sentrax

Indoor Anchor BLE Beacon Tag with Multi-Sensors.

VERSION 2.2

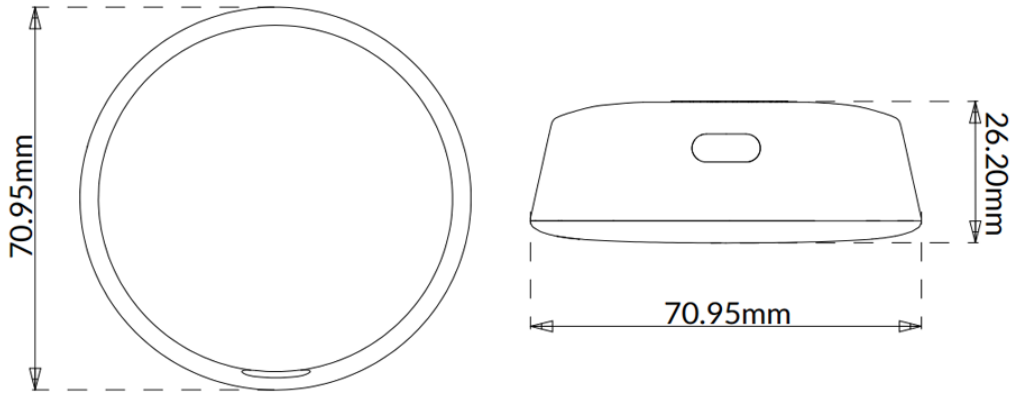
PINIX TEN-2 User Guide

Contents

1. Introduction

The PINIX line is a series of advanced Bluetooth Low Energy 5.0 beacon devices using multi standard beacon technology. The PINIX TEN-2 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 TEN-2 can be easily mounted on various surfaces and uses commercially available replaceable large capacity battery. The PINIX TEN-2 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 TEN-2 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 TEN-2 is intended to be used in indoor navigation applications.
- PINIX TEN-2 also includes a wide range of tools facilitating optimal setup, installation and health-checks.

4. Features

Bluetooth Radio

- **Type: Bluetooth**: Low Energy 5.0
- **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

- **Motion sensing**: 3 Axis Accelerometer

Battery

- **Battery type**: ER14505 x 2, 4800mAh, Replaceable

Enclosure

- **Material**: ABS

Operating Environment

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

User interface

- User interact-able button
- User indication LED

5. Quick Start

After unpacking the PINIX TEN-2 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 TEN-2. The device will now wake up from sleep mode.

• Advertisement Packets

PINIX TEN-2 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}
  - Beacon Orientation: {Vertical, Horizontal}
  - Button Value: {Pressed, Released}
  - Beacon Movement: {Moving, Static}
  - Beacon Contestability: {Connectable, Not Connectable}
  - Beacon Transmit Power Level: {0dbm}
  - Beacon Transmit Interval: {300ms}
  - Beacon Battery Voltage: {3.6V}
  - Beacon Temperature Sensor: {26°C}
  - Beacon Accelerometer Sensor (gravity raw): {0,0,0}

- **Eddystone TLM Advertisement:**
  - Beacon Battery Voltage: {3.6V}
  - Beacon Temperature: {26°C}
  - Beacon Advertising Count: {999}
  - Beacon Time Since Reboot (centisecond): {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 TEN-2 has a QR-Code printed on the side, which maps to the Beacon MAC address. To verify the PINIX TEN-2 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 QRCode on PINIX TEN-2 and press apply, if PINIX TEN-2 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 TEN-2 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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