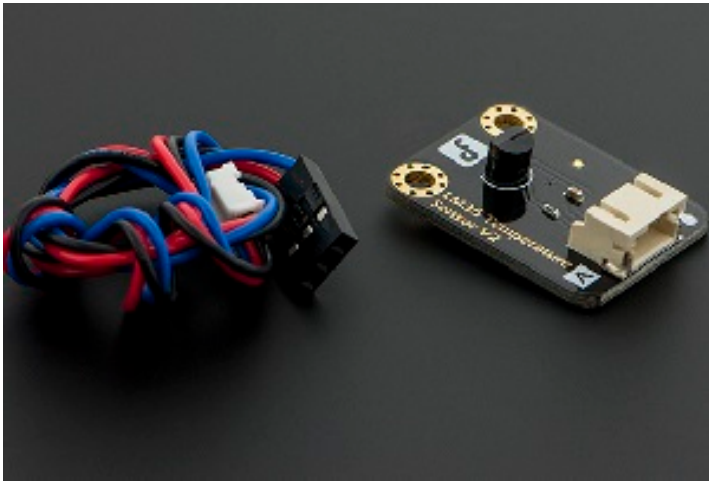


SKU:DFR0023 (<https://www.dfrobot.com/product-76.html>)



([https://www.dfrobot.com/product-](https://www.dfrobot.com/product-76.html)

76.html)

Introduction

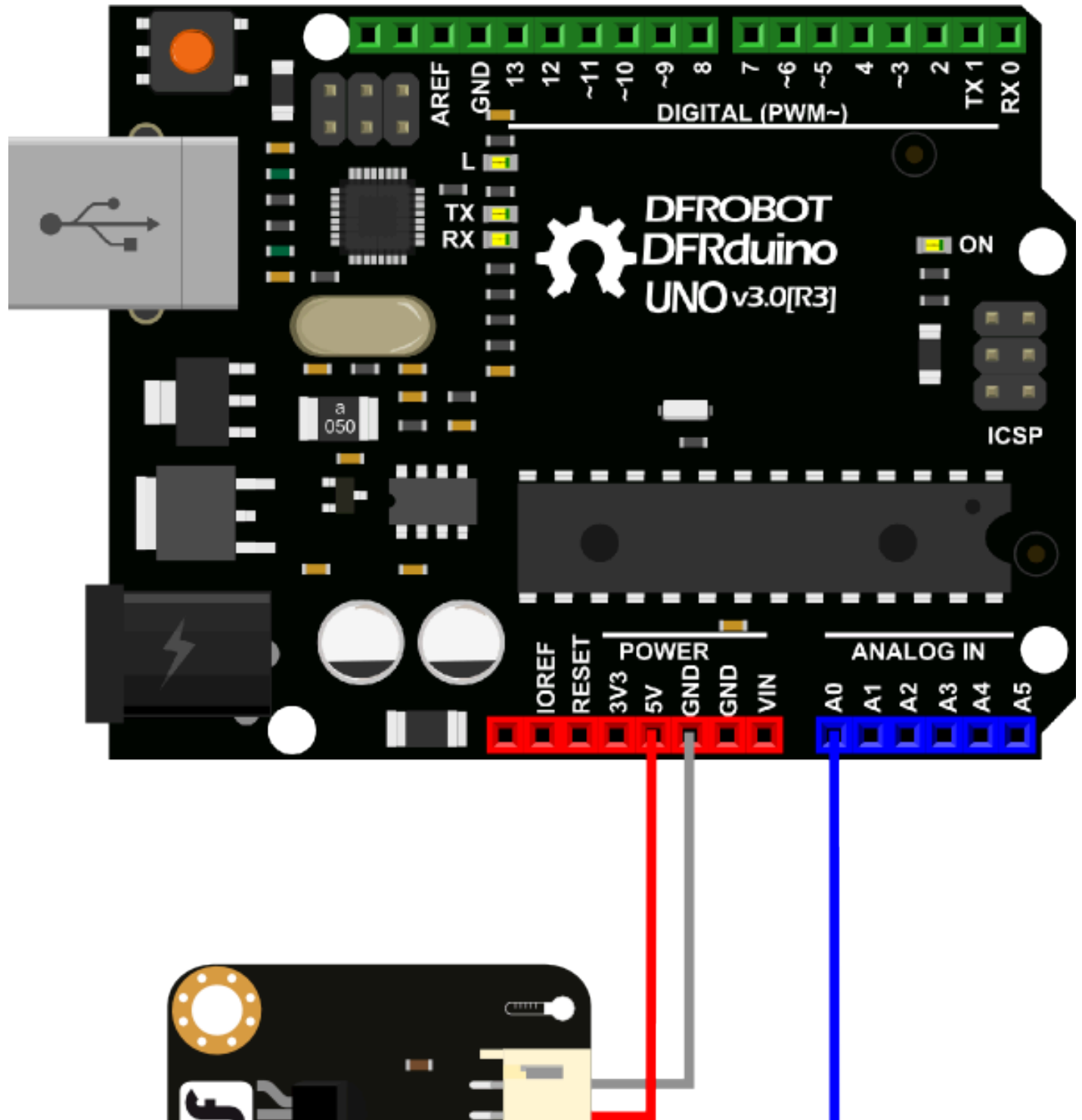
The *DFRobot LM35 Linear Temperature Sensor* (<https://www.dfrobot.com/product-76.html>) is based on the semiconductor LM35 temperature sensor. It can be used to detect ambient temperature. This sensor is produced by National Semiconductor Corporation and offers a functional range between 0 to 150°C. The sensitivity is 10mV/°C. The output voltage is proportional to the temperature. It is commonly used as a temperature measurement sensors. It includes thermocouples, platinum resistance, thermal resistance and temperature semiconductor chips, which are commonly used in high temperature measurement thermocouples. Platinum resistance temperature modules are used in measurements of 800 degrees Celsius, while the thermal resistance and semiconductor temperature sensor suitable for measuring the temperature of 100-200 degrees or below. In this type of application the semiconductor temperature sensor has good linearity and high sensitivity. The LM35 linear temperature sensor and sensor-specific expansion of **Arduino board** (<https://www.dfrobot.com/category-104.html>), can allow for quick and easy plug and play and reliable data.

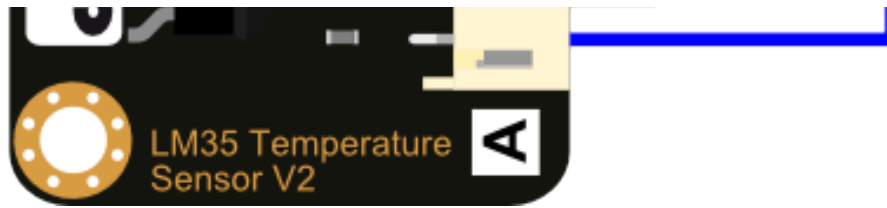
Specification

- Sensor Chip Model: LM35
- Supply Voltage: 3.3~5.0V
- Sensor Chip Sensitivity: 10mV/°C
- Measuring Range: 0~150°C
- Precision: $\pm 1^{\circ}\text{C}$
- Connector Type: PH2.0-3P
- Dimension: 30*22 mm

Tutorial

Connection Diagram





Sample Code

For Arduino

```
void setup()
{
  Serial.begin(9600);//Set Baud Rate to 9600 bps
}

void loop()
{
  uint16_t val;
  double dat;
  val=analogRead(A0);//Connect LM35 on Analog 0
  dat = (double) val * (5/10.24);
  Serial.print("Tep:"); //Display the temperature on Serial monitor
  Serial.print(dat);
  Serial.println("C");
  delay(500);
}
```

For Micropython

```
from machine import ADC,Pin
import time

adc0=ADC(Pin(36))
while True:
    val=adc0.read()
    dat=(val/4096)* 3300/10.24
    print("dat=",dat,"C")
    time.sleep(1)
```

FAQ

More question and cool idea,visit DFRobot Forum

(<https://www.dfrobot.com/index.php?route=DFblog/blogs>)

More Documents

- Schematic
([https://github.com/DFRobot/Wiki/raw/master/DFR0023/res/DFR0023%20\(V4.0\)%20Schematic.pdf](https://github.com/DFRobot/Wiki/raw/master/DFR0023/res/DFR0023%20(V4.0)%20Schematic.pdf))
- Layout with dimension
([https://github.com/DFRobot/Wiki/raw/master/DFR0023/res/DFR0023%20\(V4.0\)%20Layout%20with%20dimension.pdf](https://github.com/DFRobot/Wiki/raw/master/DFR0023/res/DFR0023%20(V4.0)%20Layout%20with%20dimension.pdf))
- LM35 Datasheet
(https://www.dfrobot.com/image/data/DFR0023/DFR0023_Datasheet.pdf)