

LANSITEC[®]

Lansitec LoRaWAN

Container Tracker User Manual



Document Number: 990-00120

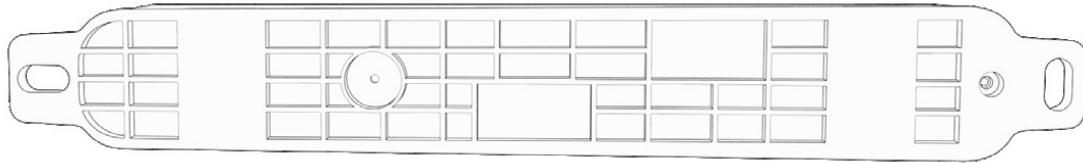
Rev. 1.0

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[Official product page](#)

1. Getting Started

Item	Quantity / purpose
Container Tracker	1
Magnets	2 - used for SWITCH operation and TD/tamper/door sensing during setup and deployment



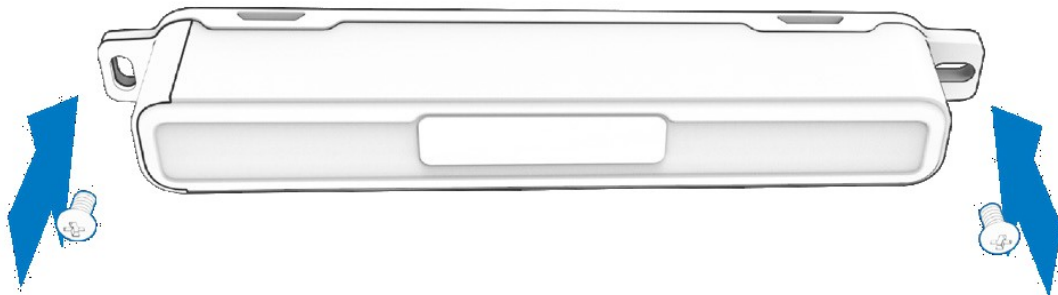
Bottom-side locations of SWITCH and TD (Tamper Detection).

Before deployment. Confirm the correct LoRaWAN regional configuration and OTAA/ABP credentials, then perform a network join test at the intended installation area.

2. Installation & Fixing

2.1 Screw mounting

Mount the tracker on a flat surface using the two end mounting holes. The shipping-container illustration below shows a typical mounting position.



Screw mounting method.

2.2 Strap mounting

For poles, frames or warehouse structures, route two suitable straps through/around the mounting points and secure the tracker firmly.



Strap mounting method.

3. Power, LED & Buzzer

Action / state	Operation / indication
Power ON	Attach a magnet to the SWITCH spot for more than 3 s, then remove it. The red LED flashes four times while the green LED is on; the buzzer sounds.
Power OFF	Attach a magnet to the SWITCH spot for more than 3 s, then remove it. The red LED flashes four times and the buzzer sounds.
LoRaWAN joining	Green LED remains on until the join attempt completes.
Quick network check	Briefly touch the SWITCH spot with the magnet: green flash = joined; red flash = connection lost; no LED = device off.
Power-off protection	The magnetic power-off function can be disabled by configuration so the tracker cannot be switched off locally.

4. Tamper & Door Status

Place a magnet at the TD point when tamper or door-state monitoring is required.

- **Tamper alarm:** when the magnet is removed from the TD point, the tracker can sound the buzzer and issue a tamper notification after the configured protection time.
- **Door status:** magnet proximity and departure can be reported as separate events, allowing the tracker and magnet to be mounted on opposite sides of a door.
- **Strong magnetic fields:** avoid installations where unrelated strong magnetic fields may interfere with the TD function.

5. LoRaWAN Commissioning

- The tracker supports OTAA and ABP and operates as LoRaWAN Class A.
- DevEUI or DevAddr is labeled on the device. Network credentials are normally provisioned before deployment.
- After a successful join, the tracker sends a registration message containing its current configuration.
- Default heartbeat reporting is 1 hour. Positioning intervals and operating modes can be changed by configuration.
- If the configured network-connectivity threshold is reached, the tracker attempts to rejoin automatically and resumes reporting after reconnection.

For decoded uplink verification during commissioning, use the [Lansitec Live Decoder Calculator](#)

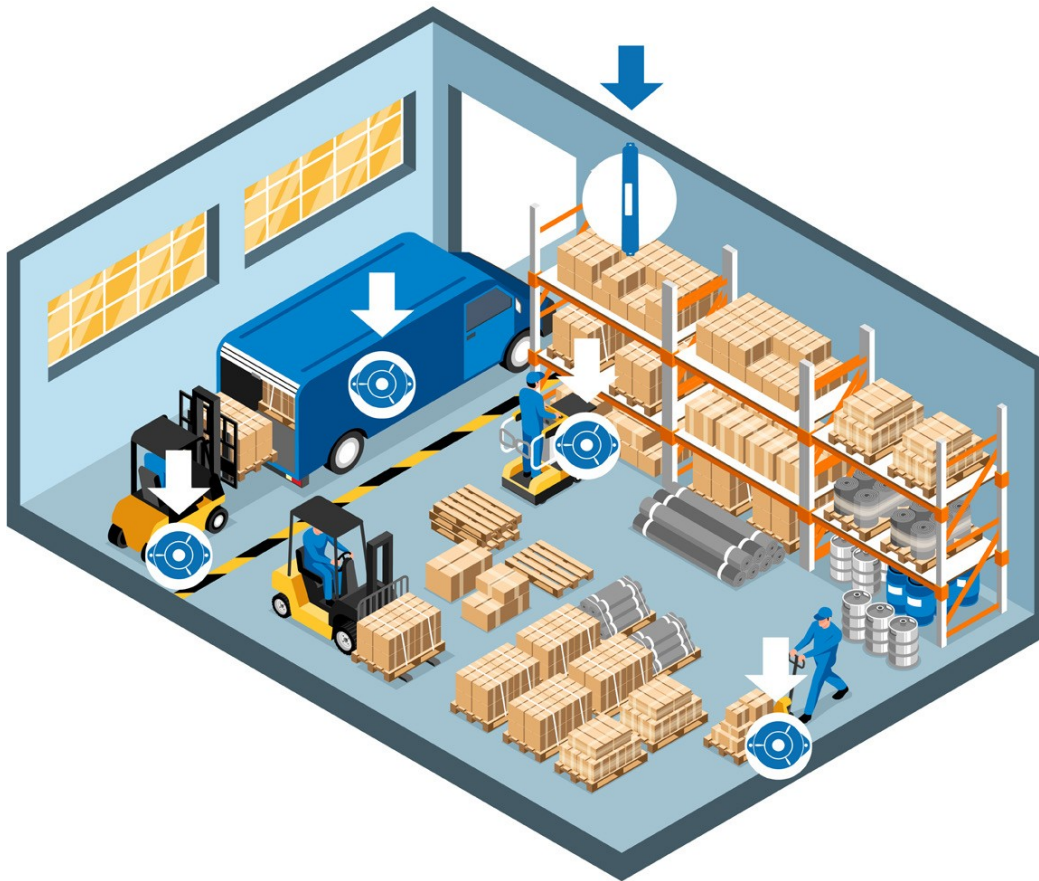
6. Positioning & Asset Management

Mode / function	Behavior
Periodic positioning	Runs the positioning process at the configured interval.
Autonomous positioning	Uses accelerometer state to decide whether a position cycle should be executed after movement.
On-demand positioning	Executes a position request after receiving the applicable downlink command.
Bluetooth positioning	Scans for positioning beacons for 3 s and reports the three strongest matching beacons.
GNSS positioning	Starts when no positioning beacon is detected and GNSS is enabled; timeout is 3 min.
Asset beacon management	Scans a separately configurable asset-beacon UUID; supports up to 105 asset beacons and batches reports when needed.
Offline cache	Retains up to 40 recent positions while the LoRaWAN link is offline.

7. Deployment Patterns

7.1 B-Mobile®

Use the Container Tracker as a fixed reference point and attach Bluetooth beacons to mobile assets. The tracker forwards nearby beacon IDs and RSSI to the server.



B-Mobile® example.

7.2 B-Fixed®

Deploy Bluetooth beacons at known fixed positions and attach the Container Tracker to the mobile asset. Nearby beacon IDs and RSSI support indoor position calculation.



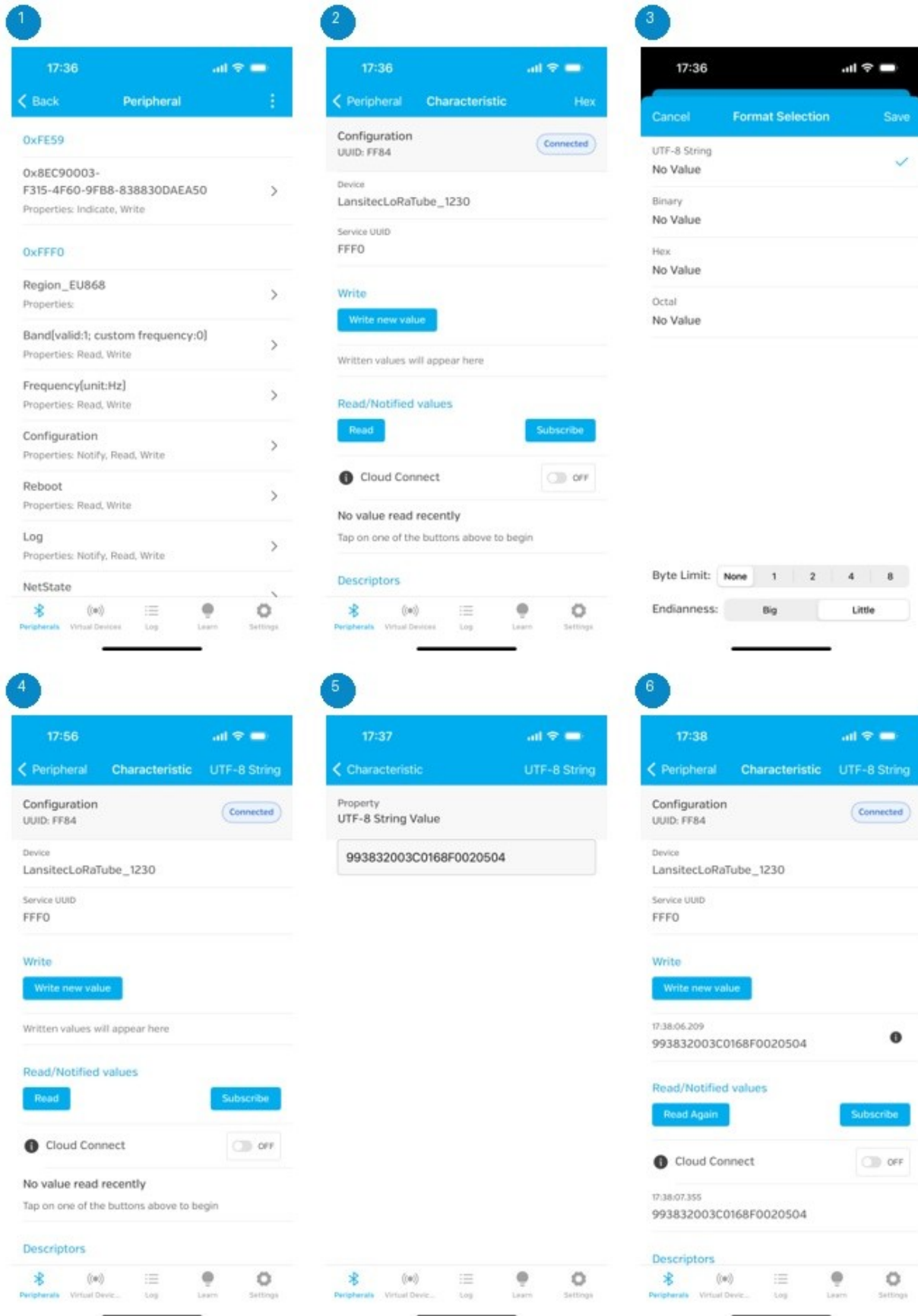
B-Fixed® example.

8. Configure the Tracker with a Phone

Local configuration is available over Bluetooth using the LightBlue application. Configuration values shown by the device are entered as UTF-8 strings; payload/configuration values are hexadecimal where specified.

- Power on the tracker and open LightBlue.
- Select the device named "LansitecLoRaTube_xxxx".
- Enter password "116321". Open the configuration page within 3 minutes after power-on; otherwise restart the tracker and try again.
- Available characteristics include regional band, custom frequency, Configuration and Reboot.

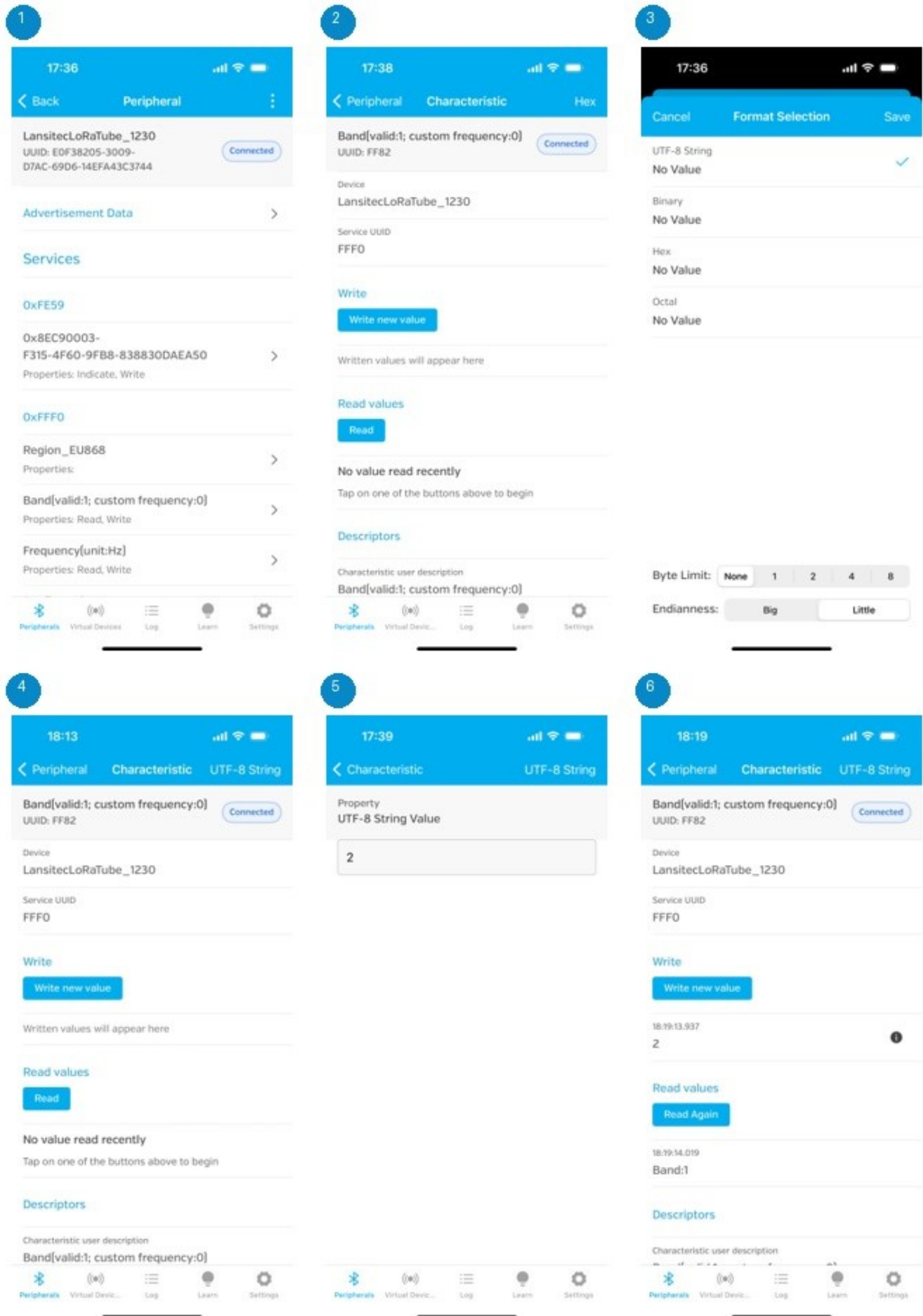
8.1 Configuration value



Configuration workflow: select Configuration, choose UTF-8 String, write the new value and confirm it in Written Values.

- 1. Select Configuration.
- 2. Open the characteristic and choose the data format.
- 3. Select UTF-8 String.
- 4. Choose Write new value.
- 5. Enter the required configuration value and send it.
- 6. Confirm the value under Written Values.

8.2 Regional band

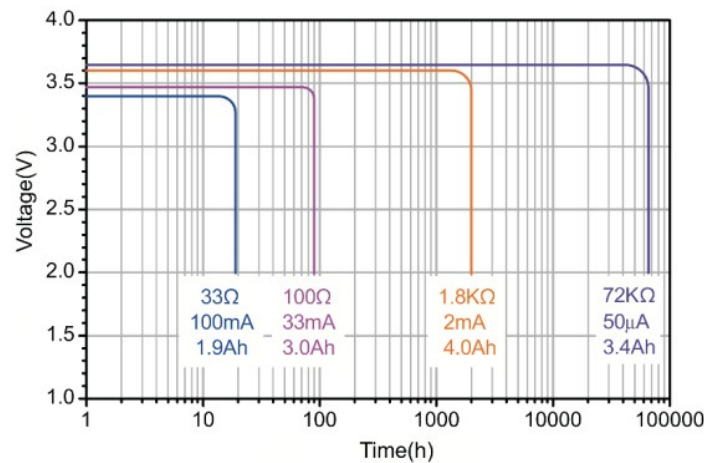


Regional band configuration workflow.

After changing configuration values, use the Reboot characteristic to restart the tracker so the new settings take effect.

9. Battery & Power Management

The tracker uses two ER18505 lithium-thionyl-chloride cells with a lithium-ion capacitor in the power stage. Battery voltage can sag under load and recover while idle.



Battery discharge behavior illustrated in the source datasheet.

- Replace the battery set if the reported voltage remains below 3.3 V for three consecutive heartbeat reports.
- When servicing the battery set, replace the capacitor at the same time where applicable.
- Power the tracker off before battery/capacitor service and observe battery polarity during installation.

Estimate lifetime before deployment. Reporting intervals, GNSS conditions, LoRaWAN parameters and BLE scanning affect the operating lifetime. [Use the Lansitec Battery Life Live Calculator.](#)

10. Firmware Update

FOTA over Bluetooth is supported. Use only firmware packages and release-specific update instructions supplied by Lansitec.

11. Troubleshooting

Symptom	Checks
No LoRaWAN join	Verify regional band, OTAA/ABP credentials, gateway coverage and antenna/RF environment.
Red LED on quick network check	The tracker has lost the LoRaWAN connection; verify coverage and allow the configured rejoin process to run.
No Bluetooth positioning	Verify BLE is enabled, the positioning UUID matches the deployed beacons and beacon RSSI is adequate.
GNSS does not fix	Move to an outdoor location with clear sky view; allow up to the 3-minute timeout.
Door/tamper event missing	Check magnet alignment at the TD point, configured proximity/alarm flags and TD protection time.
Unexpected battery drain	Review position/heartbeat intervals, GNSS timeout frequency, LoRaWAN data rate/TX power and asset-beacon scan/report settings.

Reference Documents

- [Lansitec LoRaWAN Container Tracker Datasheet - Document Number 990-00119](#)
- Lansitec LoRaWAN Container Tracker Payload Specification - Document Number 990-00121 - contact us at contact@lansitec.com to request access.
- [Lansitec Battery Life Live Calculator](#)
- [Lansitec Live Decoder Calculator](#)