

**Title of the project : Street Light Power Cable Monitoring System Based
On Wireless Sensor Networks Using Zigbee
Communications.**

Domain : Embedded Systems Design

Software : Embedded C, Keil

Microcontroller : AT89S52

Power Supply : +5V, 500mA Regulated Power Supply.

Crystal : 11.0592MHz for MCU

Technical support : M/S Wine Yard Technologies

Phone : 040-6464 6363, www.WineYardtProjects.com

www.WineYardProjects.com Ph: 040-6464 6363, 6625 6695, 888 5555 212

STREET LIGHT POWER CABLE MONITORING SYSTEM BASED ON WIRELESS SENSOR NETWORKS USING ZIGBEE COMMUNICATION

Abstract:

In the real time applications Turnoff the street lights on time is a problem where human memory involves. To overcome this problem we use wireless device to monitor the parameters which do the task automatically with predefined time. The fundamental aim of this project is to develop an embedded system to design a wireless streetlight

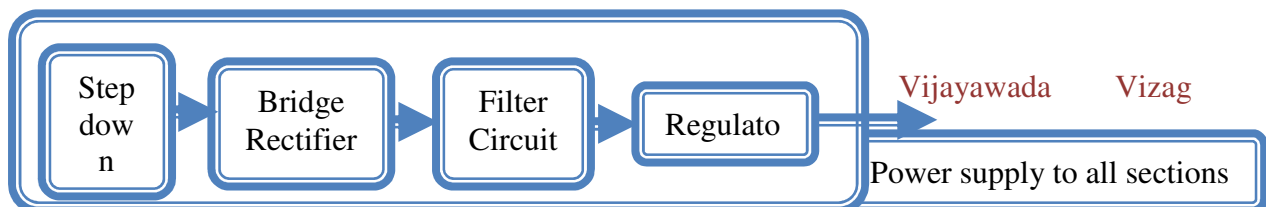
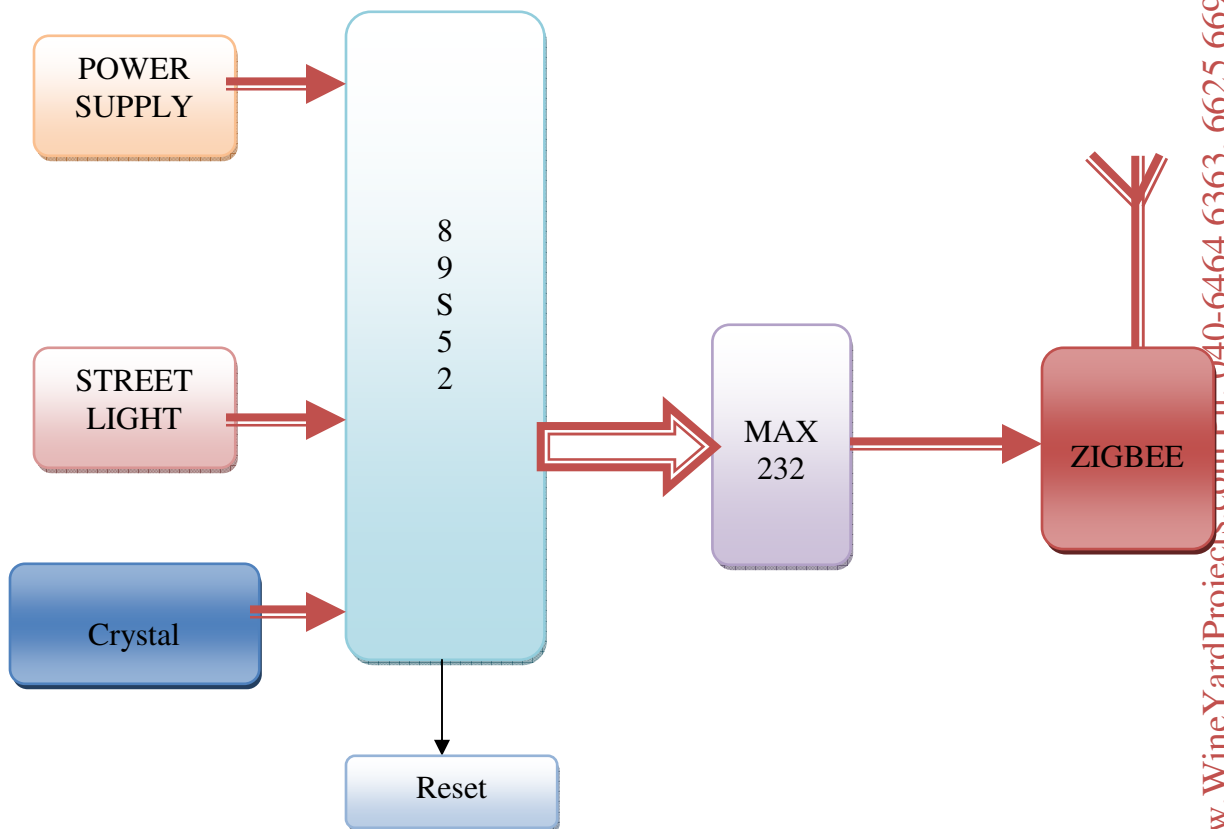
. To control and maintain complex street lighting system more economically, various street light control systems are developed. Nevertheless most of developed systems have some drawbacks. So we are going to develop new street light control system which can overcome old systems drawbacks. We surveyed various street light control systems and analyzed its characteristics. Through these efforts, we found that common drawbacks of most light control systems are uneasiness of handling and difficulty of maintenance. To reduce uneasiness of handling and difficulty of maintenance in operating light control system, we designed new street light control system by using Zigbee communication technique. In this thesis, we describe on the H/W design of new street light control system designed by using Zigbee communication protocol.

The system contains two parts. One is transmitter node and another one is receiver part and both can be any number. The transmitter part consists of whether sensors, microcontroller and ZigBee and the receiver part consist of a PC interfaced with Zigbee through PC serial port. In this project we deal with monitoring the weather related parameters through wireless Zigbee modules. Here we monitor temperature, wind speed, wind direction and humidity with the help of respective sensors. The data from the

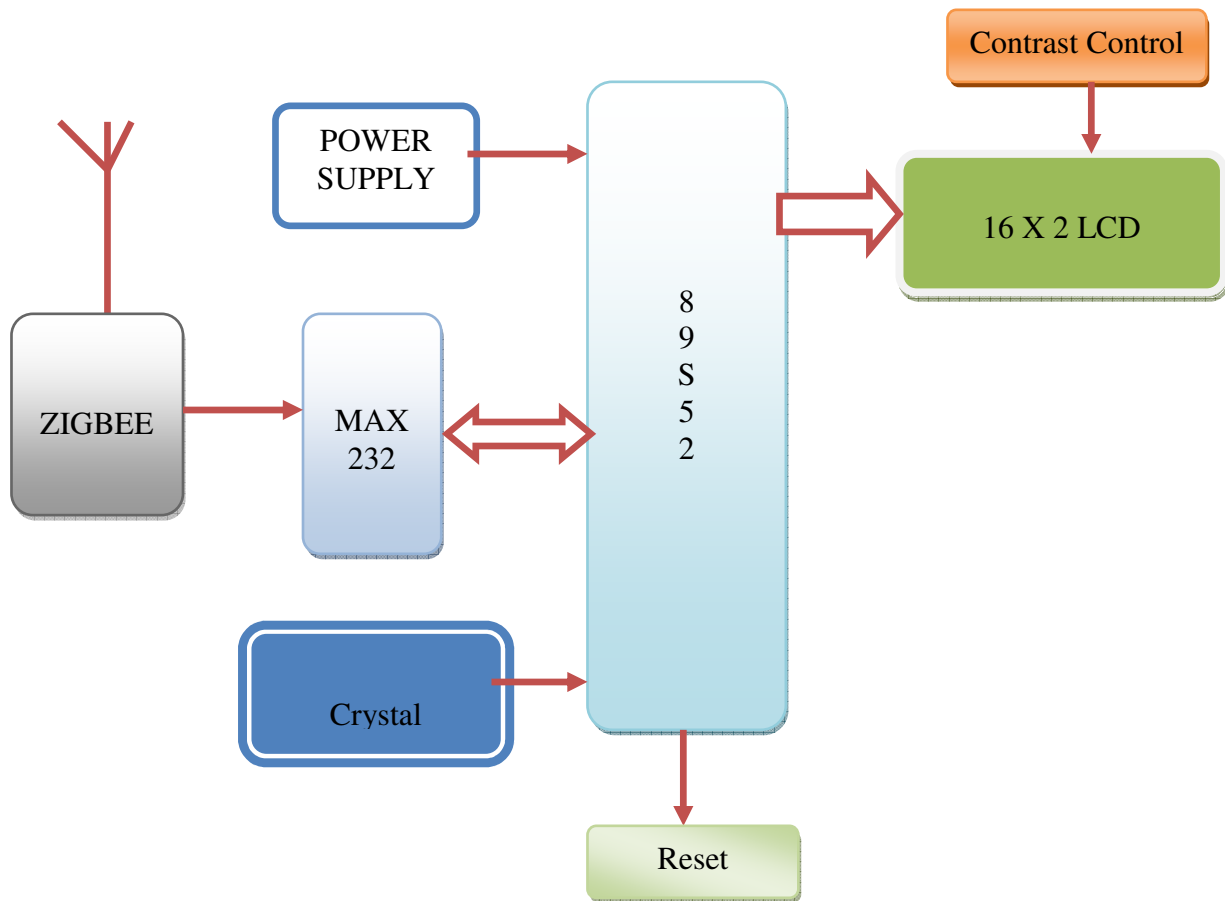
sensors are collected by the micro controller and transmitted to the receiver section through wireless medium.

Zigbee is a PAN technology based on the IEEE 802.15.4 standard. Unlike Bluetooth or wireless USB devices, ZigBee devices have the ability to form a mesh network between nodes. Meshing is a type of daisy chaining from one device to another. This technique allows the short range of an individual node to be expanded and multiplied, covering a much larger area.

BLOCK DIAGRAM: Transmitter



BLOCK DIAGRAM: Receiver



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