



S1 Temperature & Humidity Sensor Beacon handbook

Version:V0.1

This handbook is written for using the APP BeaconSET on device based on IOS10.0(iphone device)

Welcome to contact our technical department of our company if you have any questions!

Important tips:

- 1.S1 is a kind of BLE 4.0 high accuracy digital temperature&humidity sensor product with temperature&humidity sensor,it is waterproof as well;
- 2.S1 can convert the environmental temperature and humidity into correspondent digital signal then broadcasts them,user can check the temperature and humidity data directly through App;
- 3.Parameters setting or connection is not supportable;
- 4.This handbook is mainly about how to acquire temperature and humidity through App;
- 5.This handbook applies to App engineers who have access to protocol of bluetooth 4.0.

How to TURN ON/OFF S1 and how to read temperature and humidity data

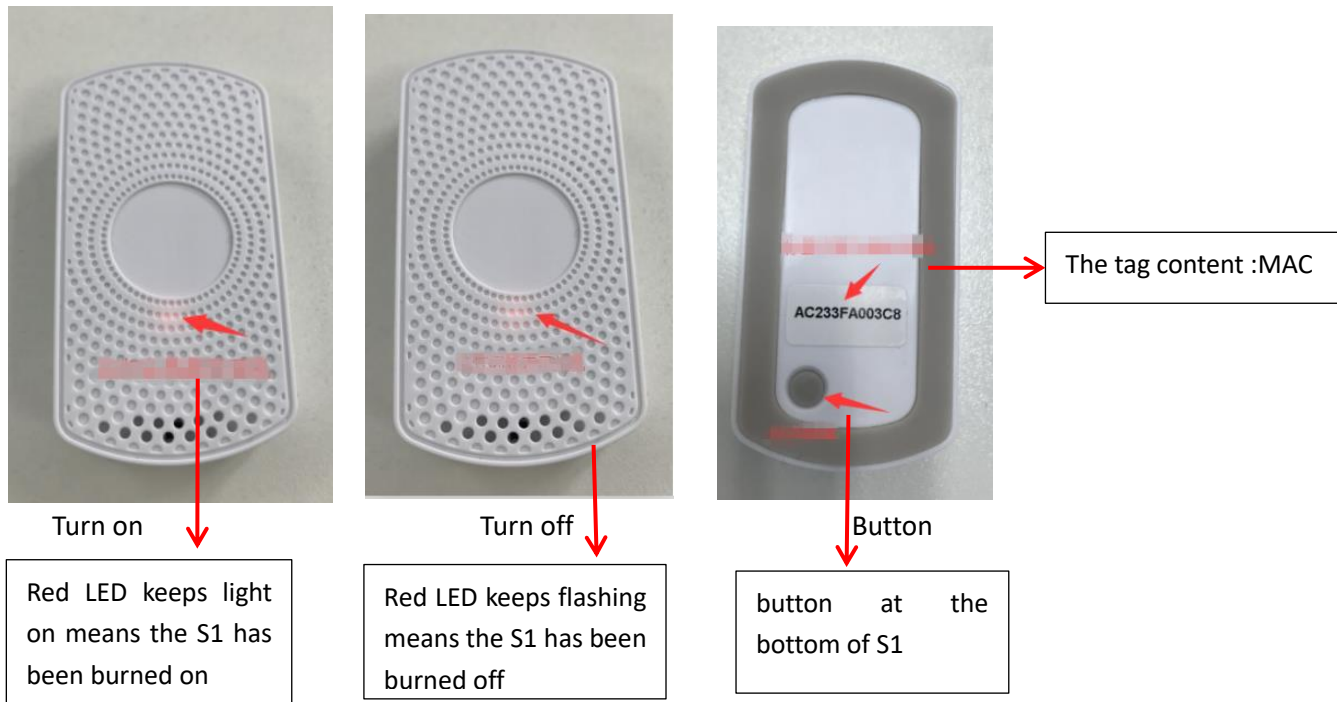
1 TURN ON/OFF S1 (default:off)

1.1 TURN ON S1

When the S1 is powered off,keep pressing the button at the bottom of S1 for about 3s, the red LED will light on for 2s,it means that the S1 has been turned on;

1.2 TURN Off S1

When the S1 is powered on,keep pressing the button at the bottom of S1 for about 3s, the red LED will flash for 5 times,it means that the S1 has been turned off;



2 Broadcasting and features

2.1 After turned on,the S1 stars broadcasting,meanwhile its blue LED flashes one time per second(the blue LED is the data indicating LED of S1) ;

2.2 Default device name :‘S1’;

2.3Default temperature and humidity data broadcasting interval:1000ms;

2.4Default temperature and humidity data sampling interval:1000ms;

2.5 Default power of broadcasting:0dbm;

2.6 S1 supports over-the-air(OTA).

3 Turn on the bluetooth on your smart phone,then run the APP ‘BeaconSET’(Tts version should be above V5..0.0) on your smart phone(If you don’t have the App of this version, kindly download it on App store),as ‘Image 1’



Image 1

4 App searching

4.1 Scanning the broadcasting of S1 by the App ‘BeaconSET’;

4.2 User can find the S1 according to the signal strength indication and filtering device name, as ‘Image 2’



Image 2

4.3 The information shown in the searching interface of App includes:device name,MAC,battery level,power of broadcasting,temperature data,humidity data,RSSI and the distance between S1 and user's smart phone and so on(The RSSI and distance is just for users' references).

4.4 Tap the S1 on App's lists, users can see the dynamic chart about temperature and humidity,as image 3

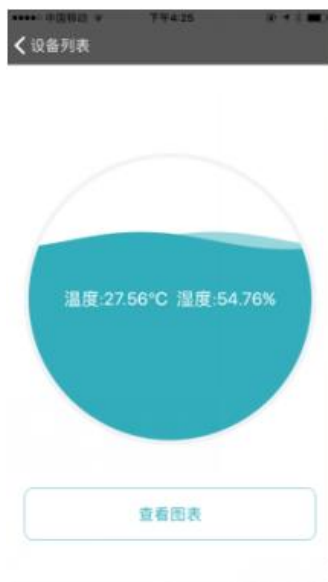


Image 3

4.5 Tap the dynamic chart,users can see the line chart about current temperature and

humidity, as image 4

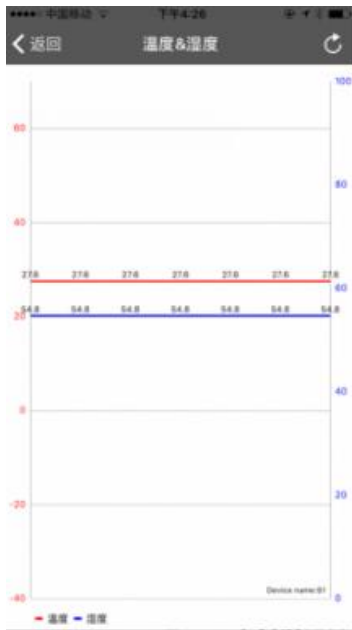


Image 4

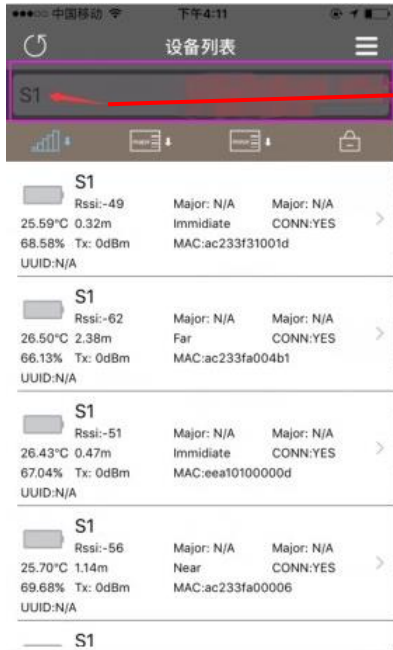
5 Error range and parameters

---	Item	Value	Error range
Temperature Measuring	Range	-40°C~70°C	It depends on battery working environment
	Measure Accuracy	10°C~55°C	±0.3°C
		≤10°C or ≥55°C	±2°C
Resolution	0.05°C	---	
Humidity Measuring	Range	0%RH~100%RH	---
	Measure Accuracy	0%RH~90%RH	±2%RH
		≥90%RH	±3.5%RH
Resolution	0.05%RH	---	
Sampling period	---	Once per second	---

6 How to search certain device on the App 'BeaconSET' and what are the interpretations.

6.1 Device name filtering on App: please refer to image 5, after user types in the device model

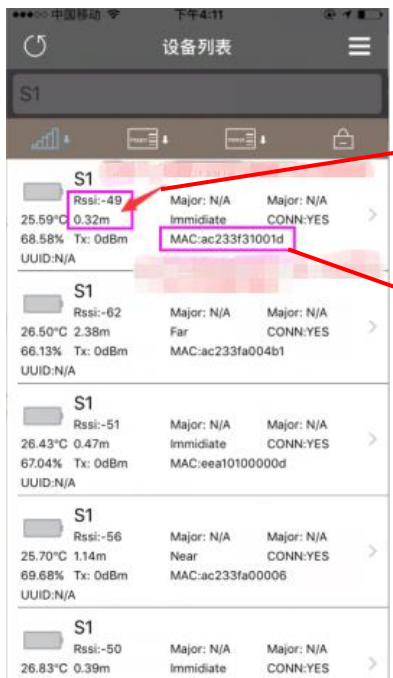
to be scanned in the red search frame,the App will filter automatically and the scan results will all be about the device names of the kind of device model that user have typed in.For example, if you type in the model name of S1,scan results will all be the device names of S1;



Type in the device model to be scanned here,the App will filter automatically and the scan results will all be the device names of the kind of device model user have typed in.For example, if you type in the model name of S1,scan results will all be the device names of S1.

Image 5

6.2 MAC:please refer to image 6,the device MAC is shown as in the red frame.The MAC is unique and it can be scanned and acquired. (Broadcasting MAC of the device is the same as its bottom tag shows)



It is about RSSI signal strength and the reference distance value.

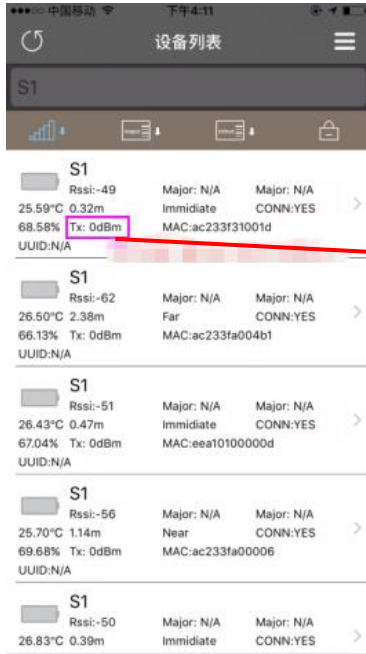
It is MAC of device, each device has its own unique MAC.

Image 6

6.3 RSSI signal and distance:please refer to image 6,the red frame in the left shows the RSSI strength and referencing distance.Those RSSI value and distance value are more accurate only when the device and smart phone is close to each other,and the values are just for

references.

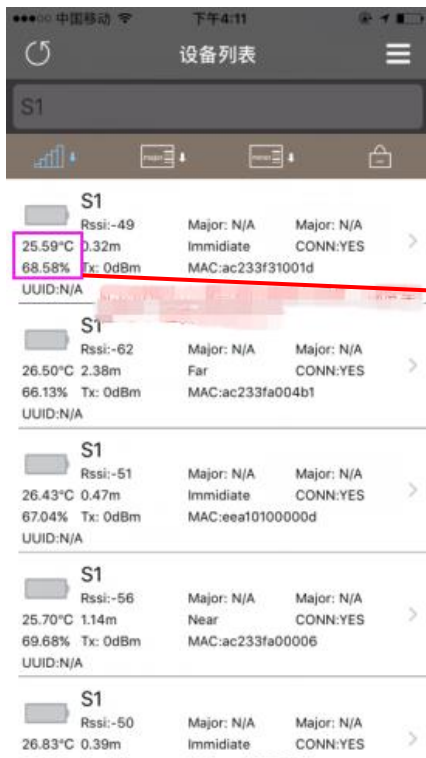
6.4 Power of broadcasting: please refer to image 7, the value of transmission power is shown in the red frame, the default value of transmission power: 0dbm.



Tx means broadcasting power, default value: 0dbm

Image 7

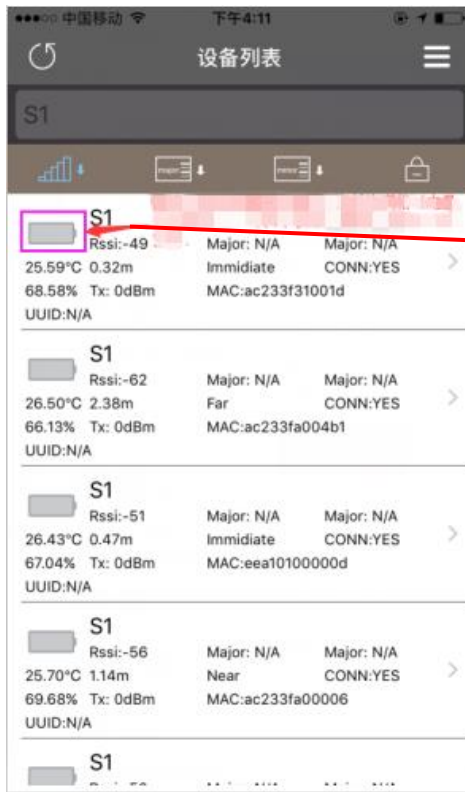
6.5 Temperature and humidity of broadcasting: please refer to image 8, current environment temperature and humidity is shown in the red frame, temperature unit: '°C', humidity unit: '%'. The accuracy of temperature value under normal temperature is up to $\pm 0.3^{\circ}\text{C}$, The accuracy of humidity value under normal temperature is up to $\pm 2\% \text{RH}$.



Current environment temperature and humidity is shown here, temperature unit: '°C', humidity unit: '%'.

Image 8

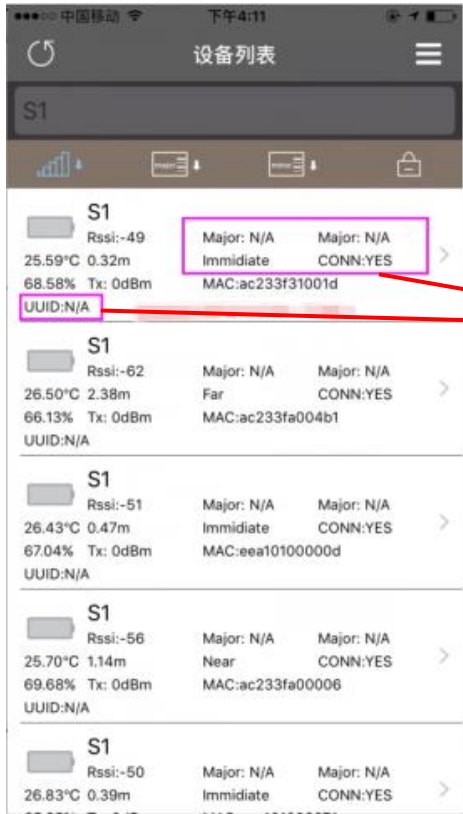
6.6 Battery level of broadcasting: please refer to image 9, the battery level icon is beside the device name, there are four status for battery level: full battery level status, half battery level status, 1/3 battery level status, and empty battery level status. Battery level was checked per minute. It appears full battery level status when the real battery level is full, it appears half battery level status when the real battery level is lower than 65%, it appears 1/3 battery level status when the real battery level is lower than 30%, it appears 0 battery level status when the real battery level is lower than 30%;



It appears full battery level status when the real battery level is full, it appears half battery level status when the real battery level is lower than 65%, it appears 1/3 battery level status when the real battery level is lower than 30%, it appears 0 battery level status when the real battery level is lower than 30%.

Image 9

6.7 Image 10 can be omitted because the content in the red frame is not compatible with S1



The content in the red frame is not compatible with S1

Image 10

6.8 Introduction of heading column

Please refer to image 11, the brown area shows the heading column, and it is also the option of scanning. The App 'BeaconSET' keeps ranking the scanning result list in the first 10 seconds of initial scanning, and the device name whose signal strength is the strongest will be ranked at the top of scanning result lists. The red frames show the heading column which is applied to S1.

The first heading column means to scan the device name according to device's signal strength from strong to weak. The fourth heading column means to lock the current interface of App to prevent it from ranking all the time.

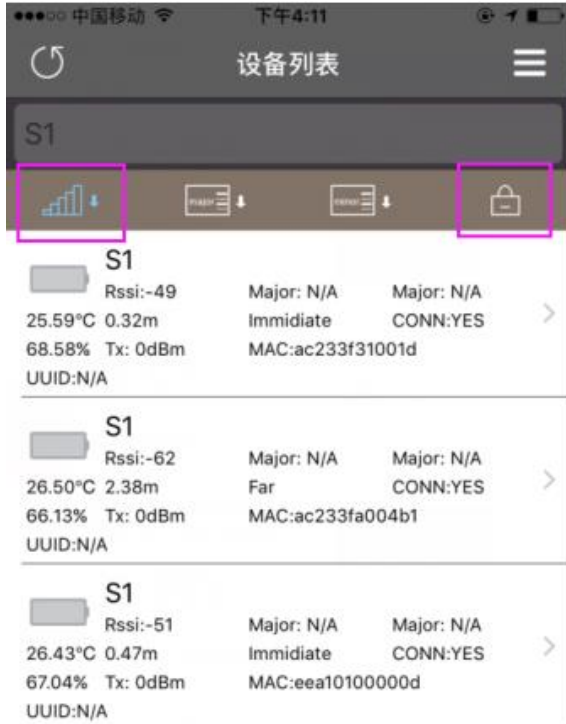


Image 11

Hope the methods above would actually help you scan and find the device you are looking for more faster.

<END>

DECLARATION

The contents of this handbook are for references and are subject to change without prior notice for further improvement. Minew team reserves all the rights for the final explanation.

FCC Statement

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.

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.

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

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