

TEKTELIC ORCA

A Rugged LoRaWAN® Industrial GPS Asset Tracker

The **TEKTELIC ORCA** is a rugged, long-life **LoRaWAN®-connected GPS asset tracker** designed for reliable geolocation and monitoring of industrial assets in harsh environments. Combining precise GPS positioning with long-range, low-power LoRaWAN® connectivity, ORCA enables near real-time visibility of mobile and remote assets. With an IP67-rated enclosure, extended battery life, and optional BLE support, ORCA delivers scalable, cost-effective asset management across transportation, logistics, and industrial operations.



Sensing Functions



GNSS



ACCELEROMETER



BLUETOOTH
LOW-ENERGY (BLE)
TRANSCIVER



AMBIENT
TEMPERATURE
(MCU THERMOMETER)

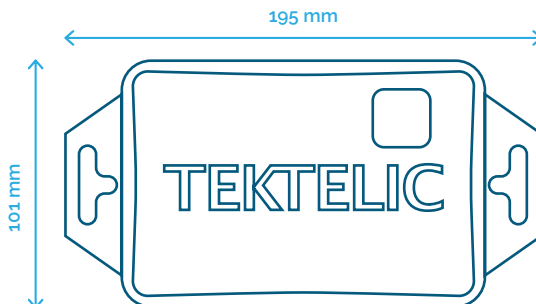


BATTERY VOLTAGE
GAUGE

Features

- ✓ **Up to 5 years of battery life*** enabled by an optimized low-power design for long-term, maintenance-free operation
- ✓ **Compatible with standard LoRaWAN® gateways and network servers** for broad interoperability
- ✓ **Precise GPS positioning** for accurate asset geolocation and tracking
- ✓ **Quick and easy device onboarding & data viewing** using TEKTELIC LeapX™ mobile application
- ✓ **Optional Bluetooth® Low Energy (BLE) support** for proximity sensing and additional use cases
- ✓ **TEKTELIC Kona Atlas™ support** for payload encoding and decoding
- ✓ **Built-in accelerometer** enabling motion-based event detection and reporting
- ✓ **Locus™ integration** for centralized device, data, and fleet management
- ✓ **Rugged IP67-rated enclosure** designed for outdoor and industrial environments
- ✓ **Rapid deployment** for scalable industrial asset-tracking applications
- ✓ **Dynamic reporting behavior** supporting both periodic and event-based location updates

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



Technical and Functional System Specifications

General System Parameters

Operational Temperature	-40°C to 70°C
Storage Temperature	-25° to 55°C
Operational Relative Humidity	5% - 95% Non-Condensing
Ingress Protection	IP67
Size	195 x 101 x 50 mm
Weight (without batteries)	300 g (add 95 g per battery)
Battery	2 x D-Cell LTC

Battery Life

Default Reporting Period* @SF7	5 Years
Default Reporting Period* @SF10	4.5 years

Wireless Parameters (LoRa)

RF Power (Max)	22 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** (CEP 50)
	TTFF: 26 sec cold start 1 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 per 60 mins (while not moving), event-based while in motion

**Under open sky conditions

TEKTELIC Communications is a premier supplier of complete LoRaWAN® IoT solutions. Our end-to-end systems combine network infrastructure, devices, and applications to enable easy, fast, and cost-effective deployment for the most demanding IoT challenges.