



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 pending**

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 |

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

Data communication support

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|---|--------------------------------|
| 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 |

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

Standards and Certifications

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

Position accuracy

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|--|------------------------------|-----------------|---------------|
| GPS⁽³⁾ | Position Accuracy (50%-90%) | 10 to 18 meters | |
| | Time To First Fix | Cold start | 30-45 seconds |
| | | Hot start | <5 seconds |
| 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 | |

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

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

Power management

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

| Product | SKU | | |
|---------------------------|---------------|----------------------------------|----------------------------------|
| ABE COMPACT TRACKER EU868 | DEABE5XX-XXEU | DEABE5XX-XXEU-Ex1 ⁽⁵⁾ | DEABE5XX-XXEU-Ex2 ⁽⁶⁾ |
| ABE COMPACT TRACKER US915 | DEABE5XX-XXUS | DEABE5XX-XXUS-Ex1 ⁽⁵⁾ | DEABE5XX-XXUS-Ex2 ⁽⁶⁾ |
| ABE COMPACT TRACKER AS923 | DEABE5XX-XXAS | DEABE5XX-XXAS-Ex1 ⁽⁵⁾ | DEABE5XX-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 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 Actility Group. Actility Group is a leading provider of LPWA IoT connectivity solutions, tools, business services and applications.