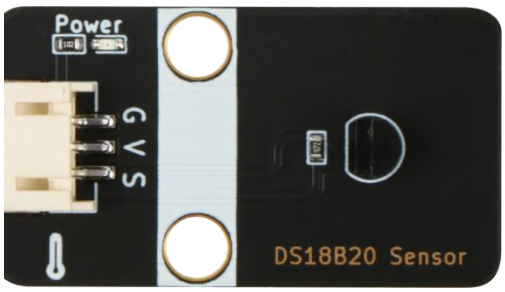
DS18B20 Temperature Sensor Experiment

Module Introduction

DS18B20 is a commonly used digital temperature sensor. Its output is digital signal. It has the characteristics of small volume, strong anti-interference ability and high precision. DS18B20 digital temperature sensor is easy to connect. The packaged DS18B20 can be used for cable trench temperature measurement. The packaged DS18B20 can be used for cable trench temperature measurement, blast furnace water cycle temperature measurement, boiler temperature measurement, machine room temperature measurement, agricultural greenhouse temperature measurement, clean room temperature measurement, ammunition depot temperature measurement and other non limit temperature occasions. It is wear-resistant, impact resistant, and easy to use, with small size and various packaging forms. It is suitable for digital temperature measurement and control of all kinds of narrow space equipment.



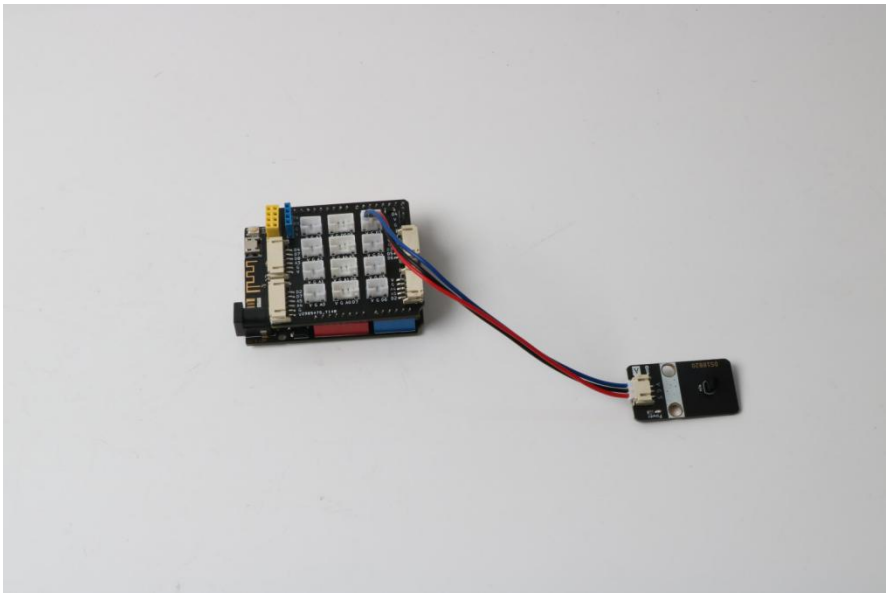
Device List

- BLE-UNO Main Board: 1
- PH2.0 Sensor Board: 1
- USB Data Wire: 1
- DS18B20Module: 1
- 3PIN Wire Jumper: 1

Purpose of the Experiment

Master the acquisition of current ambient temperature of DS18B20.

Physical Wiring Diagram



Program Code

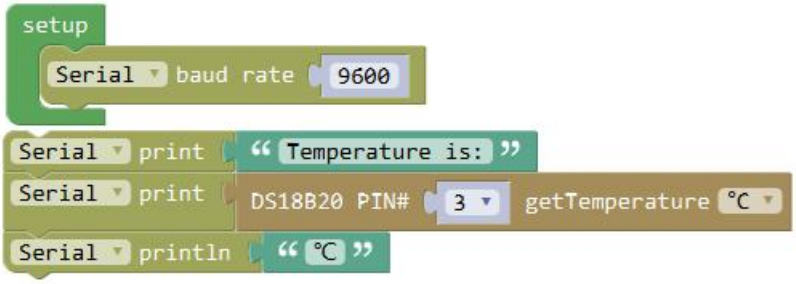
```
#include "OneWire.h"
#include "DallasTemperature.h"
#define ONE_WIRE_BUS 3
OneWire oneWire(ONE_WIRE_BUS);        //Initialize the port
DallasTemperature sensors(&oneWire);//Create Object

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

void loop(void)
{
   sensors.requestTemperatures();    //Send and execute temperature conversion command
   Serial.print("The temperature is:");
   Serial.print(sensors.getTempCByIndex(0));    //Get current temperature
   Serial.println("°C");
   delay(200);
}
```

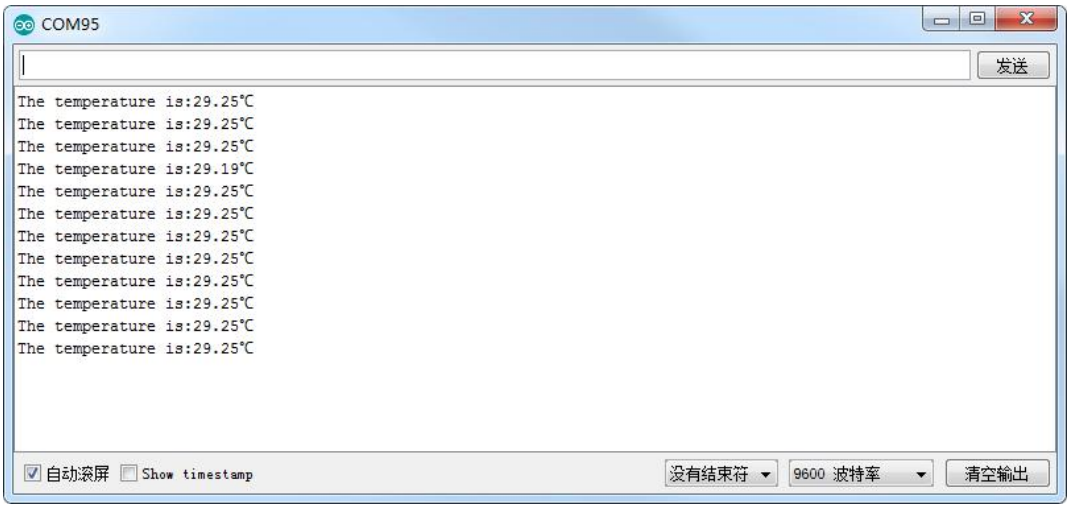
MagicBlock Experiment

Mixly Experiment



Experimental Effect

After the device is connected, you burn the above program to the arduino UNO board, turn on the serial port monitor, set the baud rate to 9600, then you can see the current ambient temperature printed by the serial port.



Experimental Conclusion

Through the experimental results, the current ambient temperature is obtained. (For detailed parameters, please refer to DS18B20 Chinese materials. pdf)