SD / MMC Card Based Temperature Recorder using Arduino

The term data logger (also sometimes referred toas a data recorder) is commonly used to describe a self-contained, standalone data acquisition system or device. These products are comprised of a number of analog and digital inputs that are monitored, and the results or conditions of these inputs is then stored on some type of local memory. In this paper, a Temperature Data Logging System is designed to record anddisplay temperatures continuously. It uses a temperature sensor to sense the surrounding temperature and store data with Date & TIME in SD card(MMC) and also displays thetemperature on the PC with the help of Arduino Board. The Real Time Clock maintains date and time parameters.

The methodology for designing the temperature data logging system is discussed in detail. The code to implement the functionality of the logging system is modeled and simulated using proteus simulator. The LM35 sensor is interfaced with the microcontroller Atmega328. The microcontroller displays gas concentration value on 16x2 lcd with date and time. It also records data in memory card module. We can check memory card file in excel sheet in PC.

**Software Tools:**

* ARDUINO IDE ( Compiler )
* EMBDDED CPP CODE
* PROTEUS SIMULATOR

**Hardware :**

1. ATMEGA328 Microcontroller
2. LM35 Sensor
3. 16\*2 LCD DISPLAY
4. RTC DS1307
5. SD Card Module
6. Regulated Power Supply

**BLOCK DIAGRAM :**

**ATMEGA328**

**MCU**

16\*2 LCD DISPLAY

LM35 Temp Sensor

Memory Card Module

DS1307 RTC

PC

REGULATED POWER SUPPLY