

# Mobile Based Automated Control of Agriculture Starter

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**ABSTRACT:** In India agricultural field play a crucial role in economic development. That way focus on that point. Farmers facing number of problems. Farm is faraway from his house, hence to on and off the motor automatically using our project, is about make this system efficient and dynamic. The automatic control is for controlling the motor from mobile, look over its operating conditions; get feedback from the motor itself. Our motto is to control the motor from distant place by mobile phone message/missed call and also get the feedback from message while it is in ON or OFF condition. Again, we also get these feedbacks by message as well. Global system for mobile network is everywhere in our place that why we choose global system for mobile network to operate our motor and also transferring feedback Information through it. To transmit feedback signals we use global system for mobile modem at the motor end also generate control signal by mobile SIM card because it is very easy to generate SIM card by mobile station and send feedback message by Modem as well. At the load side the load should be either 1 phase or 3 phases. As per the application it depends on the user And also we used here the water level controller for to save the water. In the water level controller, they are used two water level sensor depend on filling of the water.

**KEYWORDS:** RGS 210 agriculture starter, AF4water level controller, pic microcontroller 16F877a, GSM module, relay, LCD display, water level sensors.

## I. INTRODUCTION

### *A. GSM Based control with 1 phase detection*

If AUTO Mode is On after Testing 1 Phase, Motor will get ON after 5 Sec (using Commands through message you'll On/OFF AUTO Mode) This Project may be a excellent example of an embedded system as all its operations are controlled by intelligent software inside the micro controller. The aim of this project is to regulate i.e. to ON/OFF control of 1 phase motor pump, connected to the present system from anywhere within the world. For this purpose, the user can use the mobile to regulate the 1 phase agriculture starter. the convenience of message, this project allows you to in mobile control equipment by sending command text messages, like "1()#""ON#""0()#""OFF#", all of which may be programmed into the controller. When using the pic IC16f877a, global system for mobile and stepdown transformer is employed to automate the RGS- 210 agriculture starter.

Then with the assistance of the agriculture starter the water level controller is employed sense and filled the water. then the filled is sensor to be save the water, then supported the sensor, one is bottom level to sense and water and another one is top-level thanks to sense the water. Short Message Service (message) is mean by a text-based service. that permits up to 160 characters to be sent from one mobile to a different.

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*B.Rgs-210(agriculture starter)*

RGS-210 is a single-phase agriculture starter. It carries a range of 180v to 240v. Electronic single phase and over load protection. Adjustable delay star delta timer. Applicable for both industrial as well as agriculture. In there as a two switches are one is start and another one is stop.

The starter switch is used for normally open and the stop switch is used for normally close. In the RGS-210 starter there have mainly two capacitor are one is load capacitor and another one is run capacitor. In the input port there connected to phase and neutral and the output are connected from three motors. The starter may be a device which is employed for switching and protecting the electrical motor from the damaging overloads by tripping.

It lessens the expressing current to the AC enlistment engines and furthermore decreases the engine torque. The current conveying engine being in an attractive field experience a torque and thus starts to turn toward pivoting attractive field. In this way we see that acceptance engine is self-beginning. A 3-stage supply is given to the armature of synchronous engine, produce a pivoting attractive field.

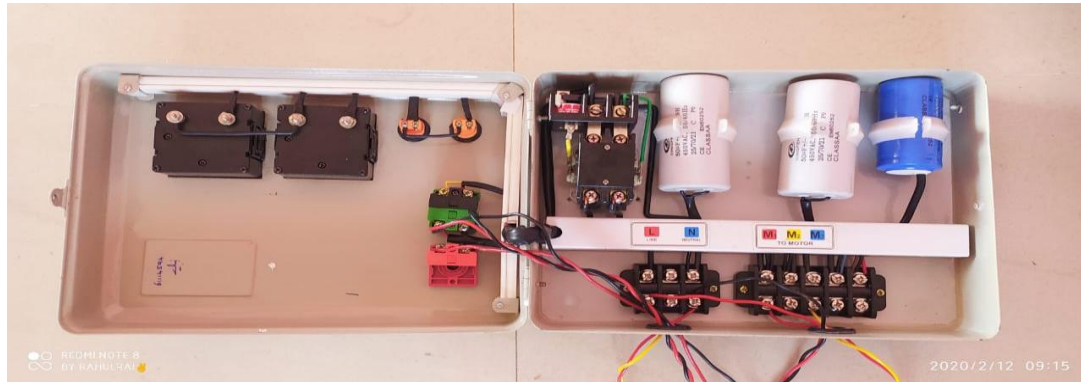


Fig.1.Agriculture starter

## II.METHODOLOGY

### A.System Design

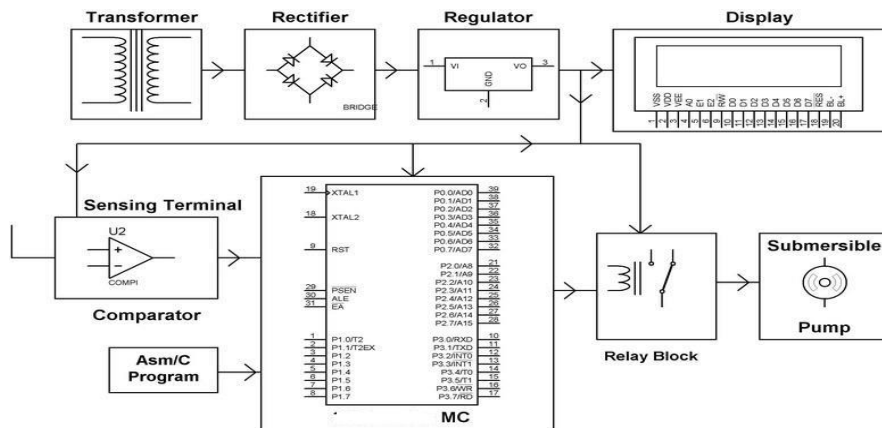
The RGS-210 agriculture starter have a one and off switch, of the two switches is connected to relay based on normally open, normally close and common. Then the relay connected with pic MC in another side the 240 volt AC supply that move on to rectifier, due to rectifier give a 12 volt DC and the main purpose of the is to convert AC to DC supply, then 12 volt DC is move to voltage regulator 1805 after the 12 volt DC is converted in 5 volt, that volt given to pic microcontroller 16f877a after the 5v relay, is connected to pic microcontroller .then pic microcontroller is code for the GPS and water level controller due to starter given a motor supply to water level controller, the controller have a three sensor for the measure of the filling water to the tank.

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### III. CIRCUIT EXPLANATION

STEP 1-The transformer connected with rectifier because it will give the small amount of current the rectifier connected with regulator to convert the current with AC to DC. And then connected with LCD display and pic



microcontroller.

STEP 2-The pic microcontroller connected with the GSM module to give the signal to pic microcontroller give supply to water level controller.

STEP3-Sensor will sense the water level indicate and sense the water level filled it will automatically turn off.

### IV. EXPERIMENTAL RESULT



Fig.3 output

This type of product can be used in agriculture and also in industries. The single phase agriculture starter is to carry a more current up to 240v AC. And the product is to handle safely and control properly. Using a step down transformer and rectifier and voltage regulator is convert the volt easier of AC to DC. Also, sensors can be used to control the water due to high and low. And using GSM for sending the SMS.

#### **V. CONCLUSION**

We have successfully completed this project work at in industry. In existing this project work, we got exposed to many practical problems and difficulties, facing such situation and solving the problems as given us a confident and courage, which are very essential for a successful engineer. By doing the project, we understand the working principle and uses of various ic's, electronic component. It will be no doubt that microcontroller will be an integral part of any process in industry, in the near future and we have utilized the microcontroller for completion of this project. Once gain we express our sincere thanks to our project guide and staff members.

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