sentrax

Smart Badge BLE AoA Tag with Environmental Sensing

VERSION 1.1

PINIX TOK-1 User Guide

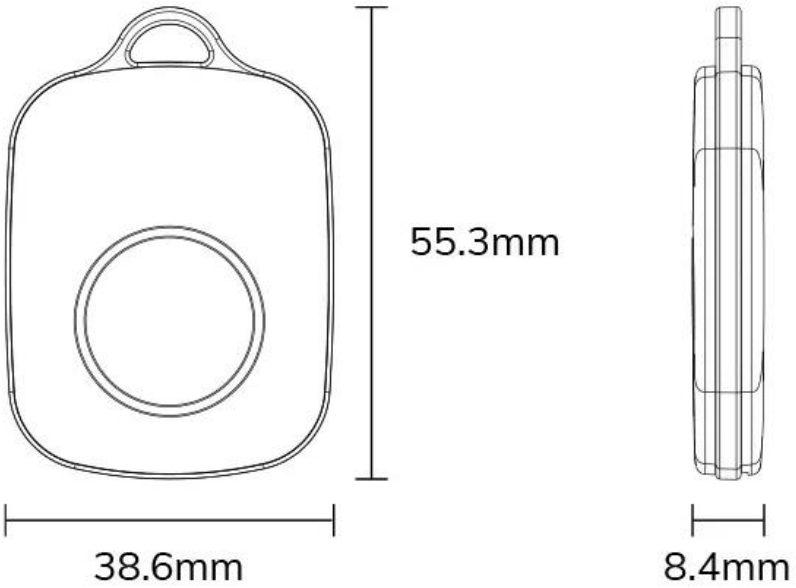
Contents

1. Introduction:

Introducing the PINIX TOK-1 (AoA) Portable Location Tag, a cutting-edge solution for advanced business applications. This tag is equipped with a programmable emergency button, allowing instant Safety Calls. Enhanced by a responsive accelerometer sensor, it provides real-time monitoring of personnel movement and dynamic changes, ensuring safety in any environment.

The PINIX line comprises state-of-the-art Bluetooth Low Energy 5.1 AoA (Angle of Arrival) tags, with the PINIX TOK-1 leading the pack. Redefining Bluetooth tags, it features BLE 5.1 Tag, AoA support, MEMS Accelerometer, and a long-lasting 225mAh battery. Robust IP65 protection guarantees reliability, making it suitable for various surfaces. Elevate your business applications with unparalleled energy efficiency. Unleash the power of advanced features for precision and longevity, setting the standard for efficiency and reliability in navigation capabilities for your business.

2. Physical characteristics:



3. Usage:

• Portable Location Tag:

- Helps monitor the trajectory of personnel movement and other dynamic changes in real time.
- Track's personnel location with the precision of sub-meters using Angle of Arrival Technology.

• Indoor Navigation Applications:

- PINIX TOK-1 is specifically designed for indoor navigation applications.
- It enhances location-based services in indoor environments.
- Wearable tag for sub-meter class high-precision tracking of personnel location.

4. Quick Start:

Upon unpacking the PINIX TOK-1 units, follow these steps to ensure the functionality of the device:

• Power-up Test

- After powering up by connecting the batteries, you can determine the mode the tags are in based on the LED flashing:
- Rapid blinking for 2 seconds indicates that the tags are entering **Sleep Mode.**
- A single 2-second pulse signifies that the tags are transitioning into **Advertisement Mode.**

Generally, tags are configured is in the sleep mode to minimize the power consumption.

Modes Overview:

1. **Sleep Mode:**
- In Sleep mode, the device conserves power by minimizing its activity. It's the default mode after power-up.
2. **Advertisement Mode:**
- In Advertisement mode, the device actively broadcasts its presence and information to nearby devices. This is useful for location-based applications.
3. **Configuration Mode:**
- Configuration mode allows you to adjust settings and parameters of the device to suit your specific needs.

Transitioning from Sleep Mode to Advertisement Mode:

To change the device from Sleep mode to Advertisement mode, follow these steps:

- **Press and Hold the Tags Button:** Press and hold the button on the tags for a continuous duration of 5 seconds.

- **Observe LED Status:** While holding the button, carefully observe the LED status. Release the button immediately upon seeing the first slow blink within the 5-second hold.
- **Mode Transition:** By Following these steps, the device will transition from Sleep mode to Advertisement mode.

Advertisement Packets

PINIX TOK-1 support following Advertisement packets,

- **iBeacon Advertisement:**
  - UUID: {0x56ef1f00d8a84d5c8b371e20375f2ae7}
  - Major: {2000}
  - Minor: {2005}
  - Calibrated RSSI at 1m: {-60dB}
- **Eddystone UID Advertisement:**
  - Namespace: {0x56ef1f00d8a84d5c8b37}
  - Instance: {0x1e20375f2ae7}
  - Calibrated RSSI at 0m: {-19dB}
- **sBeacon Advertisement:**
  - Tags Color: {White}
  - Firmware Information: {V1.0}
  - Hardware Information: {V1.0}
  - Battery Life (months): {34}
  - Tags Orientation: {Vertical, Horizontal}
  - Button Value: {Pressed, Released}
  - Tags Movement: {Moving, Static}
  - Tags Connect ability: {Connectable, Not Connectable}
  - Tags Transmit Power Level: {0dbm}
  - Tags Transmit Interval: {300ms}
  - Tags Battery Voltage: {3.0V}
  - Tags Accelerometer Sensor (gravity raw): {0,0,0}
- **Eddystone TLM Advertisement:**
  - Tags Battery Voltage: {3.6V}
  - Tags Advertising Count: {999}
  - Tags Time Since Reboot (cent second): {100000}

All the advertisement packets are configurable with respect to selection and transmission interval, also the information inside the UID packets can be configured using Sentrax Device Manager Application

Eddystone UID and iBeacon are types of Unique Identification Packets, and they have a minimum transmission interval of 0.1 seconds. On the other hand, Eddystone TLM and sBeacon are classified as Health Packets, and their minimum transmission interval is 1 second.

Although the battery consumption will be increased with increase in number of advertisements, the change in battery life depends upon the rate of transmission of packets.

- **Transmission Test**

PINIX TOK-1 has a QR-Code printed on the side, which maps to the Tags MAC address. To verify the PINIX TOK-1 is transmitting packets we can scan the Barcode via Sentrax Device Manager application. Once Device Manager has been installed in the smartphone, select Scan option. After that click the filter on the top of screen then click QR Code button, scan the QR Code on PINIX TOK-1 and press apply, if PINIX TOK-1 is turned on it will show on the list on the screen.

5. Configuration Setting:

Sentrax Device Manager: Configuration of Tags

To get started, you'll want to download and install the SDM - Sentrax Device Manager Application on your mobile device. You can find the SDM – Sentrax Device Manager app available for download on both the Google Play Store and the Apple App Store.

Google Play Apple Store

Simply Scan the provided QR code to quickly access and open the application for tags configuration.

Transition from Advertisement Mode to Configuration Mode:

To initiate the tags' configuration process, follow these steps for a clear understanding:

Press and Hold: Start by pressing and holding the tags button for about 5 seconds. Keep holding the button firmly during this period.

Observe LED Pattern: As you maintain the button press, pay attention to the LED light on the tags. It will initially display a sequence of five slow blinks, followed by a flickering. After this flickering the LED light will enter an on-hold state, remaining steadily lit for a brief duration.

Release After Off: Once you notice the LED light turning off, that's the cue to release your thumb from the button.

By following these instructions, you can easily put the tags into configuration mode for further setup and adjustments.

Transitioning from Configuration Mode to Advertisement Mode can be done through two methods:

Method I: Disconnecting via Mobile Application

- Verify that the tags are currently in advertisement mode. You can do this by checking the tags' LED blinking pattern. If it blinks every five seconds, the tags is in configuration mode.
- To shift the tags from configuration mode to advertisement mode, ensure it is connected to a mobile application.
- Within the mobile application, locate the option to disconnect the tags.
- Select this option, and the tags will exit configuration mode and return to advertisement mode.

Method II: Using the Tags Button

- To transition the tags from configuration mode to advertisement mode using the tags button, start by checking if it's currently in advertisement mode. You can determine this by observing the LED blink pattern. If it blinks rapidly after every five seconds, it's in configuration mode.
- Press and hold the tags button for a continuous 5-second duration.
- While holding the button, pay close attention to the LED status. Upon the first slow blink during the 5-second hold, release the button immediately.
- The tags will receive the command to exit configuration mode and will revert to advertisement mode.

These methods allow for a smooth transition between configuration and advertisement modes as needed.

6. Warning:

PINIX TOK-1 contains electronic elements and a battery which should be properly disposed of. If a tag needs to be disposed of or replacement battery is needed, please contact the manufacturer technical support first.

Disclaimer:

This guide is intended for informational purposes only. If in doubt at any stage of the installation or operation of the locator/gateway always consult Sentrax's authorized dealer, distributor, or get in touch directly with Sentrax GmbH.

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