

Temperature based Fan speed controller and SMS alerts using GSM modem

This Project aims in designing a system which is used to control the Fan speed according to the temperature and it also indicates the temperature on the LCD (Liquid Crystal Display) and also alerts this information to users mobile through SMS. The system will get the temperature from the Temperature Sensor and it will control the speed according the values stored in the code. The System is fully controlled microcontroller.

This project gives you a simple temperature controlled fan. If the difference between real temperature and the user temperature is high then the fan will run at full speed and if the difference is low then the fan will rotate at slow speed. The speed of the fan varies with the temperature. The user can enter the temperature limit through the keypad. The speed of the fan is adjusted by using the PWM.

Temperature Monitoring systems are in huge requirement and we definitely can find their advantages in many industrial sector and also in residential sector. We can find many kind of temperature monitoring systems for different uses but the major challenge is to design a very simple, User-friendly and cost effective system. Keeping these in mind we designed a temperature monitoring system using a timer based system.

We developed this project, which is relatively inexpensive to sense the temperature. The temperature is read by the ADC (Analog to Digital Converter) module of the microcontroller Unit. This ADC data is processed and converted into the actual temperature reading by the microcontroller. This processed data is sent to the LCD for user display and also to predefined number through SMS. This project consists of Microcontroller which acts as a Control unit to control the all modules interfaced to it. The Microcontroller is programmed using Embedded C language.

The major objectives of this system are:

1. Automatic controlling of fan speed based on temperature.
2. Monitoring can be done through mobile.
3. LCD display of temperature and fan speed.

The project provides the following learning's:

1. GSM modem.
2. Temperature sensor.
3. Conversion of AC supply to DC supply.
4. LCD display.
5. Embedded C programming.
6. PCB designing.

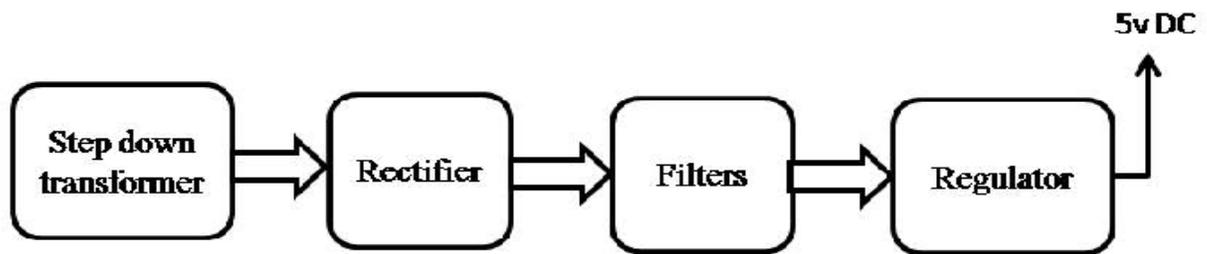
The main building blocks of the project are:

1. Regulated Power Supply.
2. Microcontroller.
3. Temperature sensor.
4. LCD display with driver.
5. GSM modem
6. Crystal oscillator.
7. LED indicators.

Software's used:

1. PIC-C compiler for Embedded C programming.
2. PIC kit 2 programmer for dumping code into Micro controller.
3. Express SCH for Circuit design.
4. Proteus for hardware simulation.

Regulated Power Supply:



Block Diagram:

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