TEKTELIC SEAL

Wearable LoRaWAN® GPS Tracker for Personnel Safety

The **TEKTELIC SEAL** is a rugged, wearable **LoRaWAN®-connected GPS tracker** designed to ensure reliable location visibility and enhanced safety for personnel working remotely or in the field. Combining precise GNSS positioning with Bluetooth® Low Energy (BLE) support, SEAL enables near real-time outdoor tracking and continued location awareness indoors. With integrated safety features, extended battery life, and an IP67-rated enclosure, SEAL delivers a scalable and dependable solution for workforce safety, monitoring, and operational efficiency across industrial and enterprise environments.
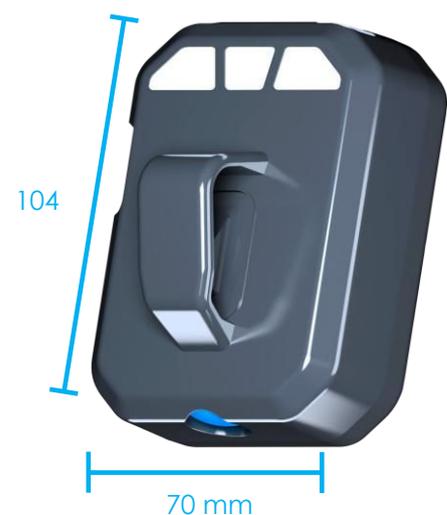
Features

» Up to **15 months of battery life*** for long-term, maintenance-free wearable operation

» **Precise GNSS positioning** delivering accurate outdoor location tracking

» **Integrated Bluetooth® Low Energy (BLE)** for continued tracking and proximity awareness indoors

» User-activated **SOS / emergency** alert button with **audio and visual indication**

» **Fall and impact detection** to enhance worker safety and emergency response

» **Elevation detection** for multi-level location awareness

» **Optional harness detection** to monitor proper equipment usage

» **Rugged IP67-rated enclosure** suitable for harsh outdoor and industrial environments

» **Geofencing capabilities** to support safety and compliance use cases

» **GNSS datalogging** for historical location analysis

» **Compatible with standard LoRaWAN® gateways and network servers** for broad interoperability

» **Quick and easy device onboarding & data viewing** using TEKTELIC **LeapX™** mobile application

» TEKTELIC **Kona Atlas™ support** for payload encoding and decoding

» **Locus™ integration** for centralized device, data, and fleet management

» **Rapid deployment** for scalable industrial asset-tracking applications

* Actual battery life varies based on configuration, data rate, and operating temperature.

Sensing Functions

» GNSS

» Accelerometer

» Bluetooth Low-Energy (BLE) Transceiver

» Pressure

» Ambient Temperature (MCU Thermometer)

» Battery Voltage Gauge

104

70 mm

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Technical and Functional System Specifications

General System Parameters	
Operational Temperature	-20˚C to 60˚C
Storage Temperature	-25˚ to 55˚C
Operational Relative Humidity	5% - 95% Non-Condensing
Ingress Protection	IP67
Size	104 x 70 x 33.8 mm (Non-clip variant)
	104 x 70 x 57.8 mm (Clip variant)
Weight (without batteries)	100 g (add 15 g per battery)
Battery	3 x AA-cell LID
Battery Life	
Default Reporting Period* @SF7	8 months
Default Reporting Period* @SF10	7 months
Wireless Parameters (LoRa)	
RF Power (Max)	15 dBm
RF Sensitivity	-137 dBm (SF12, 125 kHz)
Channel Plans	EU868, US915, AU915, AS923-1,-2,-3,-4, IN865, KR920
Antenna	Internal
LoRa Device Class	Class A
Specification Version	1.0.4
Sensor Specifications	
GNSS Features	2.5 m position accuracy
	Support of GPS/QZSS, GLONASS, Galileo, BeiDou
	GNSSs Data logging up to 3,000 entries
	Geofencing up to 4 circular geofences
	TTFF: 60 sec cold start, 5 sec hot start

	Sensitivity: -164 dBm tracking and navigation
	    -148 dBm cold start
	    -157 dBm hot start

Accelerometer Sensitivity	Sample rate: 1, 10, 25, 50, 100, 200, 400 Hz Measurement range: +/-2, +/-4, +/-8, +/-16 g Precision: 16, 32, 64, 192 mg
BLE Sensitivity (0.1% BER)	125 kbps: -103 dBm 500 kbps: -98 dBm 2 Mbps: -91 dBm
Certifications & Compliance	
Regulatory	FCC, ISED, CE (RED)
Product Safety	IEC 62368-1
Environmental	RoHS

Default reporting behavior is: 1 geolocation report every 15 minutes in normal mode and every 1 minute in emergency state
Emergency alarm status: every 15 minutes in normal state, every 1 minute in emergency state
Barometric pressure: every 15 minutes in normal state, every 1 minute in emergency state