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**THEFT DETECTION FOR THREE PHASE INDUCTION MOTOR WITH SMS CALLING ALERT SYSTEM**

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**ABSTRACT**

In India agricultural field play a crucial role in economic development. That is the way to concentrate on that point. Farmers facing a variety of problems. Electric power supply not available in 24 hours. The farm aloof from his house, hence to on and off the motor automatically using our project, is about making this system efficient and dynamic. This automatic control is for controlling the motor from a far off place, look over its operating conditions; get feedback from the motor itself. So here our target is to regulate the motor from the distant place by mobile SMS and also get feedback by SMS while it’s in ON or OFF condition. This provides the event of mobile phones as an overseas control application for the induction motor pump which is employed in agriculture. In India because of the frequent power cuts and abnormal voltage conditions in India, it is necessary to distribute water efficiently to the fields during normal conditions. This can be followed by exchanging the data between the user phone and GSM within the sort of messages. This technique is developed with Micro controller which is connected to the GSM and also the motor. This Micro controller includes the protection against over-current, dry running and single phasing. In this project, it’s expected that this application provides easy accessibility to the motor to an excellent extent.

**Keywords:** Agriculture, GSM, Irrigation system, Motor controlling, SMS.

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1. **INTRODUCTION**

Depends upon the agriculture output. With the drastic development of agriculture in India, many automatic technologies have been introduced into agriculture field and production. As a survey, we can see that the total rainfall in a particular area may be either insufficient or ill-timed. In order to get maximum yield, it is essential to supply the optimum quantity of water and maintain the correct timings of water supply. So this is possible only through a symmetric irrigation system by collecting water during the periods of excess rainfall and releasing it to the crop as and when it is needed. The irrigation is the science of planning and designing an efficient, low cost, economic irrigation system tailored to fit natural conditions. By construction of the proper and good distribution system, the crop field may be increased because of controlled water supply.

GSM based device control:

 Another system is GSM Based Device Control. As per the study, this system will be operated through a voice call such that by pressing a key the motor will become on and off accordingly. This system will also send SMS to the user giving the present status of the motor. The advances in the technologies related to wireless communication have led to the emergence of several engineering designs to aid human requirements. Agriculture play a significant role in developing country like India, therefore implementing mobile communication for facilitating farmers is the basic idea of this project. This system overcomes the limitation of pure SMS based system. However, it does not provide any fault detection like a dry run, over-voltage, under-voltage etc. It also lacks a Unique Mobile Identification Number feature. As a result, the password needs to be entered every time for controlling the motor.

1. **BLOCK DIAGRAM**



1. **WORKING OF SYSTEM**

The overall idea behind this project is to use the present GSM infrastructure. So, all the operation involves the GSM system also. So when we send an SMS, it goes through the GSM system. Any sent SMS is received if we use a SIM card and GSM module. To work any GSM modem, we’ve got to use the AT commands to control them. As an example, if an SMS arrives the GSM modem sends the serial data in ASCII format. We are able to read these data if we connect the modem with the serial port of the microcontroller at the baud rate of 9600. Because the microcontroller gets to know that an SMS has arrived, it is sent a correct AT command to read the SMS.

The reading of SMS returns the mobile number of the sender, the time more information. During this project, we are able to switch On & Off 3-Phase motor pump through mobile by using GSM. If 3 Phase supply is Ok GSM will provide a message to mobile & mobile will display the message and also it has facility to call on given number .If we send message “Pump On” to GSM Module through mobile, the relay circuit will put on the pump with the assistance of starter. As these pump is functioning on 3 Phase power supply so out of three-phase if any phase is braked, the pump will immediately off & GSM will inform the status of three Phase supply to the mobile. Then mobile will display the message “Pump Off”. The general setup including microcontroller and GSM are at the motor side and therefore the user will behave the transmitting system which may be mobile

1. **FUTURE RESEARCH**

Future research in wireless EV charging systems is focused on several areas:

 **Mixed Wireless Power Transfer:** Combining inductive and capacitive charging systems to leverage the advantages of both technologies.

**Dynamic Charging:** Exploring the integration of wireless charging infrastructure into roads to enable charging while driving, which could significantly reduce charging time and detours for EV users.

**Standardization:** Developing universal standards for wireless charging technology to ensure compatibility across different EVs and charging equipment.

 **Sustainability:** Assessing the environmental impact of wireless charging systems and their role in promoting sustainable transportation.

These discussions and research efforts are crucial for the advancement of wireless EV charging technology, aiming to make it a viable and widespread option for EV owners in the future.

1. **PROGRAMME**

// libraries

2#include <GSM.h>

3

4// PIN Number

5#define PINNUMBER ""

6

7// initialize the library instance

8GSM gsmAccess; // include a 'true' parameter for debug enabled

9

10void setup()

11{

12 // initialize serial communications

13 Serial.begin(9600);

14

15 // connection state

16 boolean notConnected = true;

17

18 // Start GSM shield

19 // If your SIM has PIN, pass it as a parameter of begin() in quotes

20 while(notConnected)

21 {

22 if(gsmAccess.begin(PINNUMBER)==GSM\_READY){

23 notConnected = false;

24 Serial.println("Connected to network");

25 }

26 else

27 {

28 Serial.println("Not connected");

29 delay(1000);

30 }

31 }

32}

33

34void loop()

35{

36 // Nothing here

37}

#define PINNUMBER ""

2

3GSM gsm; // include a 'true' parameter for debug enabled

4

5void setup()

6{

7 // initialize serial communications

8 Serial.begin(9600);

9

10 // connection state

11 boolean notConnected = true;

12

13 // Start GSM shield

14 // If your SIM has PIN, pass it as a parameter of begin() in quotes

15 while(notConnected)

16 {

17 if(gsm.begin(PINNUMBER)==GSM\_READY)

18 notConnected = false;

19 else

20 {

21 Serial.println("Not connected");

22 delay(1000);

23 }

24 }

25

26 Serial.println("GSM initialized");

27}

28

29void loop()

30{

31// once connected do something interesting

32}

#define PINNUMBER ""

2

3GSM gsm; // include a 'true' parameter for debug enabled

4

5void setup()

6{

7 // initialize serial communications

8 Serial.begin(9600);

9

10 // connection state

11 boolean notConnected = true;

12

13 // Start GSM shield

14 // If your SIM has PIN, pass it as a parameter of begin() in quotes

15 while(notConnected)

16 {

17 if(gsm.begin(PINNUMBER)==GSM\_READY)

18 notConnected = false;

19 else

20 {

21 Serial.println("Not connected");

22 delay(1000);

23 }

24 }

25

26 Serial.println("GSM initialized");

27

28 gsm.shutdown();

29 Serial.println("GSM terminated");

30

31}

32

33void loop()

34{

35}

// libraries

#include <GSM.h>

// PIN Number

#define PINNUMBER ""

// initialize the library instance

GSM gsmAccess; // include a 'true' parameter for debug enabled

GSMVoiceCall vcs;

char numtel[20]; // buffer for the incoming call

void setup()

{

 // initialize serial communications

 Serial.begin(9600);

Serial.println("Receive Voice Call");

 // connection state

 boolean notConnected = true;

 // Start GSM shield

 // If your SIM has PIN, pass it as a parameter of begin() in quotes

 while(notConnected)

 {

 if(gsmAccess.begin(PINNUMBER)==GSM\_READY)

 notConnected = false;

 else

 {

 Serial.println("Not connected");

 delay(1000);

 }

 }

 // This makes sure the modem notifies correctly incoming events

 vcs.hangCall();

 Serial.println("Waiting Call");

void loop()

{ // Check the status of the voice call

 switch (vcs.getvoiceCallStatus())

 {

 case IDLE\_CALL: // Nothing is happening

1. **ADVANTAGE**

Remote indication: With the use of GSM technology owner of the house or industry get remote indication through SMS. So even if the user is away from home or industry, he/she will be intimated about the hazardous or undesirable conditions/situations inside the house.

This system is fully automated. So once this system is installed inside a home or industry, then it does not require any human interaction to operate. With the use of this system, we can save the life of a person inside the home/industry. Since the accidents caused due to fire and LPG gas leakage can cause life threats.

Also, the property inside the house and various materials inside the house and industry are saved from theft and from fire detection.

This system is Cost effective. Also, it is Fast and efficient.

1. **APPLICATION**
2. Industry
3. Farming
4. On river
5. Residential use
6. **FUTURE SCOPE**

If there is a problem with the GSM range in some area, then controlling a three-phase motor using GSM becomes difficult. Zigbee can be used at such places. If the user wants to see the current operation and status live, then Digital Camera can be used. LCD Display can be added to display the parameter. And also we can add up the mechanism for switching. So more effective mechanism we can use solenoid for the mechanism purpose. It will push the switch easily and there may not be needed any additional setup. So we can reduce the cost of the project.

1. **CONCLUSION**

Hence the developed system enhances the water distribution in the field optimally. This system ensures that the protection of motor against overloads, overheating and phase imbalances. This is also providing an automated restarting if normal conditions are re-established. The uniform distribution of water at the regular intervals, reduction in labor cost, prevention of unwanted water spillage, minimization of occurrences of motor faults and intimation to the user about the completion of a task are the major advantage of this system. The use of the mobile phone has become more common among the farmers and hence used. The system proves to be a great boon to farmers whose pump sets are located far away from their homes due to the capability of remote control using a cell phone and intimation about any abnormal conditions.

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