International Journal of Advanced Research

in Electrical, Electronics and Instrumentation Engineering

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 7.282

Automatic DOL Starter with Mobile Control

Vikram Piploda[1], Sagar Tehare[2], Pavan Usre[3], Prof. More S.S.[4]

Department of Electrical Engineering, MGM"s Polytechnic, Aurangabad, India

ABSTRACT: Implanted System based submarine engine control to keep it from over load, test run and single staging utilizing GSM for Agriculture Irrigation is the work done in this project which can be utilized to control and screen the sub engine utilized for agribusiness water system utilizing GSM organization. This task gives the advancement of cell phone as controller application for sub engine siphon which is utilized in agribusiness water system. The engine associations rely on its pull; it very well might be Direct on line or Star Delta. The engine is constrained by the miniature regulator and the current status of engine is detected and it is consequently constrained without anyone else and the data is sent to the comparing individual through GSM organization. The GSM cell phone is utilized as a choice to wind down on and the engine through a message or a missed call and furthermore to send message to the proprietor about the accompanying three shortcomings. A miniature regulator is utilized to distinguish the three kinds of deficiencies which cause harm to the engine. The first is single stage nonattendance shortcoming location and in the event that it happens the miniature regulator will consequently turn of the engine. The miniature regulator additionally incorporates the security against over current or over load and furthermore from dry running. It is normal that this application will be agreeable for the ranchers and this gives simple access of engine undeniably. Every one of these control processes are accomplished by utilizing a PIC microcontroller, GSM and Different interfacing and control circuits.

KEYWORDS: Microcontroller, GSM, SMS, Current, Voltage, Motor and Irrigation

I. INTRODUCTION

India is fundamentally a horticultural nation, and every one of its assets relies upon the agrarian result. With the fast improvement of agribusiness in India, numerous programmed innovations have been brought into horticultural creations. The absolute precipitation in a specific region might be either deficient, or badly coordinated. To get the greatest yield, it is vital for supply the ideal amount of water, and keep up with right planning of water. This is conceivable just through amethodical water system framework by gathering water during the times of overabundance precipitation and delivering it to the yield as and when it is required. Water system is the study of arranging and planning an effective, minimal expense, financial water system framework custom fitted to fit regular conditions. By the development of appropriate dissemination framework, the yield of harvest might be expanded as a result of controlled water supply. The various strategies for providing water to the fields are Surface water system, Sub-surface water system and sprinkler water system. The put away or redirected water is passed on to the rural fields through some reasonable circulation framework.

Subsequently, there are presently squeezing needs for canny water system framework. The point of this venture is to foster a savvy arrangement that will give controller to enlistment engines through cell phones utilizing missed calls and messages. The versatile client on the planet has a gigantic ascent during the beyond couple of years. Remote observing of cycles, machines, and so on, is well known because of advances in innovation and decrease in equipment cost. Remote observing through Internet based checking is one of normal methodology. This methodology requires PCs (Client/Server) alongside extra gadgets like modems, supports, and so forth for web availability and programming support for TCP/IP conventions and control framework communication. The expense of such framework shifts enormously relying upon speed and transmission capacity necessities and consequently is supported as a rule for bio-clinical and modern applications where escalated information move is required. Cell networks give Short Messaging Service (SMS) and Multimedia Messaging Service (MMS), approach offers straightforward interface with just objective mobile phone address and message necessity with practically no header/convention overhead. Along these lines, this strategy is reasonable for remote observing of frameworks with moderate intricacy. Remote sensor networks additionally offer freedom for remote checking.

II. LITERATURE SURVEY

A controller application to control the engine utilizing the versatile is created to diminish the danger of ranchers. The engine can be turn on and turn off physically and furthermore by utilizing the cell phone by messaging or by giving a missed

Call. An Embedded framework based control board is intended to control and screen the engine from different known shortcoming. Essentially, in the rural water system the engine is associated with the control board. The control board which contains microcontroller screens the inventory of engine and controls the course of engine i.e., the control board really looks at the normally known issues and redress it keep the engine from harm. The known deficiencies that might happen are stage succession change, dry running of engine, over load condition and nonattendance of a stage. The engine turns over consequently when the power reclamation happens. The microcontroller controls the activity of the starter dependent on the data from the sensors. At the point when the momentum level is low or when there is no progression of water in the line after a specific period because of engine or starter issue or when there is lacking water level in the well, the engine gets off naturally and the issue is insinuated to the ranchers through messages from GSM. The GSM is associated with the microcontroller through the RS232 interface. The client can handle the starter utilizing missed calls when required or when unusual conditions exist.

The square graph of the framework is displayed in the Fig.2.1. The missed calls are gotten from the client versatile to perform explicit errand. In light of the got signs and sensor conditions, the signs are shipped off the microcontroller to turn on/off the engine through the starter utilizing the transfers. The transfer is constrained by the ports.
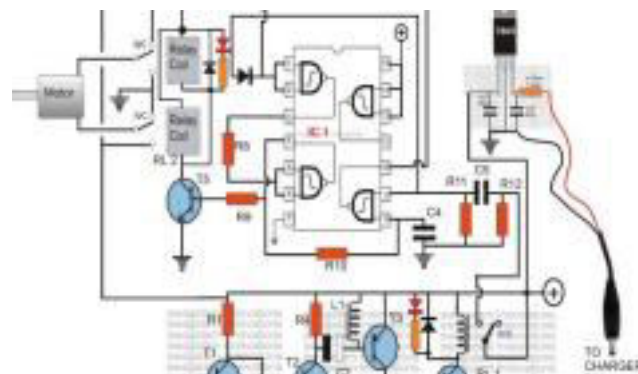
III. SYSTEM DEVELOPMENT

Fig. 3.1 System Block Diagram

Cell phone Interface

The GSM modem speaks with the client wireless to intimate the condition obtained for the microcontroller. Sequential Port Adapter works in information and AT modes and should be appropriately arranged. During power on condition, SPA is at first in information mode and by sending "//" characters inside 3 seconds, the gadget is moved into AT mode for design. In AT mode, series of orders are sent for legitimate setup. In the event that match is found, it begins information correspondence between microcontroller framework and GSM. AT orders are sent by sending message strings 'A', 'T', alongside indicated order strings through sequential port to PDA and are executed on receipt of carriage return. The outcome codes are sent by PDA to framework (TE) to demonstrate the status after execution of order.

SMS Approach

SMS is store and forward method of sending messages between PDAs. The significant benefit of utilizing SMS is arrangement of suggestion to the sender when SMS is conveyed at the objective and capacity of SMSC to precede with endeavours for conveyance of directive for the predefined legitimacy period on the off chance that organization is by and by occupied. The instant message is shipped off wireless utilizing CMGS order. CNMI order is utilized to demonstrate to TE about the receipt of approaching SMS message from the organization. It is seen that the majority of current cells don't uphold CNMI order
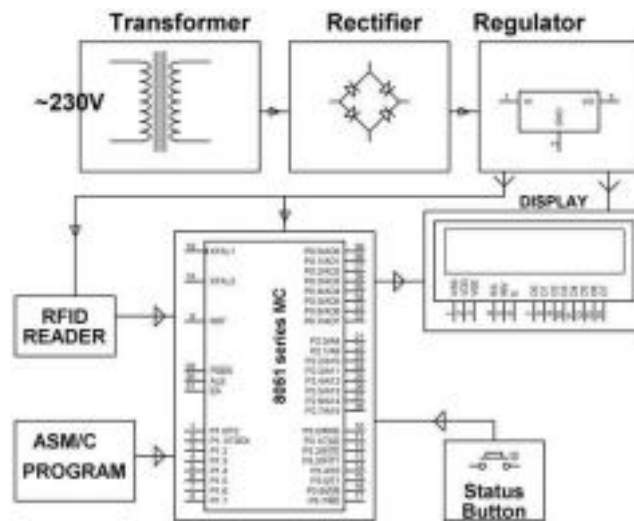
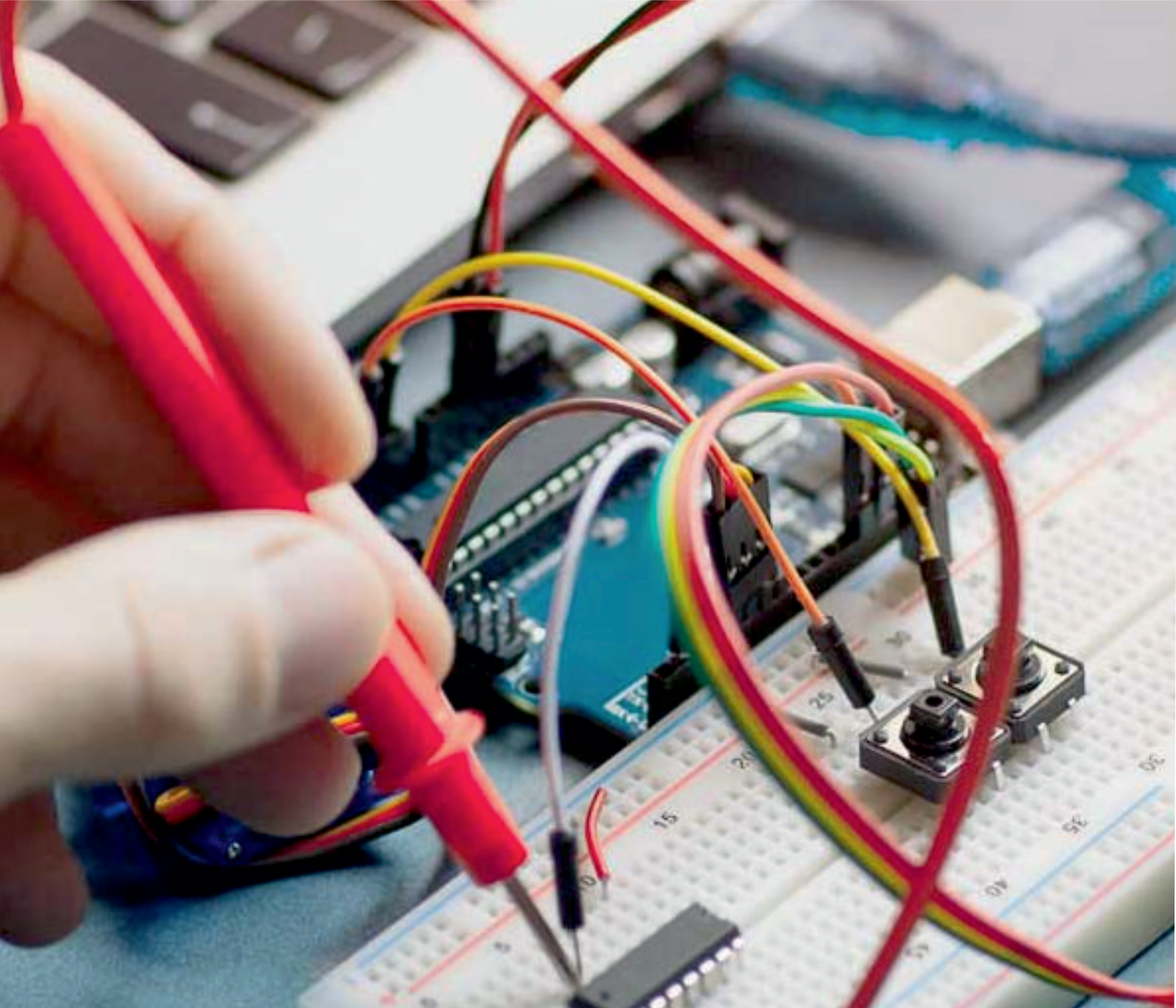Fig 3.2 Microcontroller system Interfacing

Interfacing chart of miniature regulatory framework is displayed in Figure 2. Port and is arranged for simple data sources. AN0, AN1, and AN2 is associated with the current stream detecting circuit for example current stream sensor and AN3 is associated with voltage detecting circuit for example voltage sensor. Port E is arranged as result is associated with LEDs which is utilized to demonstrate the over load, dry running and typical running. Pins RC5 and RC6 are utilized for GSM communicate and get order. A transfer drive comprises of two transfers are associated with RB6 and RB7 which is utilized to turn on and off the AC contactor through remote utilizing GSM. And furthermore to make the engine off when the calamitous occasions happen like consuming of engine because of any flaws like over current, bearing breakage, protection disappointment and so forth.

VI. CONCLUSION

Thus the created framework upgrades the engine control through remote utilizing GSM in the field ideally. The framework guarantees assurance of engine against over burdens, overheating, dry running and stage uneven characters. It likewise gives mechanized restarting assuming typical conditions are restored for example at the point when legitimate power rebuilding happens. Uniform appropriation of water at standard spans, decrease in labour cost, counteraction of undesirable water spillage, minimization of events of engine deficiencies and suggestion to client about the culmination of errand are the significant benefit of this framework. The utilization of cell phone has become more normal among the ranchers and consequently utilized. The framework ends up being incredible aid to ranchers whose siphon sets are situated far away from their homes because of ability of controller utilizing wireless and implication about any strange conditions. The framework is intended to have PDA with in-constructed protection from unapproved clients. Any PDA model can be utilized for correspondence so the framework works on its versatility to utilize. Low working expense utilizing messages and missed calls are the significant attractions of this framework.

REFERENCES

1. Ejiofor Virginia Ebere and Oladipo Onaolapo Francisca," Microcontroller based Automatic Water level Control System", Nnamdi Azikiwe University,International Journal of Innovative Research in Computer and Communication
2. Engineering Vol. 1, Issue 6, August 2013.Pg. 13901396.
3. R. Jaichandran, A. Anthony Irudhayaraj, Surabhi, Rajkumar Kuila and Trisha Sinha," Prototype for Automatic Controlling and Remote Accessing of Irrigation Motor", AVIT-VMU, International Journal of Innovative Research in Computer and Communication Engineering Vol. 1, Issue 4, June 2013. Pg. 800-807.

International Journal of Advanced Research

in Electrical, Electronics and Instrumentation Engineering