# 🔊 sensolus

175 mm

The medium-size long-life battery-powered full-fledged GNSS, WIFI and BLE tracker with tamper alert. Ideally for worldwide asset tracking

- 🕷 GNSS
- 🛜 Wi-Fi
- ∦ BLE
- R Network triangulation
- X Sigfox
- S Multi-region
- ★ In-flight detection
- Data recovery (patented)
- 3 to 8 years battery life
- IP69
- $\otimes$  Tamper detection

### Connectivity

#### Sigfox

- Energy efficient transceiver
- · Internal omnidirectional antenna
- · Bi-directional communication
- · All regions: RC1/RC2/RC3/RC4/RC5/RC6
- Dynamic multi-region switching possible
- · Data recovery (patented)

### Geolocalization

### GNSS

- · GPS only receiver
- · Large patch antenna for optimum performance

### BLE

- · Sensolus proximity beacon detection
- · Detectable by zone and high precision anchors

# Sensing

### Internal

- · Activity monitoring
- $\cdot$  Orientation monitoring
- · In flight monitoring
- $\cdot$   $\,$  Virtual tamper detection



#### **Bluetooth Low Energy (BLE)**

- BLE 2.4 GHz
- Bluetooth Low Energy 5.0
- · OTA firmware upgrade

### Wi-Fi

Wi-Fi based geolocalization (optional)

#### **Sigfox Atlas**

Network based geolocalization

#### **External BLE sensors**

- Temperature, humidity, air quality
- Person presence, contact, magnet
- Other BLE sensors can be added

# Mounting

Holes (top:  $\varnothing 5 \text{ mm}$ , bottom 5\*6 mm ) for screws or rivets

# Mechanics & design

Antennas All antennas are internal

**Size** 175x55x28mm (L W H)

Weight 135 gram

**Color** Black Casing Panel – PBT 30%GF, Cover – PP 30%GF, Elastomer - TPE

Water & dust resistance

Impact resistance

**Operating temperature** -20 to 60°C

**Storage temperature** -40 to 60°C

### Battery

- 3 to 8 years battery life depending on operating mode
- User replaceable batteries 5400 mAh 3.6V (Li-SoCl<sub>2</sub>)
- 1,78 gram Lithium

### Certifications

### Sigfox

- · Sigfox multi-region verified
- All regions class 0 certified

Regulatory CE, FCC

In flight RTCA DO 160

### **User interaction**

**Device activation** Activation with the tamper button Electrical safety EN 62638

Bluetooth 5.0 Declaration ID D05962

LED feedback Green & Red LED feedback on the device

# Management services

### Diagnostics

- · Battery lifetime prediction
- · Detailed energy consumption
- · Geolocation diagnostics
- Installation
- Communication quality

# **Application services**

- Localization
- Activity
- Journeys

• Utilization

### **Firmware configuration**

### **Communication service**

- Region switching strategy
- Data recovery strategy
- Communication conditions
- Flight detection on/off

### **General configuration**

- Rule engine configuration
- Diagnostic levels
- Boot methods
- Accurate time synchronization

### **Orientation service**

Orientation detection parameters

### **Activity service**

Activity detection parameters

# Security

- Sigfox communication AES encryption
- $\cdot$  Device unique encryption keys
- $\cdot~$  End to end payload encryption Chacha 20
- · AES encrypted firmware
- Firmware upgrade allows only signed firmware images

### Management

- · OTA firmware updates (over BLE and remote)
- Remote configuration
- Tracker usage profiles
- External environmental sensors
- Connectable with 
  Tilt detection
  environmental sensors

### Location service

- · Motion based, context based, periodic or scheduled
- Configurable update rate and journey detection
- Priority sequence (GNSS, Wi-Fi, BLE, network)
- GNSS fix parameters
- Indoor detection algo
- Wi-Fi scan strategy
- $\cdot\;$  BLE scan strategy

### **Environmental sensing**

- Polling and aggregation strategy
- $\cdot$  Alerts
- Edge processing parameters

### **Tamper service**

· Physical tamper button at the back of the device