

# Temperature&Humidity Sensor Datasheet

**Date: 2021-6-17**

Part #	Description
S3	S3 Sensor is a high-precision digital thermohygrometer with BLE 5.0. Real-time temperature and humidity data can be viewed via an e-ink display screen, and remotely tracked by the cloud for condition management; also, up to 2000 data storage helps users for data recording and analysis. It's a great device for warehouse, agricultural monitoring and cold chain logistic, etc.

## INTRODUCTION

S3 is a waterproof and portable temperature and humidity logger. The industrial high-precision low-power sensor converts the temperature and humidity into digital signals and transmits the data to the phone via MSensor APP.

S3 data can also be uploaded to the local servers via gateway G1 for remote monitoring, abnormal alerts, diversity usage linking, etc.

S3 uses an EPD display for the current temperature and humidity values in real-time with low energy consumption. With industrial-grade batteries, better wide temperature performance and lower self-discharge rate, the long-term stability of the product is guaranteed. It can be applied to humiture operating in industry monitoring, civil monitoring, mechanical manufacture, environmental protection monitoring, etc.



Product Rendering



Product Structure

## FEATURE

- ★ Based on BLE5.0
- ★ nRF52 chip series, and OTA available
- ★ 100-meter broadcasting range, 25-meter connected configuration range.
- ★ Switch on/off, humidity alarm setting function
- ★ Accelerometer available(Optional)
- ★ 2048 local storing data
- ★ Industry-grade battery, up to 2 years of life
- ★ IP66 waterproof, dust proof

## APPLICATION

S3 realizes local and remote environmental monitoring and controlling in real-time collocated with the system for collecting environmental data and alarming. It triggers relevant controlling equipment to ensure that environmental data is within the all-set proper range. It can be applied to humidity measurement in industry monitoring, civil monitoring, mechanical manufacture, environmental protection monitoring, etc. For instance, laboratory, cleansing workshop, supermarkets, collection gallery, households, agricultural greenhouses, meteorological stations, national defense scientific research centers, post and telecom departments, cigarettes and tobacco industries, chemical engineering sites, environmental protection areas, archival preservation centers, computer facility rooms, storage warehouses, pharmaceutical warehouses, health care centers, hotels, the food warehouses, grain departments and other relevant humidity monitoring and controlling field.



## BASIC INFORMATION



<b>Module</b>	S3
<b>Shell Material</b>	PC
<b>Shell Color</b>	White
<b>Body Size(Shell)</b>	81.2*45*22mm(short probe)
<b>Power Supply</b>	Replaceable Lithium battery
<b>Power Voltage</b>	DC3.6V
<b>Battery Capacity</b>	1200mAH
<b>Antenna Category</b>	PCB Antenna
<b>NFC</b>	No
<b>LED</b>	Yes

## PARAMETERS

Item		Parameter	Error Range
TEMPERATURE MEASUREMENT	Range	-40°C~+85°C	/
	Accuracy	±0.5°C	±0.5°C
	Resolution	0.05°C	/
HUMIDITY MEASUREMENT	Range	0%RH~100%RH	/
	Accuracy	0 RH~90 RH (@25°C)	±5%RH
		≥90 RH (@25°C)	±6%RH
Resolution	0.05%RH	/	
SAMPLE PERIOD		Collect every 5 seconds	/
TEMPERATURE DISPLAY	Refresh Judgement	≥0.5°C	/
HUMIDITY DISPLAY	Refresh Judgement	≥3%RH	/
FULL SCREEN	Refresh Interval	30min	/
BLE	Transmitted Power	0dBm(by default)	Support Setting Parameter List Import
	Transmission Interval	1000ms	Support Setting Parameter List Import (1)

(1)Referring to beacon setting regulations, the range of values is the integer multiples of 100ms within 100ms~10s. it is suggested the value is no more than 5,000ms, avoiding difficulty in connecting equipment after importing parameters and failing to get local data records.

**PRODUCT MODEL**

Epithet	Short Standard Model	Long Standard Model
Diagram		
Peak Current	13mA	13mA
Average Current	41uA	41uA
Operating Temperature	-25°C~+60°C	-25°C~+60°C
Probe Length	/	1m
Service Life	About 2years	About 2 years

**Remarks:**

(1) The range of the screen operating temperature is between 2°C to 45°C. When you want to test the temperature that is not within 2°C to 45°C, the product can still normally work(Still Advertising Signal) without screen displaying. **The test temperature range of the S3 temperature and humidity sensor probe is not applicable to the whole machine.**

(2) **Therefore, if you need to detect and display the temperature -25°C - 0 °C, please select version 6009A of S3 with a 1-meter long external probe.** Put the probe into the tested environment, while the main body should be outside the tested environment (otherwise the S3 display screen will not work / not display).

(3) The average power consumption is based on routine indoor environmental testing. Exceeding the operating temperature range will cause product damage, and please avoid direct sunlight when using.

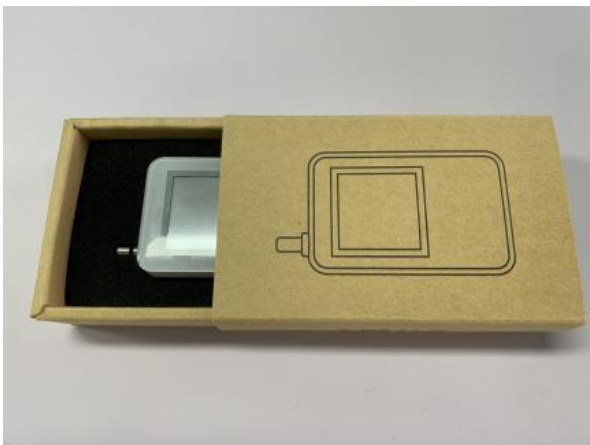
## COMPATIBILITY

Supporting device&system	Module of Supporting device
<b>BLE</b>	BLE4.2 and above
<b>iOS11.0and above</b>	iPhone6/6Plus/6S/6SPlus, iPhone7/7Plus iPhone8/8Plus, iPhone x/xr/xs/xs Max, iPad mini/mini2/4/Air/pro iPhone11/11pro/11pro Max, etc.
<b>Android7.0 and above</b>	Samsung Xiaomi MIUI8 and above Huawei EMUI5.0 and above OnePlus H2OS 3.0 and above Vivo FuntouchOS 4.0 and above OPPO ColorOS 3.1 and above, etc.

### NOTICE:

(2) Only mobile phones with iOS11.0 and above, or Android7.0 and above can support BLE5.0

## PACKING INFORMATION



Details	Inner Box(Battery included)	Outer Box(Battery included)
Quantity(S3)	1pcs / box	80pcs / carton
Gross Weight	46g	8300g
Size	7.7 x 12.3 x 3.0 cm	32 x 23.5 x 40 cm

## OPERATING INSTRUCTIONS AND PRECAUTIONS

On: Press and hold the back button for three seconds, the screen refreshing to display is on.

Off: Press and hold the back button for three seconds in the boot state, the screen refreshing to white screen is off.

Parameters Modification: Not currently open

### NOTICE:

When exchanging the battery, the blue light will flash once. And the screen will refresh to a white screen. It will not affect the normal on/off state.

It is fragile with the screen, so please prevent it from falling when you use it.

## CERTIFICATION

MFi Certificate No.: iBC-14-00582

BQB QDL: D043831

CE available

FCC available

## DECLARATION

The contents of this datasheet are subject to change without prior notice for further improvement.

Minew team reserves the right to explain all the terms of this datasheet.

## FCC Requirement

changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

FCC ID:2ABU6-S3

## CONTACT

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