

ESP1860

## **Microcontroller based Digital Meter with Alert System using GSM**

The objective of this paper is to design and implement the low cost digital meter using PIC microcontroller, which could be used for monitoring the temperature and humidity of our environment. In this paper, it is focused mainly for our homes. The temperature is measured using LM35 temperature sensor and the humidity is measured using DHT11 humidity sensor. The measured parameters are displayed through LCD screens, normally like a digital meter. Apart from acting as a meter, it performs the function of automated control system which controls the motor driver connected to the fan, based on the temperature sensed using the microcontroller. When the fire catches the home and the sensor values exceeds the limit, an alert SMS will be sent to the person living in the home through the SIM900 GSM module. Also, an SMS carrying the home address will be sent to the fire department which alerts the fire fighters to urge to the location so that they can protect the home from fire. This paper also proposes the idea of automatic humidity controller using dehumidifier controlled by the microcontroller through the relay module. Thus, the proposed microcontroller based automated digital meter model has been discussed in the paper.