**TIME BASED ELECTRICAL APPLIANCES CONTROL IN INDUSTRIES USING RTC (front end)**

**DESCRIPTION:**

This project is used to control the devices or appliances in industries based on Real Time clock using 8051 micro controller.

In this project we develop the front end application using C # dot net software. In this application we are using three text boxes. Each text box contains two fields for ON time and OFF time. Each one of them is specified for a particular appliance. We are entering the ON time and OFF time for a particular device by using this software .PC are connected to the controller using serial communication depending on the timings provided in the software. The microcontroller receives data, and then the corresponding relays (here we connect any appliances) should be turned ON and OFF .Here we take PC time for reference.

Microcontroller have serial interface and this serial interface helps to communicate microcontroller to P.C. Serial communication is a UART based protocol works on different baud rates. To communicate microcontroller with PC it needs Driver. Here we use Max 232 as a serial driver.

This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Full wave bridge rectifier is used to rectify the ac output of secondary of 230/12V step down transformer.

# TECHNICAL SPECIFICATIONS:

**HARDWARE:**

Micro controller : AT89x series

Crystal : 11.0592 MHz

Relays : 5 pin DC12V, AC load 230V

Serial interface **:** MAX/ST 232

Power supply

Transformer : 12V step down

Filter : 1000uf/25V

Voltage Regulator : 7805, 7812

**SOFTWARE:**

Keil IDE

UC flash

Proteus

Dot net front end application

**APPLICATIONS:**

* Industrial applications
* Power saving appliances

**BLOCK DIAGRAM:**

8

0 5

1

Power Supply

Relay 1

Relay 2

Relay 3

Max 232

PC (.net C# application)

**POWER SUPPLY BLOCKDIAGRAM:**

Step down Transformer

Filter

Regulator

Output

Bridge Rectifier