

Revision History

REVISION	DATE	CHANGE DESCRIPTION
0a	Jun 18, 2025	Initial Release

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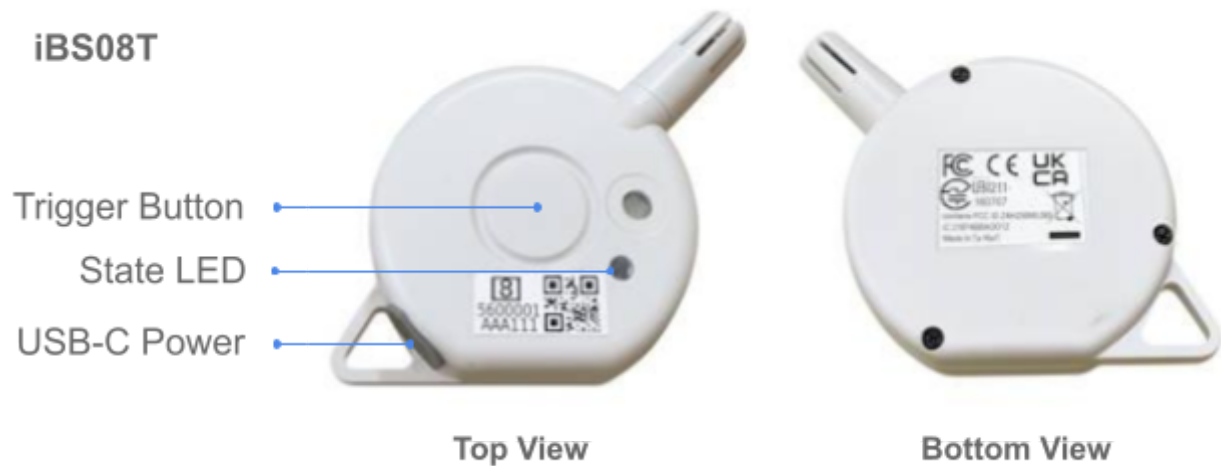
INGICS TECHNOLOGY

Introduction

The document is a guide for iBS08T series sensor tags.

Overview

Appearance



Operations

Power On

To power on the tag from the off state, press and hold the button until the LED turns red (approximately 1 second).

Power Off

To power off the tag, press and hold the button while the LED remains green. Continue holding until the LED turns off (approximately 6 seconds).

Trigger Button

After powering on, the button functions as a trigger button. When pressed, the LED lights up green and initiates an immediate BLE transmission with the button activation event.

It is also used for entering Config Mode. If you need to configure the tag using the INGICS Beacon Util mobile application, press and hold the button for approximately 2 seconds, then release. The LED will blink red twice to indicate that the device has entered Config Mode.



LED

Power ON	RED on, then blinking twice
Enter Config Mode	RED blinking twice
Button Pressed	GREEN on
BLE Connected	Keep GREEN on during connection
Sensor Heating	Slow flash with ORANGE

Battery

The iBS08T is powered by a CR2032 coin cell battery. It features low power consumption, allowing for long-term operation. The table below provides a suggested mapping of battery voltage to remaining capacity at room temperature.

Capacity Level	Voltage
High	> 2.9V
Middle	> 2.8V
Low	> 2.7V
Critical (*Replace battery)	≤ 2.6V

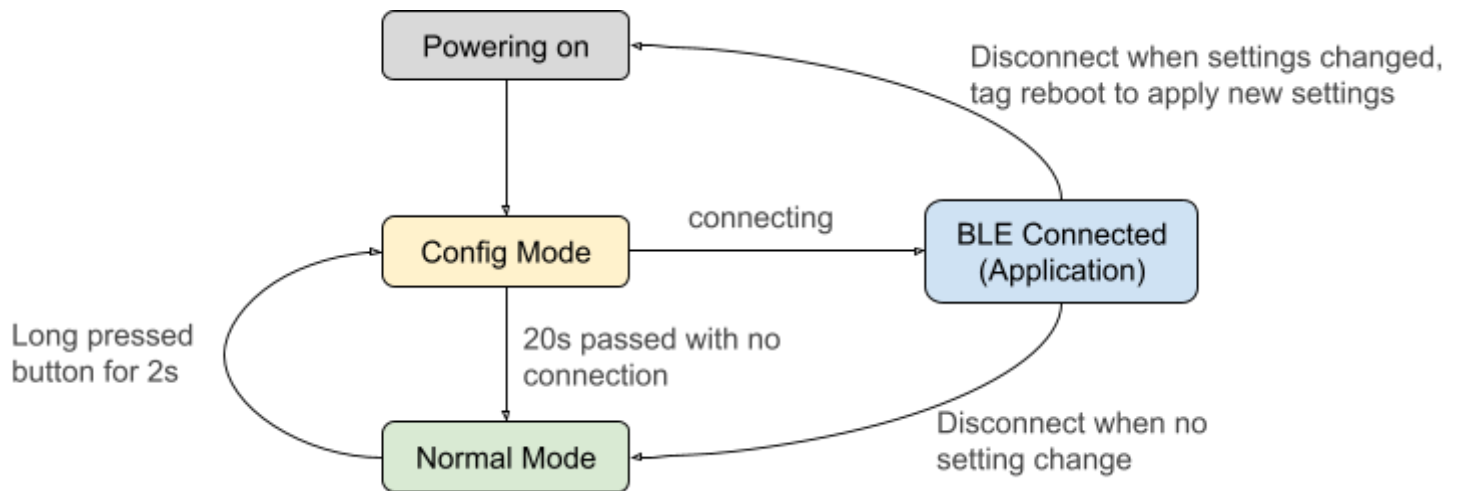
External Power Source

In addition to battery power, the device also supports external power sources via a USB-C connector, compatible with a 5V adapter.

Working Modes

There are two working modes of iBS08T tags.

- Normal Mode:
The tag performs BLE advertising periodically based on the configured settings.
- Config Mode:
The tag performs fast BLE advertising with the 'connectable' flag enabled. Wait for the mobile application to connect for configuration. If no connection is attempted within 20 seconds, the tag will enter Normal Mode automatically.



Sensors

Temperature/Humidity/Light Sensor

The iBS08T continuously monitors ambient temperature, humidity, and illuminance, and broadcasts the sensor readings via BLE advertisements according to the configured interval.



Quick Start

Mobile Application

INGICS provides a mobile application called Beacon Util for BLE sensor tag verification and configuration, available on both Android and iOS platforms.

iOS

<https://apps.apple.com/us/app/ingics-beacon-util/id1574283003>

Android

<https://play.google.com/store/apps/details?id=com.ingics.beaconutil>

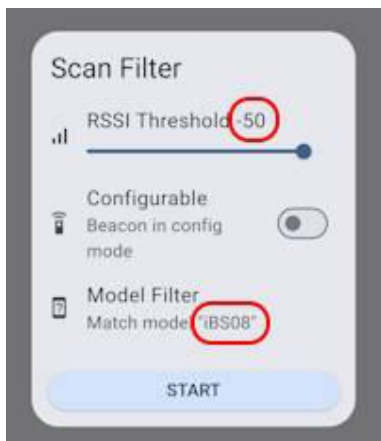


Below are some quick start steps. For more detailed instructions, please refer to the application's user manual.

Tag Scan and Sensor Readings

1. Power on the tag, then open the application and start scanning. Use the scan filter to help locate the tag more easily.

2. After the application receives BLE advertisements from the tags, it will display tag information, including battery voltage and sensor readings.


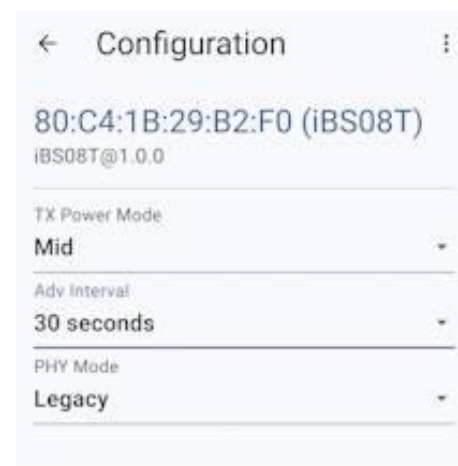


Configuration

There are parameters you can adjust for the iBS08T tag.

TX Power Mode	Transmission power of the BLE advertisement. <ul style="list-style-type: none">• Low: -4dBm• Mid: 4dBm• High: 8dBm
Adv Interval	Broadcasting interval, 100 ms ~ 1 hour is available
PHY Mode	BLE PHY for advertising. <ul style="list-style-type: none">• Legacy (1M legacy PHY)• Long Range S8 (Coded PHY)• Legacy + Long Range S8 (Use both) <p>⚠ To use Coded PHY, BLE observer (gateway) support is required. And note that power consumption will increase because it involves longer RF transmission time.</p>

Please follow the steps below to modify the settings as desired.

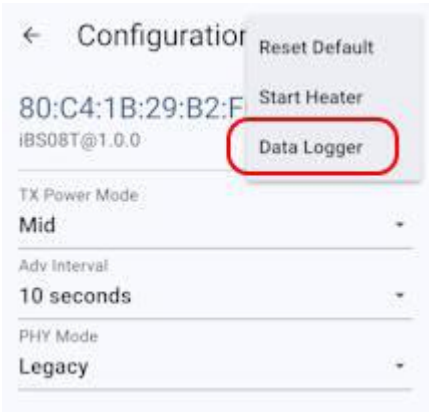
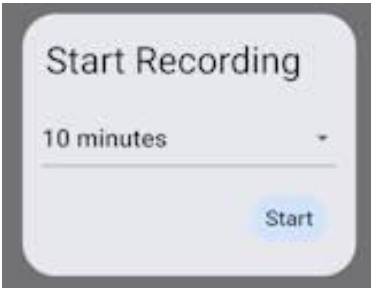
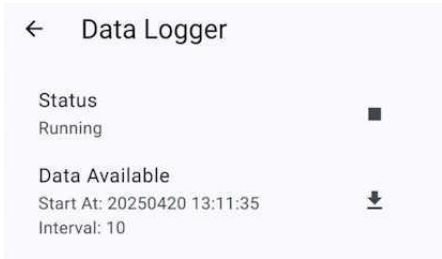
1. Start scanning in the application first. Then, press and hold the tag's button for 2 seconds to enter Config Mode.	2. The scan result for the tag will display a connect icon in the top-right corner.	3. Tap the tag panel to initiate a connection. Once connected, the configuration settings will be displayed. You can modify the settings, then save and disconnect to apply the changes.
		



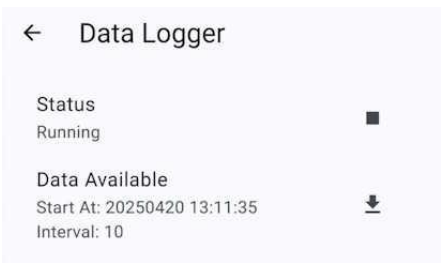
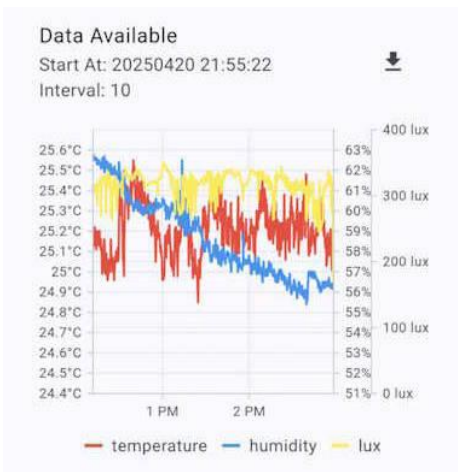
For models with **EN12830** certification, BLE bonding and authentication are required when connecting. The default password is the last 4 digits of the tag's MAC address in uppercase. To change or reset the password, please refer to the application's user manual.

Data Logger - Start Recording

The iBS08T can store up to 6,000 sensor readings in its internal memory. To begin recording, simply follow the steps below. For a more detailed description of the Data Logger feature, please refer to the application's user manual.

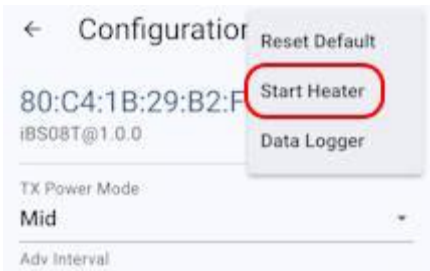
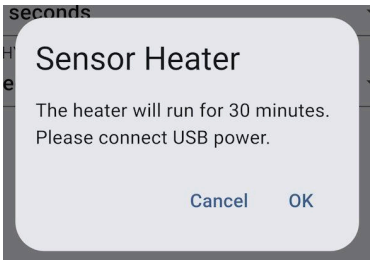
1. Follow the configuration steps to connect to the tag. The 'Data Logger' can be found in the 'Advance' menu.	2. The data logger is idle by default. Tap the recording icon and select the desired interval to start recording.	3. The state will change to 'Running', then you can now disconnect the tag
		

Data Logger - View/Download Recordings

1. Follow the same steps to access the Data Logger page. The 'Download' icon will appear if recorded data is available.	2. Tap the download icon and select the 'View' option to display a chart of the logged data.	3. You can also export the log file in either 'JSON' or 'CSV' format. The full format description please refer to the application's user manual.
		

Sensor Heater (Humidity Sensor Recovery)

The humidity sensor's accuracy may decrease after prolonged exposure to high-humidity environments. The iBS08T includes an internal heater to help restore the sensor's accuracy under such conditions.

1. An external power source is required. Please connect the iBS08T to an external power supply.	2. Follow the configuration steps to connect to the tag. The 'Start Heater' can be found in the 'Advance' menu.	3. The heater will activate for 30 minutes after the BLE connection is disconnected
		



For more accurate humidity readings, it is recommended to perform the Sensor Recovery process once before deploying a new iBS08T device.

Battery Replacement

If you need to replace the battery, please follow the steps below.

1. Remove the 3 screws and open the bottom case	2. Remove the old battery and replace it with a new one.	3. Before closing the bottom cover, make sure the O-ring is in the proper position. Then close the bottom cover and fix the screws.
		



The internal of iBS08T is sensitive to electrostatics. Before opening the bottom cover, please make sure the proper procedure is executed to avoid any electrostatic damage to iBS08T