



Outdoor Anchor BLE Beacon Tag with Multi-Sensors

VERSION 2.2

PINIX TEF-1 User Guide



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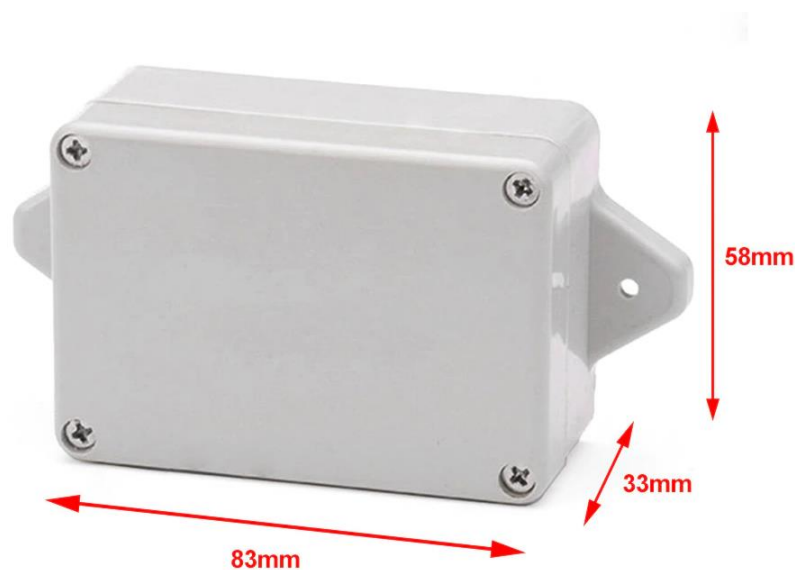
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## 1. Introduction

The **PINIX** line is a series of advanced **Bluetooth Low Energy 5.1** beacon devices using multi standard beacon technology. The **PINIX TEF-1** is specially conceived for advanced business solutions using location based and indoor navigation-based applications. It features an ultra-low power consumption and long battery life. The **PINIX TEF-1** can be easily mounted on various surfaces and uses commercially available replaceable large capacity cells. The **PINIX TEF-1** comes with a downloadable SDK with an extensive library for easy integration into a wide range of location based and indoor navigation-based applications. It also includes a wide range tool facilitating optimal setup, installation and health-checks.



## 2. Physical Characteristics



## 3. Usage

- **PINIX TEF-1** is designed to be mounted anywhere on various surfaces with the help of double-sided tape or screws where it can be easily detectable by nearby smartphones.
- **PINIX TEF-1** is intended to be used in indoor and outdoor navigation applications.
- **PINIX TEF-1** also includes a wide range of tools facilitating optimal setup, installation.

## 4. Features

### • Bluetooth Radio

- ◆ **Type:** Bluetooth: Low Energy 5.1
- ◆ **Advertisement:** iBeacon, Eddystone & sBeacon (Sentrax Proprietary).
- ◆ **Advertisement Interval:** 100ms to 10 seconds in 100ms steps.
- ◆ **Frequency:** 2.4GHz.
- ◆ **Transmit Power:** +4dBm to -20 dBm.
- ◆ **Antenna Type:** PCB Trace antenna, Omni Directional.

### • Sensor

- ◆ Internal Temperature Sensor

### • Battery

- ◆ **Battery type:** ER14505 x 3, 7200mAh, Replaceable.

### • Enclosure

- ◆ Material: ABS.

### • Operating Environment

- ◆ **Temperature Range:** -20°C to 70°C.
- ◆ **Operating Humidity:** 90%.

### • User interface

- ◆ User indication LED.

## 5. Quick Start

After unpacking the PINIX TEF-1 units, we have the following steps to check the device functionality.

### ● Power up Test

After powering up (connecting batteries), flashing tells in which mode beacon is:

- ◆ Rapid blinking for 2 seconds means the beacon is going to **Sleep mode**.
- ◆ Single pulse of 2 second long means the beacon is going to **Active mode**.

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

To remove beacon from sleep mode, press the button for 5 sec and observe LED slow blinking in front of PINIX TEF-1. The device will now wake up from sleep mode.

### ● Advertisement Packets

PINIX TEF-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:**
  - ❖ Beacon Color: {White}
  - ❖ Firmware Information: {V1.0}
  - ❖ Hardware Information: {V1.0}
  - ❖ Battery Life (months): {122}
  - ❖ Button Value: {Pressed, Released}
  - ❖ Beacon Contestability: {Connectable, Not Connectable}
  - ❖ Beacon Transmit Power Level: {0dbm}
  - ❖ Beacon Transmit Interval: {300ms}
  - ❖ Beacon Battery Voltage: {3.6V}
  - ❖ Beacon Temperature Sensor: {26°C}

## ◆ Eddystone TLM Advertisement:

- ❖ Beacon Battery Voltage: {3.6V}
- ❖ Beacon Temperature: {26°C}
- ❖ Beacon Advertising Count: {999}
- ❖ Beacon Time Since Reboot (centi 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 Beacon Manager Application

Eddystone UID and ibeacon are both Unique Identification Packets, and their minimum transmission interval 0.1 seconds. While Eddystone TLM and Sbeacon are Health Packets, and their minimum transmission interval 1 seconds.

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

## ● Transmission Test

PINIX TEF-1 has a QR-Code printed on the side, which maps to the Beacon MAC address. To verify the PINIX TEF-1 is transmitting packets we can scan the Barcode via Sentrax Beacon Manager application. Once Beacon 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 TEF-1 and press apply, if PINIX TEF-1 is turned on it will show on the list on the screen.

## 6. Configuration Setting

Configuration of beacon can be done just by downloading and using Sentrax Device Manager.

## 7. Warning:

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

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## 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.

Given that Sentrax will continuously improve and develop the product, changes may be made to the information in this manual at any time without any obligation to notify any person of any such revisions or changes. Sentrax will make all possible efforts to secure the accuracy and integrity of this manual.

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