IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 6, May 2024

E-Street: LED Powered Intelligent Street Lighting System with Automatic Brightness Adjustment Based on Climatic Conditions & Vehicle Movements

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Abstract: *Monitoring of street lights and controlling is of utmost importance in developing country like Indiato reduce the power consumption. The paper presents a remote streetlight monitoring and controlling system based on LED and wireless sensor network. The system can be set to run in automatic mode, which control streetlight. This control can make a reasonable adjustment according to the seasonal variation. Also this system can run in controlled mode. In this mode, we can take the initiative to control streetlights through PC monitor terminal. This street light system also includes a time cut-out function, and an automatic control pattern for even more electricity conserving, namely when vehicles pass by, the light will turn on automatically, later turn off. This design can save a great amountof electricity compared to streetlamps that keep a light during nights. The design implements traffic flow magnitude statistics without adding any hardware, facilitating transportation condition information collecting. Furthermore, this system has auto-alarm function which will set off if any light is damaged and will show the serial number of the damaged light, thus it is easy to be found and repaired the damaged light. The system can be widely applied in all places which need timely control such as streets, stations, mining, schools, and electricity sectors and so on. In addition, the system integrates a digital temperature and humidity sensor, not only monitoring the streetlight but also temperature and humidity*

Keywords: Street Light, Light Intensity, Automation, Infrared Detection

DOI: 10.48175/568