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Smart street lights using power line communication

Du Toit P
Kruger, Carel P
Hancke GP
Ramotsoela TD

ABSTRACT:

The increasing popularity of automation has resulted in the development of "smart" systems for a variety of different applications. One such application is street lighting which still mostly uses very primitive methods of maintenance. The use of smart street lighting can significantly reduce power consumption and CO2 emissions and consequently also save money. This paper proposes the use of a smart street lighting system which provides an intelligent method of conserving energy and monitoring street light faults with the use of communication over the power line. The developed system communicates over power lines using modified frequency shift keying (FSK) modulation. The system used an LDR (light dependent resistor) based light sensor and an LED (light emitting diode) luminaire to provide the intelligent control.