

DTMF BASED INDUSTRIAL PARAMETER CONTROLLING SYSTEM

DESCRIPTION:

This project is aimed to design a system to monitor and controlling industrial parameters using DTMF(dual tone multi frequency) technology.

The main idea is to implement micro controller based application which can monitor and control industrial parameters like temperature and fire in industries from our mobile without any contact. For this we are using DTMF [Dual Tone Multi Frequency] technique which is as in build feature in some mobiles and GSM technology. This project can be implemented with low cost and easy to install and easy maintenance.

The sensors Fire, temperature sensors used for judging different parameters are interfaced to the micro controller along with a mobile which supports DTMF by using DTMF decoder on the receiver side. GSM modem is also interfaced to the controller through a line driver IC max232 for serial communication. The controller will polls the present state of those sensors and if there any change in the state of the sensors, it will send the corresponding message to the predefined mobile number. Then we will establish a call between the controlling mobile and the remote mobile. Now any key pressed on the remote mobile will generate a complex frequency, which can be heard on the mobile placed. That frequency can be detected by controller by means of DTMF decoder. Keys assigned for control can be User Defined. Depending on the key pressed, controller will automatically take corresponding action in order to bring the previous state. That means we are setting predetermined temperature value to the microcontroller, when the temperature exceeds the value corresponding relay (any device connected o relay depending on requirement) should be ON automatically and bring back to the previous state. When the fire gets detected, the corresponding relay should be ON to control the fire. Here an LCD is also interfaced to display the status of the system

This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Bridge type full wave 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

Relay

DTMF decoder

Mobile

Temperature sensor

Fire sensor

LCD

Power supply

Transformer : 12V step down

Filter : 1000uf/25V

Voltage Regulator : 7805

SOFTWARE:

Keil IDE

UC flash

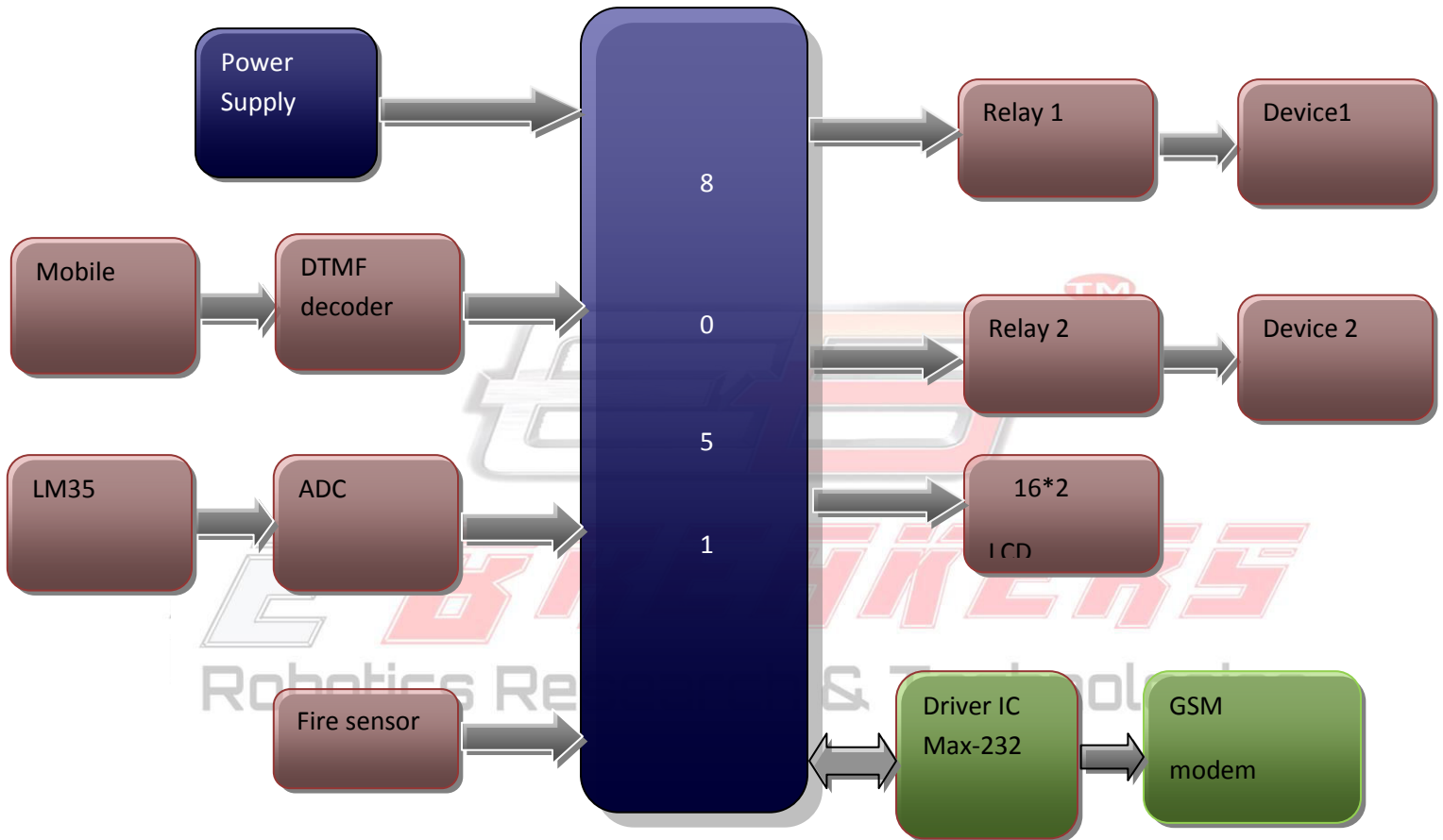
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APPLICATIONS:

- Industrial applications

➤ Household applications

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



