# Abeeway
## Improve your position

# INDUSTRIAL TRACKER

## Solid and long-lasting, built for heavy-duty tracking

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

This tracker is 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, inventory or livestock**, taking advantage of its **extraordinary 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 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
- Wi-Fi/BLE: Position in indoor and urban area

**Other features**
- Geofencing zone detection
- Proximity detection
- Temperature monitoring
- LoRaWAN™ Class A radio
- Dust-proof and powerful water jets - (IP 65)
- Firmware upgradable
- Long battery life time
- 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

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# INDUSTRIAL TRACKER SPECIFICATIONS

## Physical configuration

| Size | 145mm x 76 mm x 42 mm (L x l x h) |
|---|---|
| Weight | 240g |
| Waterproof capability | IP65 |
| Operating temperature | -15°C to 65°C |
| Charging temperature | 0°C to 45°C |
| Storage temperature | 10°C to 30°C (recommended) |
| Time storage max | 6 months |
| Humidity | < 95% non-condensing |

## Standards and Certifications:

| LoRa Alliance EU868, US915, AS923, AU915 |
|---|
| Radio regulatory certification: EC, FCC, IC, TELEC |

## Estimated lifetime

| Use Case | Battery Life (Approx.) |
|---|---|
| 1 GNSS position / hour [2] | > 18 months |
| 1 LPGPS position / hour [2] | > 5 years |
| 1 WiFi position / hour | 10 years |
| Standby | > 10 years |

## Data communication support

| LoRaWAN™ Modem | Semtech transceiver SX1262 |
|---|---|
| Protocol | LoRaWAN Class A |
| LoRaWAN™ Frequency bands [1] | EU868MHz / US915MHz / AS923MHz / AU915 MHz |
| Configuration supported | OTA or ABP |
| RF output power [1] | 14 dBm / 18.5 dBm (max) |
| Min sensitivity of LoRaWAN™ receiver | -132 dBm in SF10 |
| Wi-Fi Frequency band | 2412 – 2472MHz |
| Wi-Fi sniffer max emission | 3 dBm |
| BLE sensitivity | -91 dBm |
| BLE RF output power | 4 dBm max |
| BLE frequency band | 2402 – 2480MHz |
| GNSS band | 1559 – 1610MHz |

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

## Position accuracy

| GPS[2] | Position Accuracy (Standard deviation) | 3 meters | |
|---|---|---|---|
| | Time To First Fix | Cold start | 30-60 seconds |
| | | Hot start | <5 seconds |
| | Acquisition sensitivity | -140 dBm | |
| Low power GPS[2] | Position Accuracy (50%-90%) | 15 - 30 meters | |
| | Time To First Fix | <10 seconds | |
| | Acquisition sensitivity | -160 dBm | |
| Wi-Fi[3] | Indoor Position Accuracy | 20 - 50 meters | |
| | Time to get a position | 3 seconds | |
| | Sensitivity | -86 dBm | |
| BLE for positioning[3] | Indoor Position Accuracy | 5 - 15 m | |
| | Time to get a position | 1 second | |
| BLE for proximity | Proximity Detection accuracy | < 1m | |

(2) Assuming 5 satellites at -130dBm input power and the tracker has acquired Almanac by placing the tracker in open sky in good conditions. The Almanac acquisition can take 15 mins – 1 hour depending on the conditions (3) Assuming 5 satellites at -130 dBm input power
(4) Accuracy depends on the WiFi AP density and physical layout of the premises

## Power management

| Primary Battery | 19Ah (EU), 14 Ah (US) / 3.6V |
|---|---|
| Battery type | Lithium-thionyl Chloride Type D |

## Product references

| Product | SKU |
|---|---|
| ABE INDUSTRIAL TRACKER EU868 | DEABE2XX-XXEU |
| ABE INDUSTRIAL TRACKER US915 | DEABE2XX-XXUS |
| ABE INDUSTRIAL TRACKER AS923 | DEABE2XX-XXAS |
| ABE INDUSTRIAL TRACKER AU915 | DEABE2XX-XXAU |

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.