



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 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

- **User interface:** Buzzer, LEDs, multi-mode button
- **Temperature monitoring**
- **LoRaWAN™ Class A radio**
- **BLE Communication link with a phone**
- **Water-spray resistant enclosure (IP64)**
- **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	2.4 weeks <sup>(2)</sup>
1 LPGPS position / hour	3.6 months <sup>(2)</sup>
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 v1.0.2 Class A
LoRaWAN™ Frequency bands <sup>(1)</sup>	EU868MHz / US915MHz / AS923MHz
Configuration supported	OTA or ABP
RF output power <sup>(1)</sup>	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	-91 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 <sup>(3)</sup>	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 <sup>(3)</sup>	Position Accuracy (50%-90%)	15 - 30 meters	
	Time To First Fix	<10 seconds	
		-144 dBm	
	Acquisition sensitivity	-144 dBm	
Wi-Fi <sup>(4)</sup>	Indoor and Deep Urban Position Accuracy	20 - 50 meters	
	Time to get a position	3 seconds	
		BLE <sup>(4)</sup>	Indoor Position Accuracy
	Time to get a position	1 second	

(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 <sup>(5)</sup> - DEABE0XX-XXEU-Ex2 <sup>(6)</sup>
MICRO TRACKER US915	DEABE0XX-XXUS - DEABE0XX-XXUS-Ex1 <sup>(5)</sup> - DEABE0XX-XXUS-Ex2 <sup>(6)</sup>
MICRO TRACKER AS923	DEABE0XX-XXAS - DEABE0XX-XXAS-Ex1 <sup>(5)</sup> - DEABE0XX-XXAS-Ex2 <sup>(6)</sup>

(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