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# Gravity: DHT22 Temperature & Humidity Sensor

SKU:SEN0137



## *INTRODUCTION*

DHT22 capacitive humidity sensing digital temperature and humidity module is one that contains the compound has been calibrated digital signal output of the [temperature and humidity sensors](#). Application of a dedicated digital modules collection technology and the temperature and humidity sensing technology, to ensure that the product has high reliability and excellent long-term stability.

The sensor includes a [capacitive](#) sensor wet components and a high-precision temperature measurement devices, and connected with a high-performance 8-bit microcontroller. The product has excellent quality, fast response, strong anti-jamming capability, and cost-effective.

Standard single-bus interface, system integration quick and easy. Small size, low power consumption, signal transmission distance up to 20 meters, making it the best choice of all kinds of applications and even the most demanding applications.

DHT22 has higher precision and can replace the expensive imported [SHT10](#) temperature and humidity sensor.

It can measure the environment temperature and humidity to meet the high demand.



The product has high reliability and good stability. If it's used and combined with special sensor [Arduino expansion board](#), it will be easily implemented the interactive effect which related to the temperature and humidity perception.

**Note:** DHT22 digital temperature and humidity sensor is designed for analog sensor interfaces. The analog port will be used as the digital which will not occupy the original digital port of the Arduino. The lines of the sensor which can transform the analog function to digital that can be use on digital port.

### Type Selection of Temperature Sensors

					
<b>Name</b>	<a href="#">Gravity: I2C Non-contact IR Temperature Sensor For Arduino</a>	<a href="#">Gravity: Analog LM35 Temperature Sensor For Arduino</a>	<a href="#">Gravity: Waterproof DS18B20 Sensor Kit</a>	<a href="#">Gravity: DS18B20 Temperature Sensor</a>	<a href="#">Gravity: Analog High Temperature Sensor</a>
<b>SKU</b>	SEN0226	DFR0023	KIT0021	DFR0024	SEN0198
<b>Operating Voltage</b>	3.3V/5V	3.3V/5V	3.0V~5.5V	3.3V~5V	3.3V~5.5V
<b>Operating Current</b>	2.7μA	2.7μA	<3μA	<3μA	2.8μA
<b>Operating Temperature</b>	-40°C~85°C	-40°C~150°C	-55°C~125°C	-55°C~125°C	30°C~350°C
<b>Range of temperature measurement</b>	0°C~65°C	0°C~100°C	-55°C~125°C	-55°C~125°C	-55°C~125°C
<b>Precision of temperature measurement</b>	0.01°C	0.5°C	0.5°C	0.5°C	0.5°C
<b>Temperature deviation</b>	±0.5°C	±0.5°C	±0.5°C	±0.5°C	±0.5°C
<b>Dimension</b>	30*22(mm)	30*22(mm)	33*22(mm)	22*32(mm)	42*32*18(mm)
<b>Interface</b>	Gravity-I2C	Gravity-analog	Gravity-digital	Gravity-digital	Gravity-digital
<b>Data type</b>	Digit	Digit	Digit (unibus)	Digit (unibus)	analog
<b>Brief introduction</b>	BMP280 Barometer sensor supports Arduino and can measure both temperature and	A Temperature Sensor can be used to detect ambient air temperature, the output voltage is proportional to	Waterproof temperature sensor DS18B20 is widely used in many fields, such as soil temperature	A Temperature Sensor can be used to detect ambient air temperature. It can be connect to three-wire in parallel to	It used a PT100 resistance type high temperature probe to measure a temperature



<p>atmospheric pressure.</p> <p>It can be applied to enhance GPS navigation &amp; 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.</p> <p><b>Application:</b> Enhanced 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)</p>	<p>temperature. It has good linearity and high sensitivity.</p> <p><b>Application:</b> Medical treatments Personal controls Industrial controls Aeronautics and astronautics.</p>	<p>measurement, hot tank temperature control etc. It supports multipoint measurement.</p> <p><b>Application:</b> Constant temperature control Industrial system Consumer electronics Thermistors Refrigerators Barns Tanks Telecommunication rooms Power communication rooms Cables etc.</p>	<p>achieve multipoint temperature measurement.</p> <p><b>Application:</b> Constant temperature control Industrial system Consumer electronics Thermistors Refrigerators Barns Tanks Telecommunication rooms Power communication rooms Cables etc.</p>	<p>range between 30-350°C.</p> <p><b>Application:</b> Especially for high precision of temperature measurements. Medical treatments Motors Industrials Temperature counts Resistance counts</p>
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## SPECIFICATION

- Supply Voltage: 5V
- Temperature Range: -40-80°C / resolution 0.1°C / error  $\leq \pm 0.5^\circ\text{C}$
- Humidity Range: 0-100%RH / resolution 0.1%RH / error  $\pm 2\%$  RH
- Wiring map: VCC, GND, S



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- Size: 38 x 20mm(1.50x0.79")