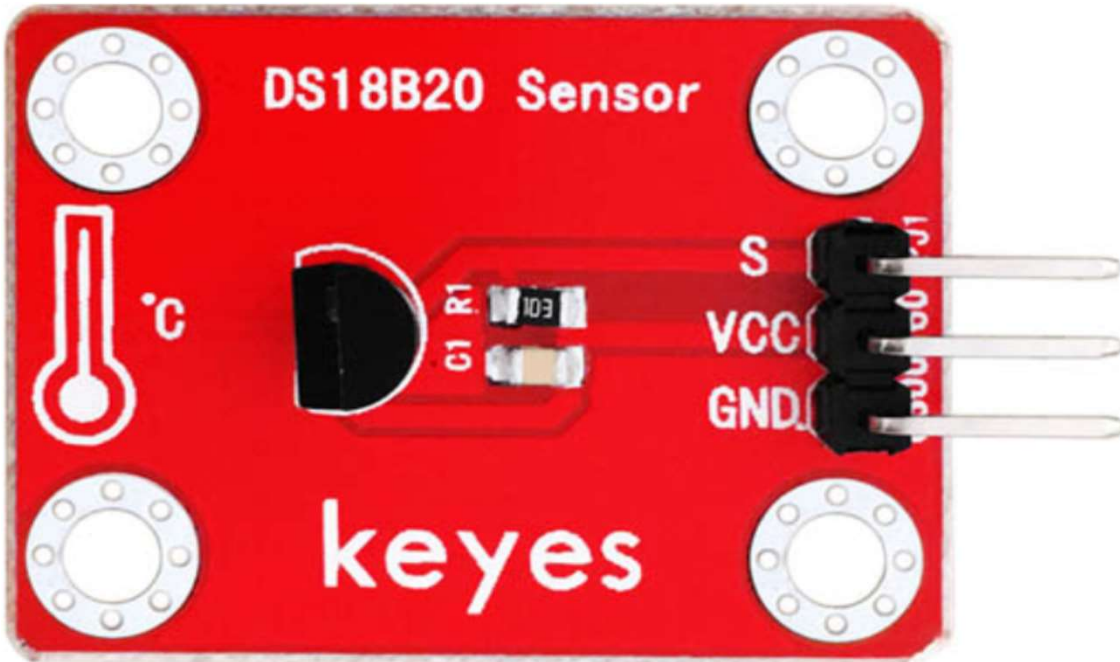## KE0040 KEYES DS18B20 temperature sensor module

Parameters:
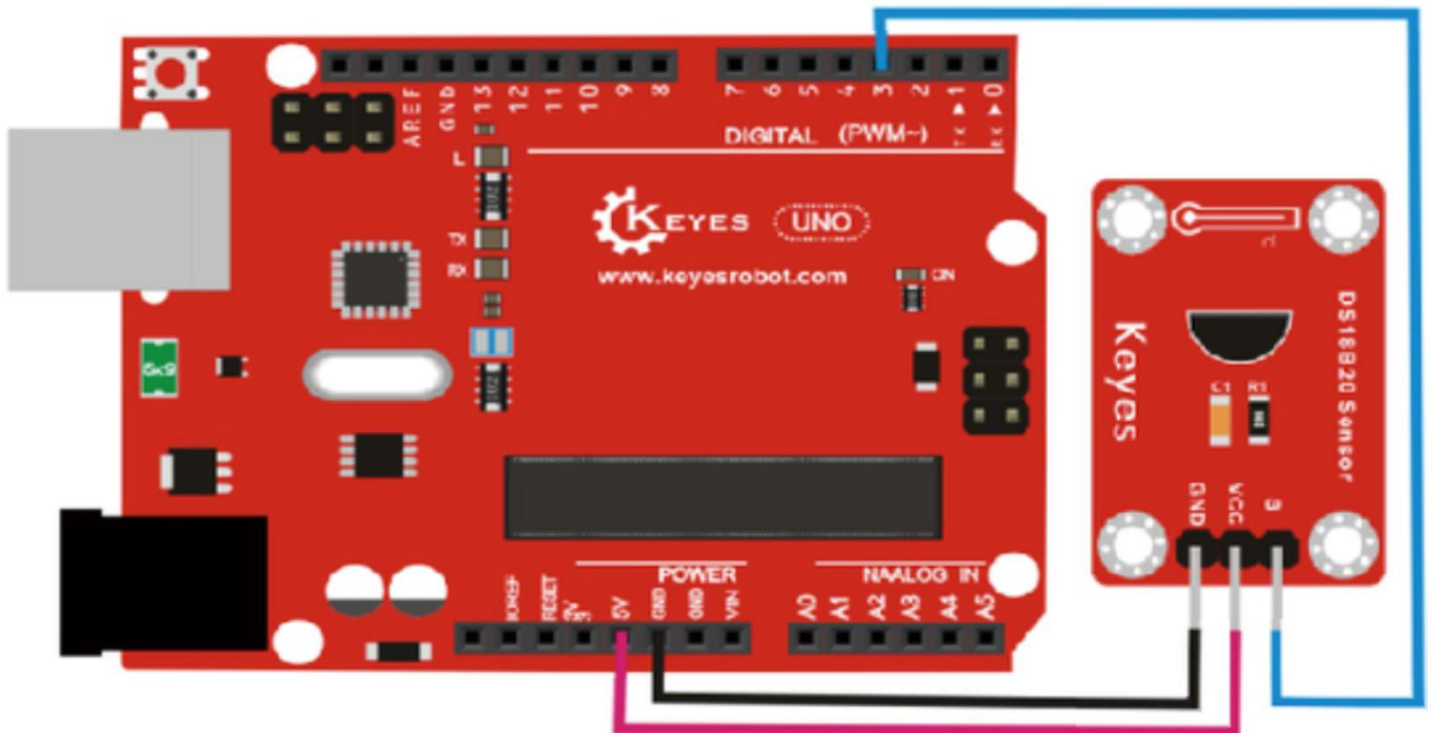
Working Voltage: 5VDC
Colour: Red
Size: 35x22x9mm.

PINOUT Instruction:

Sample Code:

```
#include <OneWire.h>
 int DS18S20_Pin = 2; //DS18S20 Signal pin on digital pin 2
 //Temperature chip i/o
OneWire ds(DS18S20_Pin);  // on digital pin 2
 void setup(void) {
  Serial.begin(9600);
}
 void loop(void) {
  float temperature = getTemp();
  Serial.println(temperature);
  delay(100); //to slow down the output so it is easier to read
}
float getTemp(){
 //returns the temperature from one DS18S20 in DEG Celsius
 byte data[12];
 byte addr[8];
 if ( !ds.search(addr)) {
    //no more sensors on chain, reset search
    ds.reset_search();
    return -1000;
 }
 if ( OneWire::crc8( addr, 7) != addr[7]) {
    Serial.println("CRC is not valid!");
    return -1000;
 }
 if ( addr[0] != 0x10 && addr[0] != 0x28) {
    Serial.print("Device is not recognized");
    return -1000;
 }
 ds.reset();
 ds.select(addr);
 ds.write(0x44,1); // start conversion, with parasite power on at the end
 byte present = ds.reset();
 ds.select(addr);
 ds.write(0xBE); // Read Scratchpad
 for (int i = 0; i < 9; i++) { // we need 9 bytes
   data[i] = ds.read();
 }
 ds.reset_search();
 byte MSB = data[1];
 byte LSB = data[0];
 float tempRead = ((MSB << 8) | LSB);
 float TemperatureSum = tempRead / 16;
 return TemperatureSum;
}
```

Result:

Wire it up well as the above diagram, upload the above code to the board, then click to open the serial monitor, and set the baud rate as 9600, finally you will see the temperature value of current ambient. Shown as the figure to the right.