INDUSTRIAL DEVICE CONTROLLING SYSTEM USING ETHERNET MODEM

DESCRIPTION:

The Ethernet standards comprise several wiring and signaling variants of the OSI physical layer in use with Ethernet. The original 10BASE5 Ethernet used coaxial cable as a shared medium. Later the coaxial cables were replaced with twisted pair and fiber optic links in conjunction with hubs or switches. Data rates were periodically increased from the original 10 megabits per second to 100 gigabits per second. In our project we can simply use it for transmitting data to embedded web server.

The project is designed to provide automation in industry. The autharised person of the industry is able to access the web server throughout the internet. From that server he can directly control the industrial devices of his home. The server can accessed from anywhere on earth from the world wide web.

The micro controller is interfaced to the Ethernet modem and the loads are interfaced to the micro controller. The load are interfaced to the micro controller through relay driver circuit. This driver circuit switchs the loads depending on the micro controller's signal. When the ethernet modem receves the command from the client then it send signal to the micro controller then the controller sends signal to the driver circuit so that the load are ON or OFF depending the autharised persons commad.

This server had an password to access the page so it can not accessed by another persons.

In this prototype model step-down power supply circuit is used. First from 230Volts AC is converted as 12V AC by using a step-down transformer. Then a 1000uf capacitor is used to convert it to pure 12V DC. 7805 will convert the 12V DC supply to 5V DC along with a 100uf capacitor. This 5V DC is used for all components like microcontroller, inputs and outputs.

TECHNICAL SPECIFICATIONS:

HARDWARE SPECIFICATIONS

- Micro controller :
- Crystal : 11.0592 MHz
- LED : 5mm Red LED
- Ethernet modem
- 12V relays (Electro mechanical type)
- loads
- Basic GPIOs

POWER SUPPLY

- Transformer : 12V step down
- Filter : 1000uf/25V
- Voltage Regulator : 7805 / 7812

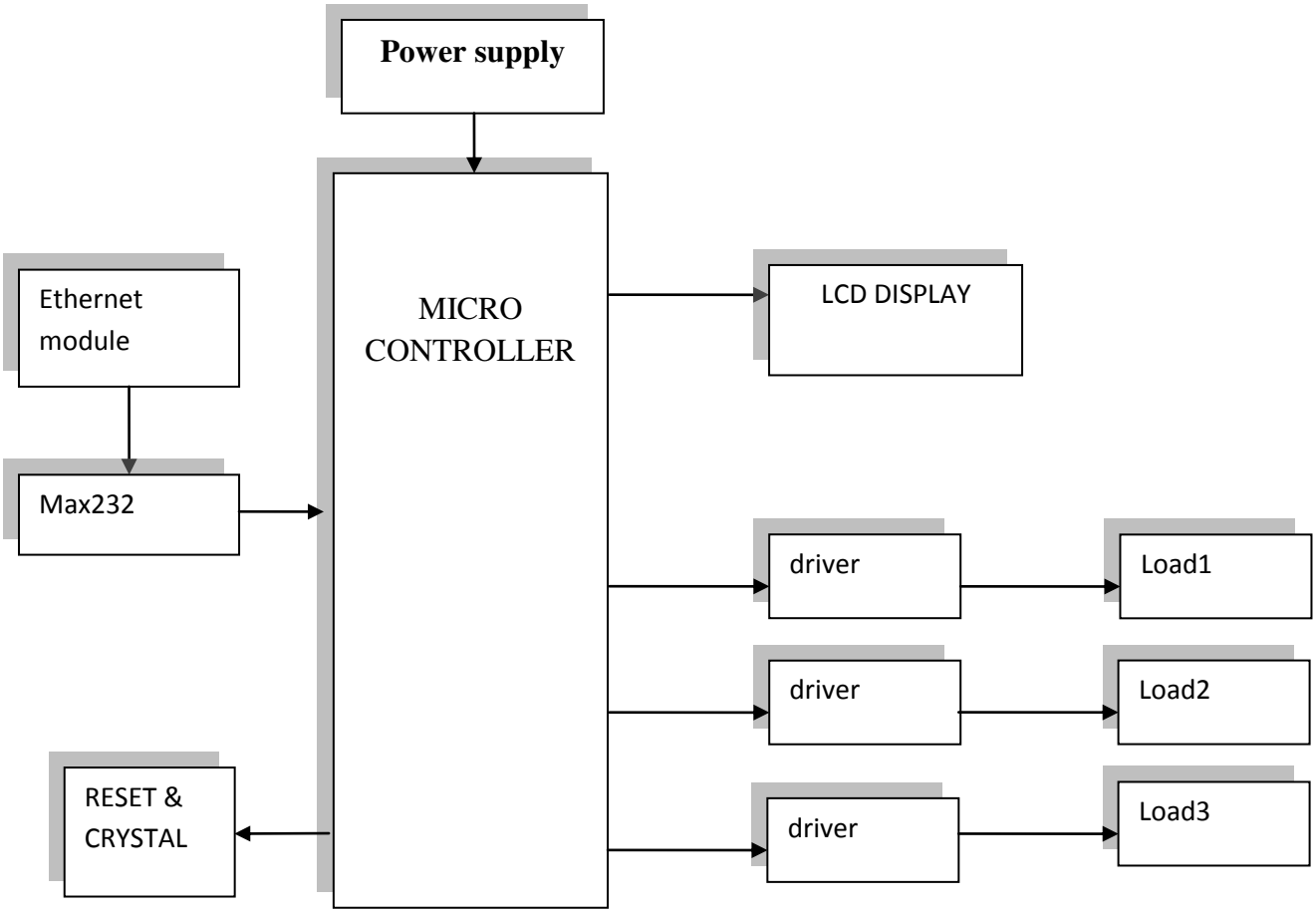
SOFTWARE SPECIFICATIONS

- Keil IDE
- Proteus VSM
- UC flash

APPLICATIONS

- Industrials
- Home industrial devices

Block diagram



POWER SUPPLY BLOCK DIAGRAM: