



Abeeway
Improve your position

MICRO TRACKER



Light - Handy - Powerful

The Abeeway Micro Tracker is a multi-mode tracker with embedded sensors combining GPS, Low-power GPS, Wi-Fi Sniffer, BLE and LoRaWAN™ TDoA geolocation technologies, for accurate outdoor and indoor geolocation.

The Micro Tracker is versatile and multi-purpose. With its small size and long battery life, it is the ideal product for proximity detection and numerous tracking applications of things of value, people or pets. At the touch of a button, you have access to a variety of functionalities personalized for your needs.

Applications

- Workforce optimization and safety: lone workers monitoring, tracking, zone alerts and SOS panic button alerts on construction sites, mines, oil & gas platforms, factories and other industrial indoor and outdoor facilities
- Tracking and monitoring of assets, vehicles, machines and equipment
- Antitheft applications, notification and location trigger when device is moving, at fixed frequency updates or on demand
- Geofencing applications: alerts when leaving/entering specific areas
- Personal tracking with help button: employees, elderly, children
- Personal assets protection: cars, motorbikes, bikes, keychains, luggage, handbags or pets.

Product Highlights

Multiple operating modes:

- **Motion Tracking:** Real-time position when motion is detected
- **Permanent tracking:** Regular interval real time position
- **Start/End motion tracking:** Receive position messages during motion start and end events
- **Fix on demand:** Obtain tracker position when needed (very low power operating mode)
- **Activity tracking:** Monitor activity rate with embedded sensors

Geolocation technologies:

- **GPS:** Precise outdoor position
- **Low power GPS:** Fast Time To First Fix in outdoor and daylight indoor conditions
- **BLE/Wi-Fi:** Position in indoor and urban area

Other features

- Geofencing zone detection
- Proximity Detection
- **User interface:** Buzzer, LEDs, multi-mode button
- Temperature monitoring
- LoRaWAN™ Class A radio
- BLE Communication link with a phone
- Water-spray resistant enclosure (IP65)
- Resistance to explosive atmosphere (ATEX Zone 2 and 22 certified)
- Firmware Upgrade
- Rechargeable battery

MICRO TRACKER SPECIFICATIONS

Physical configuration

Size	59mm x 34 mm x 13 mm (L x l x h)
Weight	21g
Waterproof capability	IP64
Operating temperature	-10°C to 55°C
Charging temperature	0°C to 45°C
Storage temperature	10°C to 30°C (recommended)
Time storage max	6 months
Humidity	5% to 95% non-condensing

Estimated lifetime

Use Case	Battery Life (Approx.)
1 GPS position / hour	2 weeks ⁽²⁾
1 LPGPS position / hour	3 months ⁽²⁾
1 WiFi position / hour	5 months
Standby	10 months

(2) Assuming 5 satellites at -130dBm input power

Data communication support

LoRaWAN™ Modem	Semtech transceiver SX1272
Protocol	LoRaWAN Class A
LoRaWAN™ Frequency bands ⁽¹⁾	EU868MHz / US915MHz / AS923MHz
Configuration supported	OTA or ABP
RF output power ⁽¹⁾	14 dBm (EU) 16.5 dBm (max)
Min sensitivity of LoRaWAN™ receiver	-130 dBm in SF10
Wi-Fi Frequency band	2412 – 2472MHz
Wi-Fi sniffer sensitivity	-86 dBm
BLE sensitivity	-88 dBm
BLE RF output power	4 dBm max
BLE frequency band	2402 – 2480MHz
GNSS band	1575 – 1610MHz

(1) Channel frequencies and Transmit output power level are country specific and controlled by the operator

Standards and Certifications

LoRa Alliance EU868, US915, AS923	
Radio regulatory certification : EC, FCC, IC, TELEC	
ATEX Group II Zone 2 and 22 compliant with ATEX Directive 2014/34/EU, Directive RED 2014/53/EU (for use in hazardous areas classified as Zone 2, Gas Group IIA, IIB or IIC and Temperature Class T4)	

Position accuracy

GPS⁽³⁾	Position Accuracy (50%-90%)	10 to 20 meters	
	Time To First Fix	Cold start	40-60 seconds
		Hot start	<5 seconds
Acquisition sensitivity	-140 dBm		
Low power GPS⁽³⁾	Position Accuracy (50%-90%)	15 - 30 meters	
	Time To First Fix	<10 seconds	
	Acquisition sensitivity	-144 dBm	
Wi-Fi⁽⁴⁾	Indoor and Deep Urban Position Accuracy	20 - 50 meters	
	Time to get a position	3 seconds	
BLE for positioning⁽⁴⁾	Indoor Position Accuracy	5 - 15 m	
	Time to get a position	1 second	
BLE for proximity	Proximity Detection accuracy	<1m	

(3) Assuming 5 satellites at -130dBm input power

(4) Accuracy depends of the BLE beacon or WiFi AP density and physical layout of the premises

Power management

Rechargeable Battery	3.7V	0.45 Ah
Battery type	Lithium Polymer	
Charger supply	5V from a standard micro USB charger	

Product references

Product	SKU
MICRO TRACKER EU868	DEABE0XX-XXEU - DEABE0XX-XXEU-Ex1 ⁽⁵⁾ - DEABE0XX-XXEU-Ex2 ⁽⁶⁾
MICRO TRACKER US915	DEABE0XX-XXUS - DEABE0XX-XXUS-Ex1 ⁽⁵⁾ - DEABE0XX-XXUS-Ex2 ⁽⁶⁾
MICRO TRACKER AS923	DEABE0XX-XXAS - DEABE0XX-XXAS-Ex1 ⁽⁵⁾ - DEABE0XX-XXAS-Ex2 ⁽⁶⁾

(5) ATEX Zone I version of the product

(6) ATEX Zone II version of the product

Abeeway is the market leader in low-power geolocation and a provider of disruptive IoT tracking solutions worldwide. Abeeway offers the most energy-efficient, reliable and flexible geolocation solutions using unique tracking devices and a smart multi-technology location system optimized for long-range and low-power-consumption LoRaWAN™ connectivity. The system makes precise geolocation power-efficient for various environments by combining high-precision GPS, our patented cloud computing technology Low Power GPS and ultra-low-consumption Wi-Fi sniffing technique. Offering the fastest time-to-market, Abeeway delivers a complete end-to-end solution for mass-market IoT sectors for asset tracking and management, process and decision optimization and personal safety. Abeeway is a member of LoRa Alliance™ and is part of the Actility Group. Actility Group is a leading provider of LPWA IoT connectivity solutions, tools, business services and applications.