

Solar Tracker

Harness the power of the sun for streamlined asset and personnel tracking with the Lansitec Solar Tracker. Built on GNSS, Bluetooth 5.0, and LoRaWAN technology, it provides accurate indoor and outdoor positioning while operating on a robust 3W solar panel and a 5300mAh rechargeable battery. Easy to install and configure, the Solar Tracker enables flexible scheduling for GNSS reports, heartbeat messages, and beacon data intervals—helping users optimize performance and power consumption. Ideal for vehicles, personnel, or medical assets, this eco-friendly device reduces downtime and boosts operational visibility, even in demanding environments.



Hybrid Indoor/Outdoor Tracking

Combines GNSS (<2.5m accuracy) for outdoor positioning with Bluetooth 5.0 for more localized, indoor asset monitoring.

Solar-Powered & Long-Lasting Battery

A durable 3W solar panel and 5300mAh rechargeable battery provide extended operation, reducing manual charging and maintenance.

LoRaWAN Connectivity

Transmit data over long distances (>2km in urban areas) without network fees, leveraging AES128 encryption for secure communication.

Adaptable Reporting Intervals

Adjust GNSS position, heartbeat, and beacon reporting frequencies to balance battery life with real-time visibility.

IP66-Rated Enclosure

Rugged design withstands dust, water, and extreme temperatures, ideal for challenging outdoor or semi-outdoor conditions.

Asset Management with BLE Tags

Gather data from nearby Bluetooth beacons—such as temperature or location—and relay them via LoRaWAN for centralized monitoring.

Offline Caching & FOTA

Store location data when out of network range and utilize firmware-over-the-air updates via Bluetooth to keep the device up-to-date.

iBeacon Broadcasting

The device supports Bluetooth broadcasting using the iBeacon protocol, with a default UUID of F2-A5-2D-43-E0-AB-48-9C-B6-4C-4A-83-00-14-67-FD, and Major/Minor values are the last 4 bytes of the device's DevEUI. The UUID, Major, Minor, Interval, and TX power in the broadcast are all configurable.

SCENARIO



VEHICLE TRACKING

Monitor real-time vehicle locations, speeds, and conditions to optimize dispatching and reduce operational costs.



PERSONNEL TRACKING

Enhance workplace security and efficiency by monitoring staff movements in sensitive areas or across large facilities.



Use solar-powered tracking in remote farmlands to safeguard expensive equipment, livestock, or valuable inventory without relying on constant battery replacements.

Track attendee flow, staff placement, and critical resources—such as medical stations—in expansive event spaces to improve crowd control and safety.

SPECIFICATIONS

Connectivity

Activation Mode	OTAA or ABP
LoRaWAN Protocol	LoRaWAN 1.0.2B
LoRa Frequency	US915, AU915, EU868, AS923, LA915, RU864, KR920, IN865, KZ865, CN470
LoRa TX power	0 to 20dBm
High TX Power Option	Max. 30dBm and -150dBm receiving sensitivity
LoRa Sensitivity	-139dBm @SF12, BW 125kHz, 434MHz/470MHz -137dBm @SF12, BW 125kHz, 868MHz/915MHz
Access Quantity	>500 in one LoRaWAN gateway
LoRa Communication Distance	>2km in the urban area
Encryption	AES128

Bluetooth

Bluetooth Protocol	5.0, iBeacon
Advertise Interval	100ms ~ 10s adjustable
Coverage Range	150m sight distance
Sensitivity	-96dBm
RF Power	-20~+4 dBm, configurable in 4 dBm steps

GNSS

GNSS	BEIDOU/GALILEO/GPS/GLONASS/QZSS/SBAS (WAAS, EGNOS, GAGAN, MSAS)
Accuracy	<2.5m (CEP50)
Cold Start Time Duration	30~120s

Functions

Configurable Bluetooth data filter and payload report	Filter any data bytes in a Bluetooth payload and report any via LoRaWAN
Adjustable Position Report Interval	5s x n (1 to 65536)
Heartbeat Report Interval	30s x n (1 to 255)

GNSS Position Report Interval	5s xn (1 to 65536)
FOTA over Bluetooth	Support
Temperature Report	Optional, please advise Lansitec upon ordering
Temperature Sensor Range	-40°C~+85°C
Temperature Accuracy	Chamber temperature in the beacon, ±5°C
Temperature Resolution	0.25°C
Multiple Bluetooth gateway LoRaWAN report synchronization	Sync the clock and LoRaWAN report
TDMA	Support
Bluetooth Data Compression	Support

PHYSICAL PARAMETERS

Dimension	160*160*55mm
Operating Temperature	-40°C ~ +70°C
Storage Temperature	-45°C ~ +85°C
Operating Humidity	0% ~ 95% (non-condensing)
Weight	460g
Ingress Protection	IP66

POWER

Standby Current	25µA
Switch	Support
Status LED	Support
Battery	Li-ion rechargeable battery 5300mAh
Solar Panel	3W

ORDERING INFORMATION

Product Description	Part Number
Tracker, built-in antenna, solar, BLE 5.0, GNSS, LoRaWAN, 160x160x55mm, IP66, 5300mAh	100-18361(FCC) 100-02538(CE)
Certification	CE, FCC, RCM