of Research in Engineering, Science and Management
Volume-3, Issue-1, January-2020
www.ijresm.com | ISSN (Online): 2581-5792

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indicates to speed output the LCD display a uses 16 characteristics by 2 line both equally divided to indicate commands and speed. A Relay Driver is a circuit which can drive, or operate a relay so that it can function appropriately in a circuit The driven relay can then operate as a switch in the Circuit which can open or close, according to the needs of circuits and it's operation. Whenever we send the message in between the starA# and starB# when we send the starA# to the GSM Modem then motor will start to run. When we send starB# to the GSM then motor is stop. System is designed to monitor and control speed of a motor.

This is the total automation project. Here the system capable to the controlling the motor by receiving control message for heart of our system, which controls the overall operation of our system. System is always alert for receiving SMS from an authorized mobile number Microcontroller is valid number and that message can be displayed on the LCD (Liquid Crystal Display). In the project work undertaken GSM technology based automatic control. GSM modem can an accept any network operator SIM card and act just like a mobile phone with it's own unique phone number. GSM is class of wireless modem devices that are designed.

Components used,

1. Arduino UNO R3 Board
2. Power Supply
3. LCD Display
4. Relay
5. GSM
6. Relay Driver

A. Features of Arduino UNO

1. Micro controller: ATmega328
2. Operating Voltage :5V
3. Input Voltage:7-12V
4. Digital I/O Pins: 14(of which 6 provide PWM output.)
5. Analog Input Pins: 6
6. DC current: 40mA
7. Flash Memory :32KB
8. SRAM: 2 KB
9. EEPROM:1KB
10. Clock Speed:16MHz
11. Arduino Programming for below link

B. Application of Arduino Uno

1. DIY Project Prototyping
2. Developing varied Varieties of project that require a code based control
3. Automation System Development
4. Learning AVR Programming

C. Features of relay drivers:

- 500-ma-Rated Collector Current (Single Output)
- High Voltage: 5V
- Output Clamp Diodes
- Inputs compatible with various types of logic

- Relay-Driver Applications

D. Applications of relay drivers

1. Stepper and DC Brushed Motor Drivers.
2. Lamp Drivers.
3. Display Drivers.
4. Line Drivers.
5. Logic Buffers

E. Advantages of GSM

1. Extension Coverage.
2. It is easy to integrate GSM with other wireless technology.
3. The GSM signal does not have any deterioration inside the office and home premises.
4. It provides very cost effective products and solutions.

F. Advantages of project

1. Very Easy to Operate.
2. Simple Construction.
3. Less Maintenance.
4. More Efficient.
5. Less Time for Operate.

5. Result and discussion

In this Project Result is when we sent the message to GSM for ON then Motor will Start to ON. When we sent the message OFF to GSM then Motor will OFF. It procedure is operate in very few minutes. It is project manufactured for automatically operated the Motor for Smart control of Motor.

6. Conclusion

In the paper low cost, secure, ubiquitously accessible, auto-configurable, remotely controlled solution for automation of different motors has been introduced. The approach discussed in the project has achieved the target to control industrial appliances remotely using the GSM –based system satisfying user need and requirements. GSM technology capable solution has proved to be controlled remotely, provide industrial security and has achieved the target to control different industrial appliances remotely using the SMS - based system satisfying user and requirements GSM technology capable solution has proved to be controlled remotely and is cost.

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