



The Long Life Tracker
www.nabitrack.com

Device Datasheet

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Key Features

- 3-5 years battery life
- Waterproof enclosure
- Several mounting options

Applications

- Sensor gateway
- Factory level logistics
- Security

NaBi Connect



Overview

NaBi is a GPS and NBLoT network based low energy tracking device. NaBi can periodically record location, temperature, humidity and motion information and this data is transferred to the General Track servers through NBLoT network. The device configuration regarding sensor recording and data synchronisation intervals, and sensor based alarms can be configured and batch deployed to multiple devices in the General Track online system. The recorded data is available in the online system, mobile application or through REST API (see: https://www.nabitrack.com/documentation.html#/gt_api).

NaBi Connect also has a low power RF interface for interfacing small coin cell powered external sensors within 10 meters range. One device can host up to 15 RF sensors. Currently available sensors can measure temperature, humidity, orientation (G sensor), vibration and equipped with a reed relay (e.g. for sensing door opening).

Features and functions

Flexible configuration options for different applications

Battery life prediction

Motion sensor:

Selectable sensitivity

Configurable event on motion, standstill or orientation changing

Vibration sensing: hour meter application, configurable events on operation or stopping

Location:

Regular geolocation logs

Geolocation logs on motion sensor event

Location measurement falls back to NBLoT cell based location measurement in case of GPS unavailability (when the device is inside a building)

Temperature and relative humidity:

Regular temperature and humidity logs

Overtemperature or undertemperature alerts

Low or high humidity alerts

Low power, Sub-GHz RF sensor interface:

Up to 15 external sensors can be used. Currently available sensors: temperature, humidity, orientation (G sensor), reed relay (for sensing magnets)

Scheduled data communication and active periods:

Configurable calendar for scheduled data communication

Configurable calendar for active time periods

Instantaneous communication on events and alerts

Sensor characteristics

Accelerometer:

Static orientation detection	Adjustable event trigger: 10°..170°, resolution: 1°
Motion detection threshold	Adjustable: 0.063..5 G, resolution: 0.063 G
Maximum logged acceleration	±12.7 m/s ²
Resolution	0.1 m/s ²

Temperature sensor:

Resolution	0.1 °C
Accuracy	±0.3 °C
Temperature range	-40..125 °C

Relative humidity sensor:

Resolution:	1 %
Accuracy:	±3 % (at 20-80%)
Range:	0-100 %RH

Pushbutton functions

Short press:	Out of schedule instant data synchronization with the server
Long press (>5s):	Debug mode (3 min): The LED is on when motion is detected*

*Works only when motion detection is configured with given thresholds.

LED functions

LED blinks in red color after device reset. It occurs when:

- 1) For few minutes after battery change until first communication.
- 2) Battery is empty, need to be replaced.
- 3) Device is broken, contact support at support@general-track.com

Otherwise, LED blinks in blue color as follows:

Normal operation:	Blinks once in every minutes
After battery replacement:	Blinks in every second until first server communication is finished
After pushbutton press:	Blinks in every second until first server communication is finished

Battery life prediction

Power consumption depends on the device settings and usage. Most power is used by localization and NBloT communication. Battery lifetime estimaton examples can be seen on Table 1.

Table 1. Estimated battery lifetime in the function of data synchronisation and location rates

GPS sampling period	Data synchronisation		
	Every hour	Every 12 hours	Daily once
30 minutes	0.24 year	1.09 year	1.32 year
2 hours	0.26 year	1.98 year	2.9 year
12 hours	0.27 year	2.57 year	4.37 year
24 hours	0.27 year	2.65 year	4.6 year

Estimate the battery life of a configuration that suits your application at <https://www.nabitrack.com/configuration.html>

Radio characteristics

GPS characteristics:

AGPS	yes
GPS sensitivity	-165 dBm

NB-IoT Radio characteristics:

Output power	22.5 dBm
Narrow-Band IoT freq. bands	B5 / B8 / B20

Environmental characteristics

Maximum vibration	±5 G
Operating ambient temperature	-40..+85 °C
Storage temperature	-40..+85 °C

Replaceable battery (included)

Battery type	IEC FR20, Spiral Type Thionyl Chloride Lithium Battery Only
Battery voltage	3.6 V
Nominal capacity	14 Ah

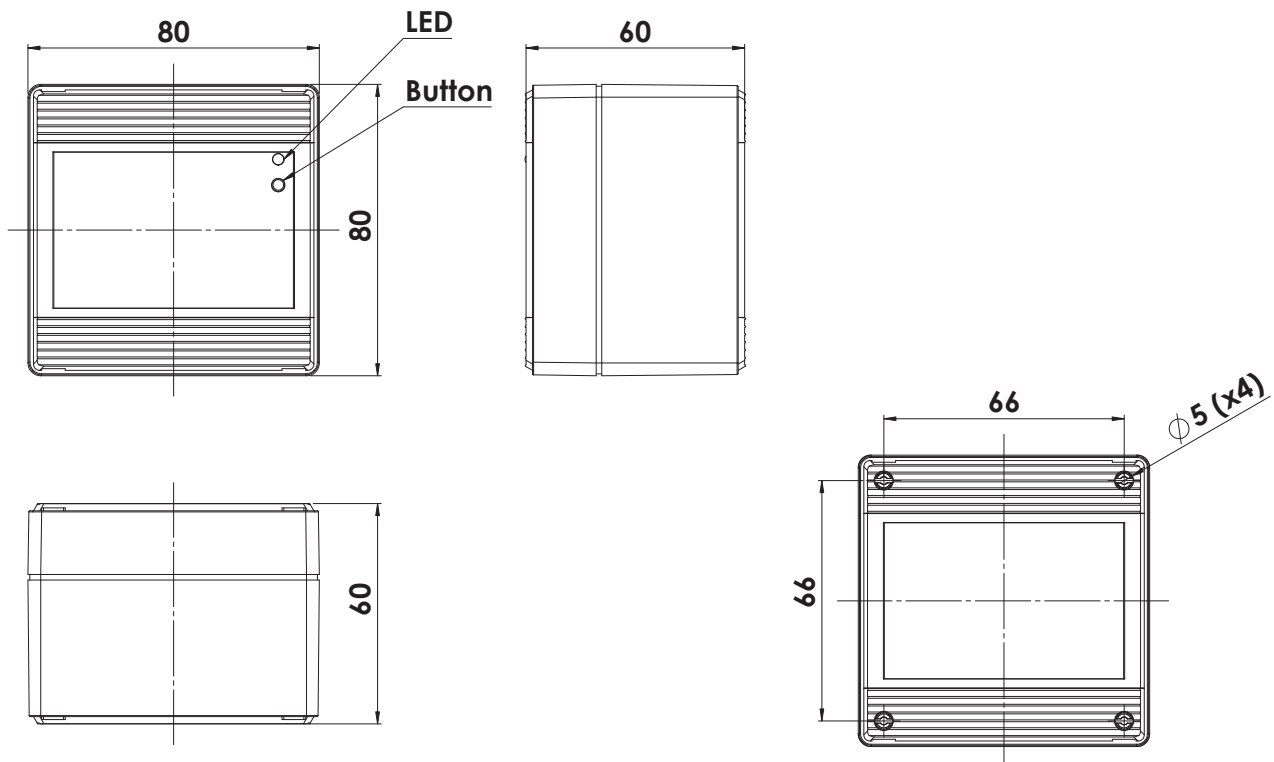
Approvals

CE in progress
RoHS, PbFree



Mechanical dimensions

Size (L x W x H)	80 x 80 x 60 mm
Weight, incl. battery	200 g



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