



Abeeway
Improve your position

SMART BADGE



Sleek – smart - made for people

The Abeeway Smart Badge is a portable multi-mode tracker in **ID card format** with embedded sensors combining GPS, Low-power GPS, Wi-Fi Sniffer, BLE and LoRaWAN™ TDoA geolocation technologies, supporting **accurate and continuous outdoor and indoor geolocation**.

This device is ideal for **proximity detection, zone notification and monitoring of workforce safety and security**. Simple to use, a single button gives you access to the numerous functionalities you may personalize for your needs, e.g. as a **Panic/SOS Button**. A local zoning feature is able to **signal danger zones** with a 80db buzzer. It has industrialized magnetic connector for recharging the battery.

Applications

- Personal multi-mode tracking: employees, workers, visitors
- SOS panic alarm for indoor and outdoor lone workers
- Danger zones or restricted areas access notifications
- Automated attendance monitoring and zoning
- Safety evacuation monitoring
- Location heatmaps, e.g. for optimization of supervisor/worker ratio in large construction or industrial sites

Product Highlights

Multiple operating modes:

- **Motion Tracking:** Real-time position when motion is detected
- **Permanent tracking:** Regular interval real time position
- **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:** Position in indoor and urban area
- **BLE:** Short-range geolocation

Other features:

- **Geofencing zone detection**
- **Proximity detection**
- **User interface:** Buzzer, LEDs, multi-modes button
- **Temperature monitoring**
- **LoRaWAN™ Class A radio**
- **High Pressure Water-spray resistant enclosure (IP65)**
- Rechargeable battery
- Magnetic USB connector for Rechargeable battery
- Firmware Upgrade
- ATEX certification pending
- Holder to slide RF ID Card

SMART BADGE SPECIFICATIONS

Physical configuration

Size	90mm x 65 mm x 11 mm (L x l x h)
Weight	80g
Waterproof capability	IP65
Operating temperatures	-10°C to 55°C
Charging temperatures	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	1.5 month ⁽²⁾
1 LPGPS position / hour	9.6 months ⁽²⁾
1WiFi position / hour	1.6 year
Standby	>1.8 years

(2) Assuming 6 satellites at -130 dBm

Data communication support

LoRaWAN™ Modem	Semtech transceiver
Protocol	LoRaWAN Class A
LoRaWAN™ frequency bands ⁽¹⁾	EU868MHz / US915MHz / AS923MHz
Configuration supported	OTA or ABP
RF power	14 dBm (EU) 18 dBm (max)
Min sensitivity of LoRaWAN™ receiver	-130 dBm in SF10
Wi-Fi Frequency band	2412 – 2472MHz
BLE sensitivity	-88 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

Standards and Certifications

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

Position accuracy

GPS⁽³⁾	Position Accuracy (50%-90%)	10 to 20 meters	
	Time To First Fix	Cold start	30-50 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	
	Sensitivity	-86 dBm	
BLE⁽⁴⁾	Indoor Position Accuracy	5 - 15 m	
	Time to get a position	1 second	

(3) Assuming 6 satellites at -130 dBm

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

Power management

Rechargeable Battery	3.7V	1.3 Ah
Battery type	Lithium Polymer	
Charger supply	5V from a magnetic USB charger	

Product references

Product	SKU
Smart Badge EU868	DEABE3XX-XXEU - DEABE3XX-XXEU-Ex1 ⁽⁵⁾ - DEABE3XX-XXEU-Ex2 ⁽⁶⁾
Smart Badge US915	DEABE3XX-XXUS - DEABE3XX-XXUS-Ex1 ⁽⁵⁾ - DEABE3XX-XXUS-Ex2 ⁽⁶⁾
Smart Badge AS923	DEABE3XX-XXAS - DEABE3XX-XXAS-Ex1 ⁽⁵⁾ - DEABE3XX-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.