INTRODUCTION

This waterproof temperature sensor kit use DS18B20 probe AS. It contains a probe with a resistor module. So it is easy to connect on the Arduino board.

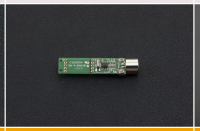
The DS18B20 temperature sensor provides 9 to 12-bit (configurable) temperature readings over a 1-Wire interface so that only one wire (and ground) needs to be connected from a central microprocessor. Compatible with 3.0-5.5V systems.

Check 27 Pcs Sensor Kit for Arduino to get more sensors for Arduino.

If you want to make a simple water purifier, we recommend buying together with Gravity: Analog TDS Sensor/Meter for Arduino.

Type Selection of Temperature Sensors

					
Name	Gravity: I2C Non-contact IR Temperature Sensor For Arduino	Gravity: Analog LM35 Temperature Sensor For Arduino	Gravity: Waterproof DS18B20 Sensor Kit	Gravity: DS18B20 Temperature Sensor	Gravity: Analog High Temperature Sensor
SKU	SEN0226	DFR0023	KIT0021	DFR0024	SEN0198
Operating Voltage	3.3V/5V	3.3V/5V	3.0V~5.5V	3.3V~5V	3.3V~5.5V
Operating Current	2.7μA	2.7μA	<3μA	<3μA	2.8μA
Operating Temperature	-40℃~85℃	-40℃~150℃	-55℃~125℃	-55℃~125℃	30℃~350°C
Range of temperature measurement	0℃~65℃	0℃~100℃	-55℃~125℃	-55℃~125℃	-55℃~125℃
Precision of temperature measurement	0.01℃	0.5℃	0.5℃	0.5℃	0.5℃
Temperature deviation	±0.5℃	±0.5℃	±0.5°C	±0.5℃	±0.5℃
Dimension	30*22(mm)	30*22(mm)	33*22(mm)	22*32(mm)	42*32*18(mm)
Interface	Gravity-I2C	Gravity-analog	Gravity-digital	Gravity-digital	Gravity-digital
Data type	Digit	Digit	Digit (unibus)	Digit (unibus)	analog

Brief introduction	BMP280 Barometer sensor supports Arduino and can measure both temperature and atmospheric pressure. It can be applied to enhance GPS navigation & coordinate with IMU sensor to realize indoor and outdoor navigation. Compared to the last generation BMP180 barometer sensor, it has a lower power consumption, higher resolution and higher sampling frequency. Application: Enahnced GPS navigation (e.g. time-to-first-fix improvement, dead-reckoning, slope detection) Indoor navigation (floor detection, elevator detection) Outdoor navigation, leisure and sports applications Weather forecast Health care applications (e.g. spirometry) Vertical velocity indication (e.g. rise/sink speed)	$A Temperature Sensor can be used to detect ambient air temperature, the output voltage is proportional to temperature. It has good linearity and high sensitivity. Application:Medical treatments Personal controls Industrial controls Aeronautics and astronautics.	Waterproof temperature sensor DS18B20 is widely used in many fields, such as soil temperature measurement, hot tank temperature control etc. It supports multipoint measurement. Application: Constant temperature control Industrial system Consumer electronics Thermistors Refrigerators Barns Tanks Telecommunication rooms Power communication rooms Cables etc.	A Temperature Sensor can be used to detect ambient air temperature. It can be connect to three-wire in parallel to achieve multipoint temperature measurement. Application: Constant temperature control Industrial system Consumer electronics Thermistors Refrigerators Barns Tanks Telecommunication rooms Power communication rooms Cables etc.	It used a PT100 resistance type high temperature probe to measure a temperature range between 30-350°C. Application: Especially for high precision of temperature measurements. Medical treatments Motors Industrials Temperature counts Resistance counts
					
Name	Gravity: I2C BMP280 Barometer Sensor	Infrared Thermometer Module	Gravity:SHT1x Humidity and Temperature Sensor	Gravity: DHT11 Temperature Humidity Sensor For Arduino	DHT22 Temperature and Humidity Sensor
SKU	SEN0206	SEN0093	DFR0066	DFR0067	SEN0137
Operating Voltage	3.3V~5V	3V~5V	3.3V~5V	3.3V~5V	+5V
Operating Current	1.2mA	4mA~9mA	2μA	0.5mA~2.5mA	1.5mA
Operating Temperature	-40℃～125 ℃	-10℃~50℃	-40℃~128.8℃	0℃～50℃	-20℃-80℃
Range of temperature measurement	-70.01℃～382.19℃	-33℃～220℃	-40℃~128.8℃	0℃～50℃	-40℃-80℃
Precision of temperature measurement	0.5℃	2℃(full range)	0.5℃	2℃	
Temperature deviation	±0.5℃	±0.6℃	±0.4°C	±0.1℃	±0.5℃
Dimension	31.5*18(mm)	12*13.7*35(mm)	32*27(mm)	22*32(mm)	22*32(mm)
Interface	Gravity-I2C	Digitalx3	Gravity-2-wire digital	Gravity-digital	Gravity-digital
Data type	Digit	Digit	Digit (unibus)	Digit (unibus)	Digit (unibus)
Range of humidity measurement	NA	NA	0-100%RH	20-90%RH	0-100%RH
Humidity deviation	NA	NA	±4.5%RH	±5%RH	±2%RH
Price	$16.00	$49.00	$21.05	$5.20	$9.50

Brief introduction	non-contact measurement uses infra-red radiation to measure the temperature and does not require a direct touch. Additionally, this method of measurement can be read quickly and accurately. This module has a FOV of 35° Wave length 5.5um-14um Application: Environmental monitor Home automation Automobile electronics Airline industry Military	It is a long distance thermometer specially designed for a high sensitivity, high accuracy, low noise and low power consumption. Wave length:5um-14um This module has a FOV of 26.6°x 2 = 53.2° Application: Medical equipment Fire alarm systems telecommunications	It consists of 1 capacitive humidity module and 1 energy gap temperature module, perfect integration of 1 14bit A/D converter and 1 2-wire digital interface. CMOSens technology makes it of advantages such as low power consumption, fast response, strong anti-jamming capacity etc. Application: Medical equipment HVAC Meteorology Humidity regulator Dehumidifier Tests and measurements Automobile Automatically control	This sensor includes a resistive element and a sense of wet NTC temperature measuring devices. It has excellent quality, fast response, anti-interference ability and high cost performance advantages. Its signal transmission distance up to 20 meters. These features make it a variety of applications and even the most demanding applications. Application: Medical equipment HVAC Meteorology Humidity regulator Dehumidifier Tests and measurements Automobile Automatically control	It contains a resistive element and a sense of wet NTC temperature module. Compared to DHT11, it has smaller humidity deviation, faster response, stronger anti-interference ability and higher cost performance Application: Medical equipment HVAC Meteorology Humidity regulator Dehumidifier Tests and measurements Automobile Automatically control

SPECIFICATION

- Operating voltage: 3.0~ 5.5V
- ±0.5°C Accuracy from -10°C to +85°C
- Usable temperature range: -55 to 125°C (-67°F to +257°F)
- 9 to 12-bit selectable resolution
- Uses 1-Wire interface- requires only one digital pin for communication
- Unique 64 bit ID burned into chip
- Multiple sensors can share one pin
- Temperature-limit alarm system
- Query time is less than 750ms
- 3 wires interface:
    - **Type A**
        - Red wire - VCC
        - Black wire - GND
        - Yellow wire - DATA
    - **Type B**
        - Red wire - VCC
        - Yellow wire - GND

    - Green wire - DATA

- Stainless steel tube 6mm diameter by 35mm(1.34") long
- Cable diameter: 4mm(0.16")
- Length: 90cm(35.43")

PROJECTS

1. Project: ESP32 Bluetooth(BLE) Temperature Sensor [OLD METHOD]

Introduction: Learn how to use the ESP32 board to send a temperature reading over Bluetooth Low Energy.

2. Project: Brew Probe - WiFi Temperature Monitor

Introduction: In this video, we will be looking at how to create your very own Firebeetle-controlled temperature monitor.

3. Unboxing: Tech Note 047 - DS18B20 High-Quality Water Proof Sensor

Introduction: DS18B20 sensor is housed in a stainless steel encapsulation and the whole assembly can be ready to use in minutes, perfect. I have provided some code to try it out on an ESP32 here.

DOCUMENTS

- Wiki Doc

SHIPPING LIST

- Waterproof DS18B20 Digital temperature sensor (DFR0198) x1
- Terminal sensor adapter (DFR0055) x1
- Digital sensor cable (FIT0011)