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Smart Street Light Using Intensity Controller (Conference Paper)

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Abstract

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Smart street light is an intelligent control of street lights to optimize the problem of power consumption of the street , late in night. Currently, usual street lights are automatically turn on when it becomes dark and turn off when it becomes bright. This is huge waste of energy in the entire world as it is an essential community service, but current implementation is not efficient. Conventional street lights are being replaced by Light Emitting Diode (LED) street lighting system, which reduces the power consumption. The focus of this project is to design a system of street lights controller to provide a reduction in power consumption. The prototype is design by using Light Dependent Resistor (LDR), Infrared sensor (IR), battery and LED. All this component was controlled by Arduino UNO as the microcontroller. The brightness of the lamps is being controlled in this project to reduce the power consumption. The dimming of the lamps depends on the speed of object motion detected such as pedestrians, cyclists and cars. The higher speed of moving object, the greater the level of intensity . For this idea, the innovation of street lights is not quite the same as conventional street lights that are controlled by timer switch or light sensor which automatically turns the street lights on during sunset and off during sunrise. According to the study, motion detection devices may help to save up to 40% of energy per month. © 2018 IEEE.

SciVal Topic Prominence

Topic: Lighting | Street lighting | smart lighting

Prominence percentile: 92.197

Author keywords

LED street lights | Power consumption | Sensor detection | Smart street light system

Indexed keywords

Engineering controlled terms: Controllers | Dimming (lamps) | Infrared detectors | Light emitting diodes | Motion analysis | Object detection

Engineering uncontrolled terms: Community services | Infrared sensor | Light dependent resistors (LDR) | Light emitting diode (LED) | Motion detection | Moving objects | Street light systems | Street lighting system

Engineering main heading: Electric power utilization

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