## POWER SAVING STREET LIGHT SYSTEM

USING ATMEGA32

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ABSTRACT

This paper shows the application of power saving street light system to detect the vehicle movement on highways , switch ON only a block of street lights ahead of vehicle, and to switch OFF that trailing lights to save energy.

During the night, all the lights on the highway remains ON for the vehicles , but lots of energy is wasted when there is no vehicle movement . This can be used for lights in parking areas of industries , hotels , restaurants etc…..

Many of people have a phobia of darkness, so to assist them in such situation . We have explained in simple

ircuit. It will automatically turn ON street light in the way of LED’s or bulb coupled with IR sensor. Working this circuit is very much easy and also the power consumed by the circuit is very low because of the very few components used in the circuit.

Light Sensor

Input

Atmega 32

Micro Controller

Driver IC

Output

Street Light

COMPONENTS REQURIED:

* Atmega32 microcontroller
* IR sensor
* LDR
* LCD
* LED array
* Connecting wires(required)
* *WORKING PRINCIPLE:*
* The principle behind the working of the project lies in the functioning of IR Sensor. We are going to use a Transmissive type IR Sensor in this project.
* In Transmissive IR Sensor, the IR transmitter and receiver are placed facing each other so that IR receiver always detects IR Rays emitted by the IR Transmitter.
* If there is an obstacle between the IR Transmitter and Receiver, the IR Rays are blocked by the obstacle and the IR Receiver stops detecting the IR Rays.
* This can be configured to turn ON or OFF the LEDs (or street lights) with the help of microcontroller.
* **The**[**infrared sensors**](https://www.elprocus.com/infrared-ir-sensor-circuit-and-working/)**are placed on each side of the road that are used to detect the vehicle movement and send the logic signals to a microcontroller (ATmega32 series) to turn on/ off the LEDs for a specific distance.**
* **Therefore, this way of dynamically switching ON and OFF the street lights helps in reducing the power consumption.**

APPLICATIONS:

* The street light control circuit can be used in normal roads , highways etc….
* The project can also be used in parking areas of malls , hotels , industrial lighting etc…
* More saving of energy used in the street lights.
* Safe road lighting for smooth vehicular movement.
* Intelligent intensity control .
* This can be implemented on both small roads and busy highways.

CONCLUSION

In this project will allow the users to set the conditions appropriate to the crop is growing.The more accurate a sensor is,better it will perform.The unit will moniter the condition of various parameter consideration and take appropriate action.Action take is as follows.

* If sunlight is lower than the set sensitivity:Switch ON only the block of street lights before of vehicles and to switch OFF the behind lights
* If sunlight is high than the sensitivity: Vehicles moving on the road but OFF the bulb
* If no vehicle moving on the road: Turn OFF the LEDs
* If vehicles moving on the road turn ON the bulb