



Abeeway
Improve your position

COMPACT TRACKER



High precision - hardened casing - Designed to last

The Abeeway Compact Tracker is a highly versatile multi-mode tracker with embedded sensors combining GPS, Low-power GPS, Wi-Fi Sniffer, BLE and LoRaWAN™ TDoA geolocation technologies, supporting **accurate outdoor & indoor geolocation**.

Best of all, it has a **compact and robust form factor**, designed to resist **harsh surroundings** enabling you to perform seamless asset tracking, **proximity detection** and management in any industrial environment – whether it's for **heavy-duty assets or small equipment**, taking advantage of its **long battery autonomy**.

Applications:

- Real-time tracking, status monitoring of heavy and light assets, vehicles, machines and equipment, outdoors or in indoor industrial facilities.
- Activity monitoring based on motion for usage optimization, industrial control and asset management
- Livestock tracking in large farms
- Optimization of supply chain and production, delivery and inventory tracking
- Geofencing applications: receiving zone alerts when leaving/entering specific areas
- Antitheft applications, notification and location trigger when device is moving, at fixed frequency updates or on demand

Product Highlights

Multiple operating modes:

- **Motion Tracking:** Real-time position at a given cycle 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.
- **Geozone detection:** capability to detect specific zones that matter for your processes.

Geolocation technologies:

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

Other features:

- Geofencing zone detection
- Proximity detection
- Temperature monitoring
- LoRaWAN® Class A radio
- Waterproof enclosure (IP68); IK08
- Firmware upgrade
- Replaceable AA batteries
- Very modular fixation
- Magnetic switch (optional)
- Pressure sensor (Optional)
- Speaker (optional)
- ATEX certification^{(5)/(6)}
- BLE scan function for inventory of tools and accessories
- Indoor BLE/WiFi fingerprinting with HERE Tracking (requires subscription)
- Indoor BLE based geolocation with Quuppa Intelligent Location (requires Quuppa infrastructure)
- BLE based safe/hazard zone detection

Physical configuration

Size	112mm x 66mm x 33mm (L x l x h)
Weight	190g
Waterproof capability and resistance	IP68, IK08
Operating temperatures	-20°C to +65°C
Storage temperature	10°C to 30°C (recommended)
Time storage max	12 months
Humidity	< 95% non-condensing

Estimated lifetime

Use Case	Battery Life (Approx.)
1 GPS fix per hour ⁽²⁾	1 year
1 LPGPS fix per hour ⁽²⁾	4 years
1 WiFi scan per hour	7 years
1 BLE scan every 3 min	> 5 years
Standby	> 5 years

Data communication support

LoRaWAN™ Modem	Semtech transceiver SX1262
Protocol	LoRaWAN Class A
LoRaWAN™ Frequency bands ⁽¹⁾	EU868MHz / US915MHz / AS923MHz
Configuration supported	OTA or ABP
RF output power ⁽¹⁾	14 dBm (EU) 19 dBm (max)
LoRaWAN™ receiver sensitivity	-130 dBm in SF10
Wi-Fi sniffer sensitivity	-86 dBm
Wi-Fi frequency band	2412 - 2472MHz
BLE RF output power	3 dBm max
BLE sensitivity	-88 dBm
GNSS band	1575 – 1610MHz

Standards and Certifications

LoRa Alliance EU868, US915, AS923, IN865
Radio regulatory certification : EC, FCC, IC, TELEC

Position accuracy

GPS⁽³⁾	Position Accuracy (50%-90%)	10 to 18 meters	
	Time To First Fix	Cold start	30-45 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	-145 dBm	
Wi-Fi⁽⁴⁾	Indoor 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	

Power management

Primary battery	3x AA/3.6V (Li-SOCI2) -Nominal capacity 8Ah
-----------------	--

Product references

Product	SKU		
ABE COMPACT TRACKER EU868	DEABE5XX-XXEU	DEABE5XX-XXEU-Ex1 ^{(5) (7)}	DEABE5XX-XXEU-Ex2 ⁽⁶⁾
ABE COMPACT TRACKER US915	DEABE5XX-XXUS	DEABE5XX-XXUS-Ex1 ^{(5) (7)}	DEABE5XX-XXUS-Ex2 ⁽⁶⁾
ABE COMPACT TRACKER AS923	DEABE5XX-XXAS	DEABE5XX-XXAS-Ex1 ^{(5) (7)}	DEABE5XX-XXAS-Ex2 ⁽⁶⁾

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

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

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

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

(5) ATEX Zone I: Ⓢib IIC T4 Gb -20°C < Tamb < 40°C

Ⓢib IIIB 135°C Db -20°C < Tamb < 40°C

(6) ATEX Zone II: ⓈII 3G Ex ic nA IIC T4 Gc -20°C < Tamb < +65°C

ⓈII 3D Ex ic tc IIIB T135°C Dc -20°C < Tamb < +65°C

(7) ATEX Zone I version of the product. On-pre-order

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 multitechnology location system optimized for long-range and low-power-consumption LoRaWAN® connectivity. 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 the LoRa Alliance® and part of the Activity Group. Activity Group is a leading provider of LPWA IoT connectivity solutions, tools, business services and applications.