

AUTOMATIC STREET LIGHT CONTROL SYSTEM

ABSTRACT:

Automatic Street Light Control System is a simple yet powerful concept, which uses transistor as a switch. By using this system manual works are 100% removed. It automatically switches ON lights when the sunlight goes below the visible region of our eyes. This is done by a sensor called Light Dependant Resistor (LDR) which senses the light actually like our eyes. It automatically switches OFF lights whenever the sunlight comes, visible to our eyes. By using this system energy consumption is also reduced because nowadays the manually operated street lights are not switched off even the sunlight comes and also switched on earlier before sunset. In this project, no need of manual operation like ON time and OFF time setting. This project clearly demonstrates the working of transistor in saturation region and cut-off region. The working of relay is also known.

1. INTRODUCTION:

Street light controllers are smarter versions of the mechanical or electronic timers previously used for street light ON-OFF operation. They come with energy conservation options like twilight saving, staggering or dimming. Also, many streets light controllers come with an astronomical clock for a particular location or a Global Positioning System (GPS) connection to give the best ON-OFF time and energy saving. Automatic Street Light Control System is a simple and powerful concept, which uses transistor as a switch to switch ON and OFF the street light automatically. By using this system manual works are removed. It automatically switches ON lights when the sunlight goes below the visible region of our eyes. It automatically switches OFF lights under illumination by sunlight. This is done by a sensor called Light Dependant Resistor (LDR) which senses the light actually like our eyes by using this system energy consumption is also reduced because now-a-days the manually operated street lights are not switched off properly even the sunlight comes and also not switched on earlier before sunset. In sunny and rainy days, ON time and OFF time differ significantly which is one of the major disadvantages of using timer circuits or manual. This project exploits the working of a transistor in saturation region and cut-off region to switch ON and switch OFF the lights at appropriate time with the help of an electromagnetically operated switch. A street light, lamppost, street lamp, light standard, or lamp standard is a raised source of light on the edge of a road or walkway, which is turned on or lit at a certain time every night. Modern lamps may also have light-sensitive photocells to turn them on at dusk, off at dawn, or activate automatically in dark weather. In older lighting this function would have been performed with the aid of a solar dial. It is not uncommon for street lights to be on poles which have wires strung between them, or mounted on utility poles. This project exploits the working of a transistor in saturation region and cut-off region to switch ON and switch OFF the lights at appropriate time with the help of an electromagnetically operated switch Automatic Streetlight needs no manual operation of switching ON and OFF. The system itself detects whether there is need for light or not. When darkness rises to a certain value

ADVANTAGES & DISADVANTAGES:

By using this automatic system for street light controlling ,we can reduce energy consumption because the manually operated street lights are not switch off properly even the sun light comes and

Also not switched on earlier before sunset

- Low cost
- Automated operation
- Low power consumption
- Very flexible
- Easy to manufactured

In sunny and rainy days, on and off time differ notice which is one of the major disadvantages of using timer circuit or manual operation for switching the street light system.

APPLICATION

1. Used in street light applications.
2. Used in Domestic applications.

CONCLUSION:

The Streetlight controller using ldr based Light intensity & traffic density, in the todays up growing countries will be more effective in case of cost, manpower and security as compare with today's running complicated and complex light controlling systems. Automatic Street Light Controlling System puts up a very user-friendly approach and could increase the power This paper elaborates the design and construction of automatic street control system circuit. Circuit works properly to turn street lamp ON/OFF. After designing the circuit which controls the light of the street as illustrated in the previous sections. LDR sensor and the photoelectric sensors are the two main conditions in working the circuit. If the two conditions have been satisfied the circuit will do the desired work according to specific program. Each sensor controls the turning ON or OFF the lighting column. The street lights have been successfully controlled by microcontroller. With commands from the controller the lights will be ON in the places of the movement when it's dark. furthermore, the drawback of the street light system using timer controller has been overcome, where the system depends on photoelectric sensor.

FUTURE SCOPE:

We can save the energy for the future use and we can control the losses of the power. We can implement this project for the home lamp or night lamp of the room. This is also used for the signals.