

miro TrackIt

Flexible LoRaWAN® tracker
for industrial applications

Flexible multi-standard LoRaWAN®
WiFi/GPS tracker with various
sensors for demanding industrial
applications.



Description

miro TrackIt is a powerful and flexible GNSS tracking device that integrates a multi-standard GPS scanner and passive Wi-Fi MAC address scanner with Bluetooth 5.2 connectivity and various sensors such as accelerometer, into one compact device. Location functionality is based on Semtech LoRa Edge™ platform and is tightly integrated with Semtech LoRa Cloud™ Locator service. The IP67-rated housing with different mounting options prepares the device for operation in a harsh industrial environment.

Highly configurable device firmware allows for fine-grained adaptation to a specific use case to optimize performance and battery lifetime.

Features

- ▶ LoRaWAN® class A compliant device
- ▶ Low power GNSS and passive Wi-Fi AP MAC address scanner module based on Semtech LoRa Edge™ platform
- ▶ Bluetooth 5.2 receiver and transmitter
- ▶ Various selection of sensors available
- ▶ Robust IP67 industrial housing
- ▶ 2 × AA batteries for up to 5 years lifetime

Applications

- ▶ Industrial asset tracking
- ▶ Warehouse logistics
- ▶ Construction site management
- ▶ Fleet management
- ▶ Theft protection

Document Information

About

File name	Document type	Date	Revision
DS-miro-TrackIt	Datasheet	2022/11/09	1.1

Revision history

Date	Release	Changes
2022/07/21	1	Add CE and UKCA
2022/11/09	1.1	Changed features

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Functional Description

miro TrackIt is a universal LoRaWAN® class A and Bluetooth 5.2 compliant GPS tracking device for industrial and other harsh environment tracking, indoor and outdoor localization applications. The device is based on a multi-standard GPS scanner and passive Wi-Fi MAC address scanner. Location functionality is based on Semtech LoRa Edge™ platform and is tightly integrated with Semtech LoRa Cloud™ Locator service.

The integrated Bluetooth 5.2 receiver/transmitter provides additional functionality secure firmware update, and advanced device configurations.

The built-in accelerometer allows to detect movement to trigger acquisition of GPS fixes only when needed, resulting in lower current consumption and extended battery lifetime. Additionally, the device can also obtain fixes on regular intervals. The accelerometer is also implementing pattern recognition for user interaction such as device configuration and reset.

Different device profiles for various applications can be configured even with the device deployed in the field using LoRaWAN® downlink messages. With its optional sensing capabilities, such as temperature/humidity, pressure, it is suitable for a variety of use cases.

Technical Specifications

Mechanical specifications	
Weight	186 g
Dimensions	93 × 89 × 37 mm
Enclosure	Plastic, ABS, with strong magnets
Operating conditions	
Temperature	-20 – 60 °C
Humidity	0 – 95 % RH, non-condensing
Device power supply	
Battery type	2 × AA alkaline standard cell
Expected battery lifetime	Up to 5 years depending on device profile
Radio / wireless	
Wireless technologies	LoRaWAN® 1.0.3, Bluetooth 5.2
LoRaWAN® Device type	Class A
Supported LoRaWAN® features	OTAA, ADR, Adaptive Channel Setup
LoRaWAN® receiver sensitivity ¹	-127 dBm (SF7, 125 kHz) to -141 dBm (SF12, 125 kHz)
LoRaWAN® transmission power ¹	14 dBm / 22 dBm (depending on region)
Bluetooth transmission power ¹	6 dBm

¹See transceiver datasheet for detailed specifications

Certifications	
CE	
UKCA	
FCC	pending

Sensor Specifications

GPS

Receiver	Semtech LR1110 receiver with external patch antenna
GNSS	GPS & Beidou L1 band

Wifi

Receiver	2.4 GHz passiv MAC scanning 802.11 b/g/n
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Accelerometer

Range	$\pm 2, \pm 4, \pm 8, \pm 16$
Resolution	16 bit
Accuracy (typ.)	± 20 mg
Axis orientation	see figure 1, page 6

Device Orientation

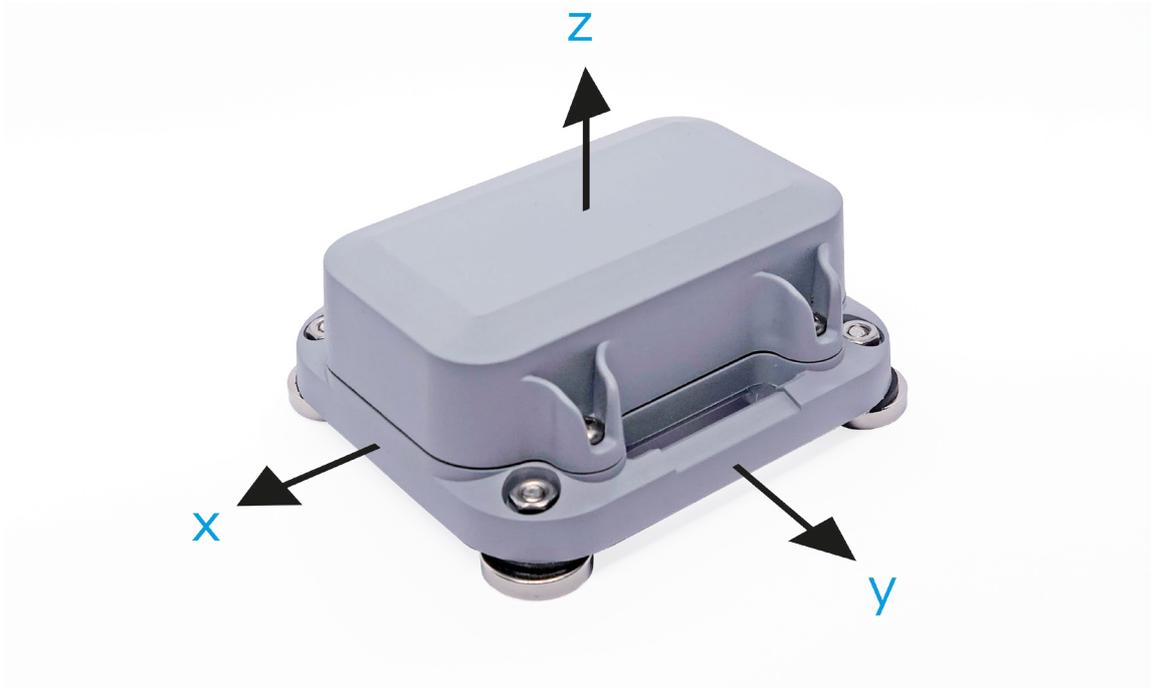


Figure 1: Axis Orientation

Mechanical Dimensions

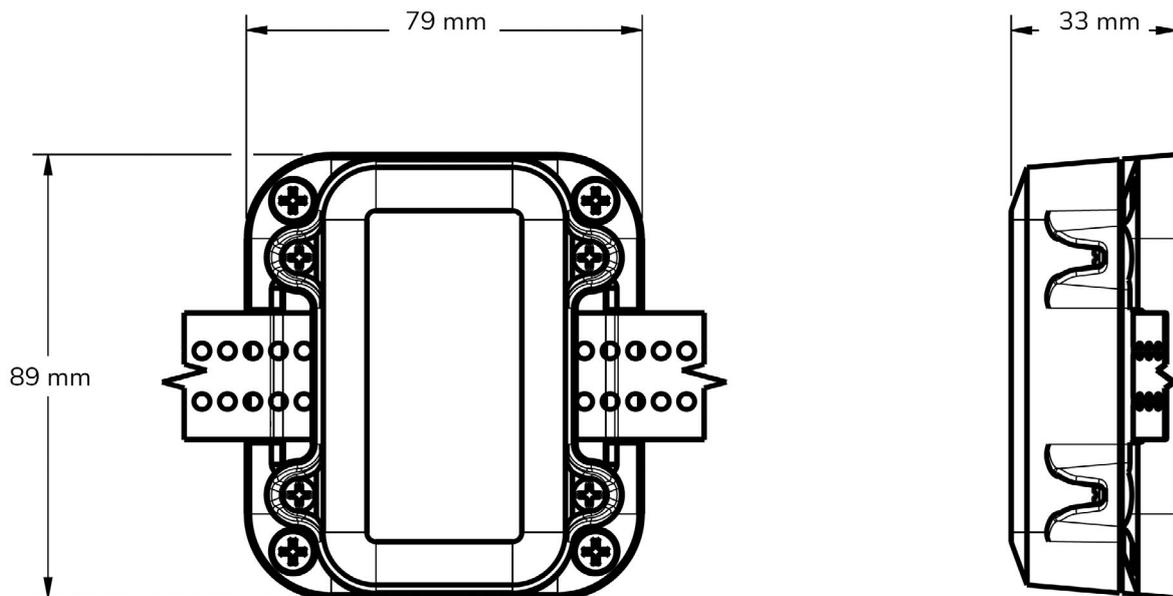


Figure 2: Mechanical Dimensions

Additional Documentation

Additional Resources

Product Information Page	https://miromico.ch/miro-trackit
Technical Documentation	https://docs.miromico.ch/miro-tracker

Device Options

Product ID	LoRaWAN® region						Options
	EU868	US915	AS923**	AU915**	IN865**	RU865**	
TRACK-TRACKIT-LW/*	✓	✓	✓	✓	✓	✓	

* LoRaWAN® Region (e.g. EU868)

** on request

Keep in touch

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