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# High Temperature Sensor SKU:SEN0198



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## Introduction

What do you do when you want to measure the temperature? Most of people may be think of DS18B20 temperature sensor first. But DS18B20 can only measure the temperature within 125 degrees. After more than 125 degrees, you need to use other sensors. In order to measure the high temperature above 100 degrees, So we choose the PT100 resistance type high temperature probe which is industry commonly used as our sensor probe. Through our high temperature module, We can achieve 30-350 degree range of temperature detection. Our modules are compatible with the input voltage of 3.3V-5.5V, so ARDUINO and STM32 and other MCU are able to use our modules.

## Specification

### Module

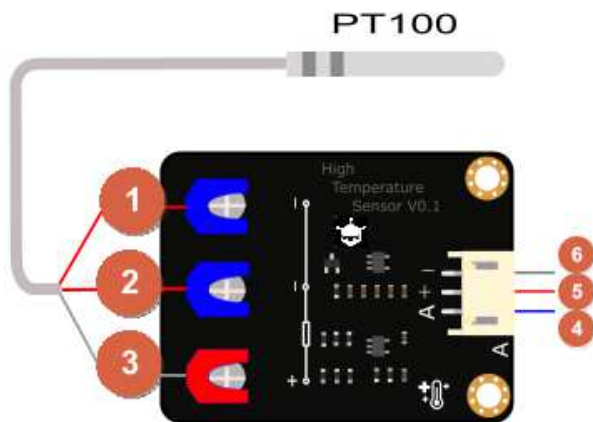
- Working voltage: 3.3V-5.5V
- Analog output voltage: 0.2V-2.8V
- Working temperature range: 30-350 Centigrade
- Relative Error:  $\pm 2\%$  F.S.
- Interface: PH2.0-3P
- Size: 42mm \* 32mm \* 18mm
- not waterproof

### PT100 Probe

- Probe working temperature: -20 - 400 Centigrade
- The highest temperature of the skin: 200 Centigrade
- Length: 2m
- Precision: 0.5 Centigrade
- Waterproof

### Board Overview

LABEL	NAME	Function Description
1	PT100-	PT100-
2	PT100-	PT100-
3	PT100+	PT100+
4	Signal Output	Signal Output
5	VCC	Power Input +(3.3V-5.5V)
6	GND	GND



## Tutorial

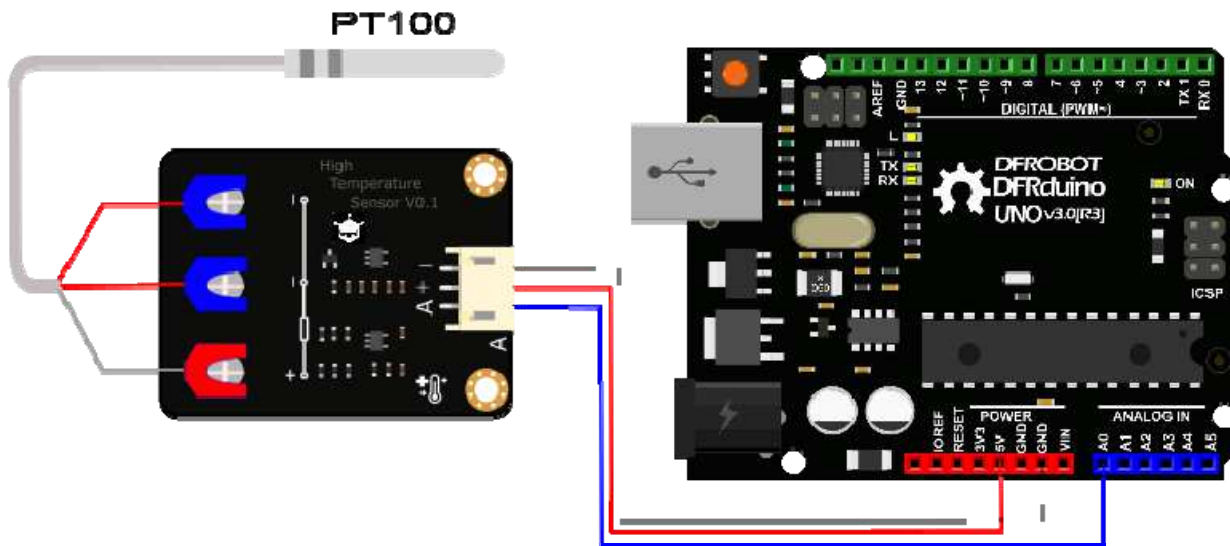
This tutorial will describe you how to use the high temperature sensor module and PT100.

### Requirements

- **Hardware**
  - UNO x1
  - PT100 x1
  - high temperature sensor module x1
  - PH2.0-3P cable x1
- **Software**
  - [Arduino IDE V1.6.5](#) [Click to Download Arduino IDE from Arduino®](#)
  - [HighTemperatureSensor libraries](#) [About Library installation.](#)

### Connection Diagram





## Sample Code

[HighTemperatureSensor libraries About Library installation.](#)

Before downloading the program, you must know the reference voltage of the analog port. If your board supply voltage is 3.3V, then you need change voltageRef which is in sample code from 5.000 rto 3.300, If your board supply voltage is 5.0V, then set voltageRef to 5.000. If you want a higher precision, Then you need to measure the voltage of the IOREF port and set that voltage to as voltageRef .

```

/*****

```

```

This example reads HighTemperature Sensor.

```

```

Created 2016-1-13

```

```

By berinie Chen <bernie.chen@dfrobot.com>

```

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GNU Lesser General Public License.

```

```

See <http://www.gnu.org/licenses/> for details.

```

```

All above must be included in any redistribution

```

```

*****/

/*****Notice and Trouble shooting*****/

1.Connection and Diagram can be found here https://www.dfrobot.com/wiki/index.php?title=HighTemperatureSensor\_SKU:SEN0198

2.This code is tested on Arduino Uno.

*****/

#include<DFRobotHighTemperatureSensor.h>

const float voltageRef = 5.000; //Set reference voltage,you need test your I
OREF voltage.
//const float voltageRef = 3.300;
int HighTemperaturePin = A0; //Setting pin
DFRobotHighTemperature PT100 = DFRobotHighTemperature(voltageRef); //Define
an PT100 object

void setup(void) {
    Serial.begin(9600);
}

void loop(void) {
    int temperature = PT100.readTemperature(HighTemperaturePin); //Get temper
ature
    Serial.print("temperature: ");
    Serial.print(temperature);
    Serial.println(" ^C");
    delay(1000); //just here to slow down the output so it is easier to read
}

```

## RESUALT



```
COM5 (Arduino Leonardo)
```

temperature: 61  
temperature: 61  
temperature: 61  
temperature: 61  
temperature: 61  
temperature: 61  
temperature: 61  
temperature: 60  
temperature: 60  
temperature: 60  
temperature: 60  
temperature: 60  
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temperature: 60  
temperature: 60  
temperature: 60  
temperature: 60  
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temperature: 59  
temperature: 59

自动滚屏      HL 和 CR      9600 波特率

## FAQ

There are no questions about this product yet. If you have any problems or suggestions, you are welcome to email us or post on the DFRobot forum!

For any questions/advice/cool ideas to share, please visit the [DFRobot Forum](#) or email [techsupport@dfrobot.com](mailto:techsupport@dfrobot.com)