

IMPLEMENTATION OF STREET LIGHT CONTROL BY USING GSM & LDR

MR. SHASHIKANT GIDDE

Asst.Prof.Department of electrical engineering, SKNSCOE Korti / Solapur University India.
Shashikant.gidde@sknscoe.ac.in

MR.SAGAR DOMBE

Department of electrical engineering, SKNSCOE Kort / Solapur University
sagardombe555@gmail.com

MR. UMESH GADADE

Department of electrical engineering, SKNSCOE Kort / Solapur University
umeshgadade700@gmail.com

MR. DATTATRAY KALE

Department of electrical engineering, SKNSCOE Kort / Solapur University
dattatraykale111@gmail.com

MR. GANESH YEDAGE

Department of electrical engineering, SKNSCOE Kort / Solapur University
ganeshyedage0209@gmail.com

ABSTRACT

This paper gives information about modern technique used for controlling street lighting. To reducing wastage of power in street lighting. Which is the big problem in India as well as in the world? Power saving is very important and difficult though there are many power generation methods;it has become very difficult due to insufficient resources. Huge amount of electrical power of many countries is consumed in street lighting, so in this technique we will switched on the street light in evening before the sunset and they are switched OFF the next day after sunrise. This paper gives good solution for electrical power wastage. A street light, street lamp, is a raised source of light on the edge of road or footpath, which is turned on at a every night. The big use of street lighting is avoid of accidents and improvement in safety.

KEYWORD: GSM module, SIM Card, Light Dependent Resistor (LDR), Arduino.

INTRODUCTION:

The main technique of this project is to control the street light by combine operation of LDR and GSM. At the time of day, light will in OFF condition and at the time of night the light will be ON automatically with help of LDR. Also by using GSM we can ON/OFF the street light as per requirement with the help of mobile, we can control street light by sending message to

GSM module. Using the LDR switching system of street light can also reduce energy consumption because manually operating lighting system are not switched ON earlier before sun set and also not switched OFF properly after the sun set. GSM based street light control describe the new economical solution for managing the street light and power saving energy.

OBJECTIVES

1. To reduce energy loss.
2. To increase reliability.
3. To reduce worker cost.
4. With the help of this system we can operate illumination at any time.

SPECIFICATION

Sr.No	COMPONENTS	SPECIFICATION
1	LDR	-
2	GSMMODULE	900
3	ARDUINO UNO	-
4	RELAY	230V,30 amp
5	TRANSISTOR	BC547

WORKING

The operation of this project is based on LDR and GSM and also combination of both the property of LDR at the time of day, the resistance of LDR will be less due to presence of sun rays. The voltage drop in the LDR is less so in the LDR high voltage is available, therefore light will in OFF condition. At time of night the intensity of sun rays will less due to this the resistance of LDR increases and voltage passing through the LDR is less. So that light will be in ON condition.

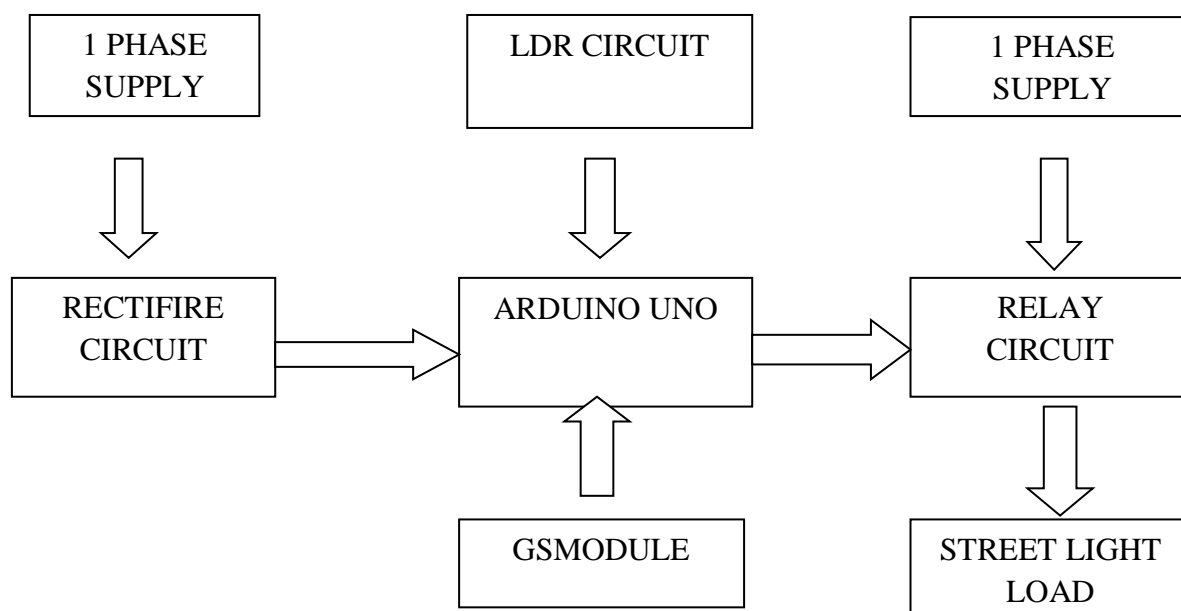


Fig. Block diagram of street light control

With the help of GSM, we can operate the street light at any time anywhere. When operator want to operate street light, just send the message with help of mobile to GSM module. GSM module will give signal to arduino and arduino operate to relay for switching operation of light. The main aim of this project is that even though light is ON with the property of LDR, then we can OFF the street light with the help of GSM module by sending message through mobile. After from next day LDR will be work as per property. At the time of day as per the principle of LDR, the light will be in OFF condition but we can ON the light with the help of GSM. After from next day the operation of LDR will be continuously. When we have to do maintenance, first send message for ON and after send message OFF from GSM to isolate the operation of LDR, it is very important before doing maintenance in cloudy environment, otherwise LDR will turn ON the street light. It may cause dangerous to worker. After completion of maintenance we have need send ON message from mobile for continuous operation of LDR.

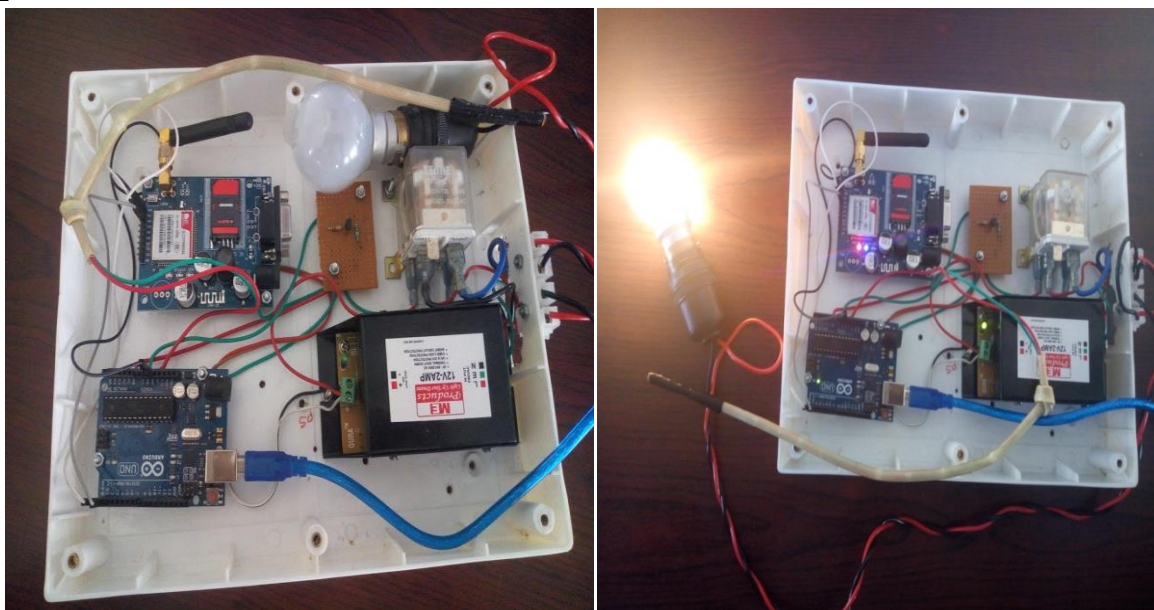
ADVANTAGE

1. This project is cost effective & easy to control.
2. Devices can be controlled from long distances.
3. Can be easily implemented in home.
4. Can be used by everyone with just knowledge of text message.

DISADVANTAGE

1. The system is network dependant. Hence, network congestion can reduce the reliability.
2. User can make mistake while typing message format.

RESULT



Result of this paper is at the time of night light will be automatically ON with the help of LDR, at the time of day light will be automatically OFF. Also we can control the lights by using GSM at any time, from anywhere.

CONCLUSION

During the presence of sun light there is no need of light. Therefore during the day time from sunshine to sunset lamp is in OFF condition. During night time lamp is in ON condition by sending a message to arduino circuit with the help of GSM module through mobile. Also unit of street light automatically switch ON/OFF. Therefore wastage of time and requirement of skilled worker is reduced.

FUTURE WORK

In future we can improve this project to controlling the intensity of the street light and also control street light with the help of movement of vehicle by using sensor. Hence we can conserve the electricity.

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