# **Temperature Detection by Thermistor**

#### Introduction

As mentioned in Lesson 4, thermistors are the most sensitive temperature sensors because their resistance changes acutely with temperature changes. Therefore, the thermistor sensor module measures temperature sensitively though it can output only analog signals. The module is often used to detect the temperature changes in ambient environment.

### Components

- 1 \* SunFounder Uno board
- 1 \* USB data cable
- 1 \* thermistor module
- 1 \* I2C LCD1602 module
- 1 \* 3-Pin anti-reverse cable
- 1 \* 4-Pin anti-reverse cable
- 1 \* Dupont wire (F to F)

#### **Experimental Principle**

How a thermistor works: its resistance varies significantly with the ambient temperature. It can detect surrounding temperature changes in a realtime manner and send the temperature data to analog I/O port of the SunFounder board. What you need to do is convert the output to Celsius temperatures by simple programming and then display it on an LCD.

The schematic diagram of the module:





## **Experimental Procedures**

Step 1: Build the circuit



**Step 2:** Program (Please refer to the example code in <u>LEARN -> Get Tutorial</u> on our <u>website</u>)

Step 3: Compile

Step 4: Upload the sketch to SunFounder Uno board

Now, you can see the current value of temperature displayed on the LCD, in both Celsius and Fahrenheit degrees.

