OTM-GSM v2 Installation Guide - Customer

ADD-I-050-03c

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CHANGES

Version	Editor	Date	Page	Amendments by revision
00	Mathieu FUFFO	07/10/2022	General	00a/ Creation of the document
	Bastien BLASENHAUER	21/11/2022	General	00b/ Take into account AL proofreading
01	Charlotte MASSON	05/12/2022	General	01/ CM approval 01a/ Documentation update Changes: Addition of the "Installation recommendations - OTM BLE link" section. Diagram modification
	Lucas PARTEZANA	29/11/2023	4 & 11	
02	Séléna RAVETTA	29/11/2023	4 & 11	02/ SR approval
	Lucas PARTEZANA	19/12/2024	General	02a/ Added the LED section and updated the photos. Added autonomy and configurations and title change.
03	Lucas PARTEZANA	04/02/2025	General	03/ Approved by SR
	Alexis LATHIERE	07/07/2025	3	03a/ Operational temperature changes (185 to 176°F)

	Lucas PARTEZANA	02/09/2025	12	03b/ Deleting an image
	Alexis LATHIERE	12/09/2025	12	03c/ Add certification requirements (frequencies specification + decrease max operating temperature)
	Alexis LATHIERE	15/01/2026	13	03d/ Add regulation mention (FCC and IC)

1. Description

This document describes the recommendations for OTM-GSM installation.

2. List of tables

3. Presentation of the OTM-GSM v2

The OTM-GSMv2 is a fully energy-autonomous GPS tracker for equipment. It retrieves the GPS position and the activity of the equipment on which it is installed, whether it is in motion or stationary, and then transmits the data via the cellular network to the Localeez visualization and configuration platform.

Size	6.4 × 2.48 × 2.03 in
Weight	13.4 oz
Operating temperature	- 4 to + 149F
Operating voltage	7.2V nominal
Initial installation height	31.5in
	

Table 1 : Introduction to OTM-GSM

LTE Radio specifications

- 703 – 2620 MHz
- Bands list: 1, 3, 7, 8, 20, 28
- Power class 3, 23 dBm (applicable for each band)

BLE Radio specifications

- 2400 – 2483.5 MHz
- +10dBm peak

GNSS Radio specifications

- L1 : 1559 – 1610 MHz
- GPS, GLONASS, BEIDOU, GALILEO

This product has been designed to track non-motorized assets while ensuring autonomy tailored to our clients' needs. Below, you will find detailed information about its autonomy based on usage.

These lifespan estimates are theoretical and were obtained under normal usage conditions in a controlled environment, with temperatures ranging from 64.4°F to 77°F. Please note that environmental conditions, particularly temperature (weather, heat waves, cold snaps), may affect the lifespan. Moreover, the lifespan is directly related to the frequency of use. More frequent usage will reduce battery life, as shown in the graphs below.

OTM LTE V2:

Start and Stop Mode
Product facing the sky with good network coverage.
GPS Fix : 30-45sec
LTE Connectivity : 5-10 sec

Number of Position / Day	Battery Life
1	7 years
4	6 years
12	2,5 years
24	1 years

OTM LTE V2:

Start and Stop Mode
BLE Connectivity with FAMA box with 50% of data through Motorized Asset
Product facing the sky with good network coverage.
GPS Fix : 30-45sec
LTE Connectivity : 5-10 sec

Number of Position / Day	Battery Life
1	8 years
4	7 years
12	4,5 years
24	2 years

This estimate is also theoretical and relies on a sufficient density of FAMAs in the environment to achieve at least 50% communication via the FAMAs.

4. Commissioning procedure

4.1. System activation

To activate the system, an activator must be placed in the dedicated area on the bottom side of the OTM-GSM v2 for 2 seconds (see Table 2). To confirm activation, the green LED will light up for 100 ms, and the module will be visible on LHC mobile for 10 seconds. After waking up, regardless of the OTM's state, simply hold the magnet in front of the device for 2 seconds to make it visible on LHC Mobile. This then allows it to be available for configuration.

Table 2 : Location of the magnet

4.2. LED Operation

The OTM GSM is equipped with an LED that provides information about its operation during installation.

There is a GUI parameter that allows the activation of the LED operation on the OTM. Enabling this UI mode is done via remote configuration using LHCM or LHC GSM. By default, the LED is disabled

When the UI option is enabled: The LED blinks for 10 ms every 3 seconds when it is not in standby mode to indicate that it is alive."

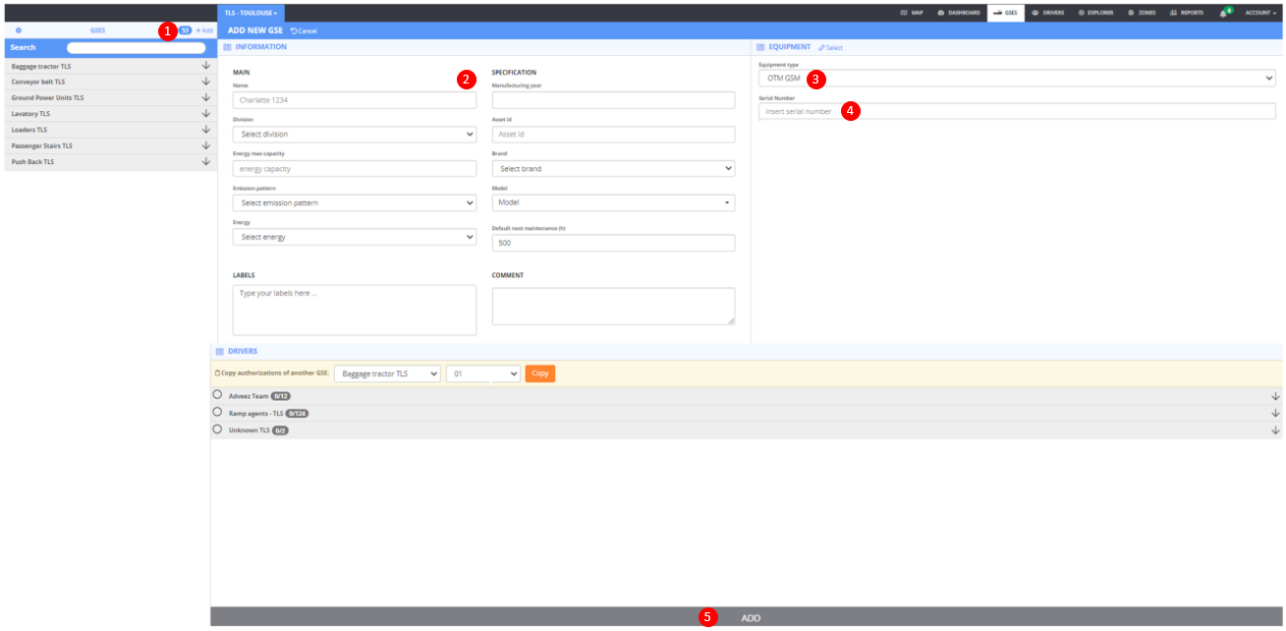
- As long as the LED is blinking, it means the OTM has not completed the operations it needs to carry out (fixing, transmitting data, etc.).

When the UI option is disabled: The LED no longer blinks when the OTM is active.

- However, even if the UI is disabled, the LED will light up during a power reset (battery connection) or when exiting standby mode forced by the magnet.

To activate this option, please contact Adveez support.

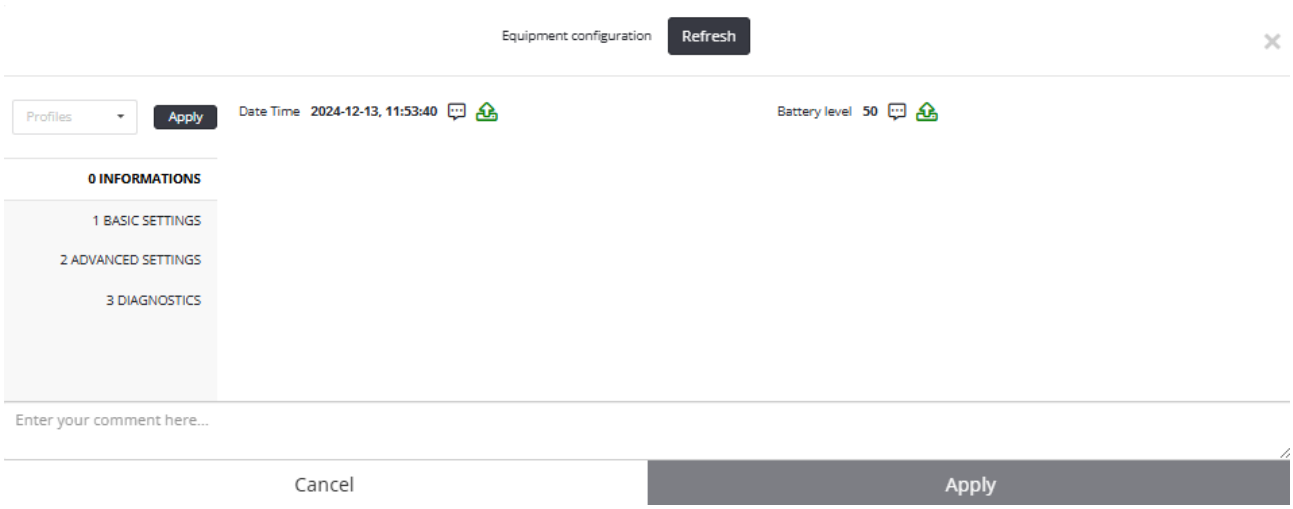
4.3. Add equipment on Localeez



1. Click on the "+Add" button to add a new GSE.
2. Enter the GSE information (name, division, make & model, energy, ...).
3. Select OTM-GSM in "EQUIPMENT".
4. Enter the serial number of the OTM-GSM.
5. Click on "ADD".

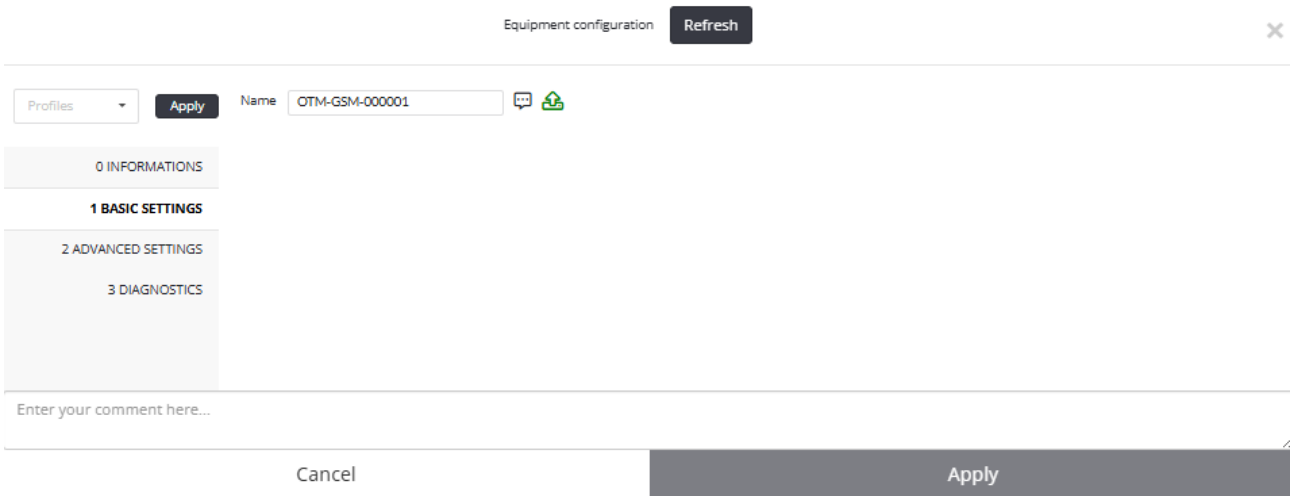
The following steps detail all the settings of the equipment. On Localeez, in the gses tab, then in the configuration section.

4.4. INFORMATIONS



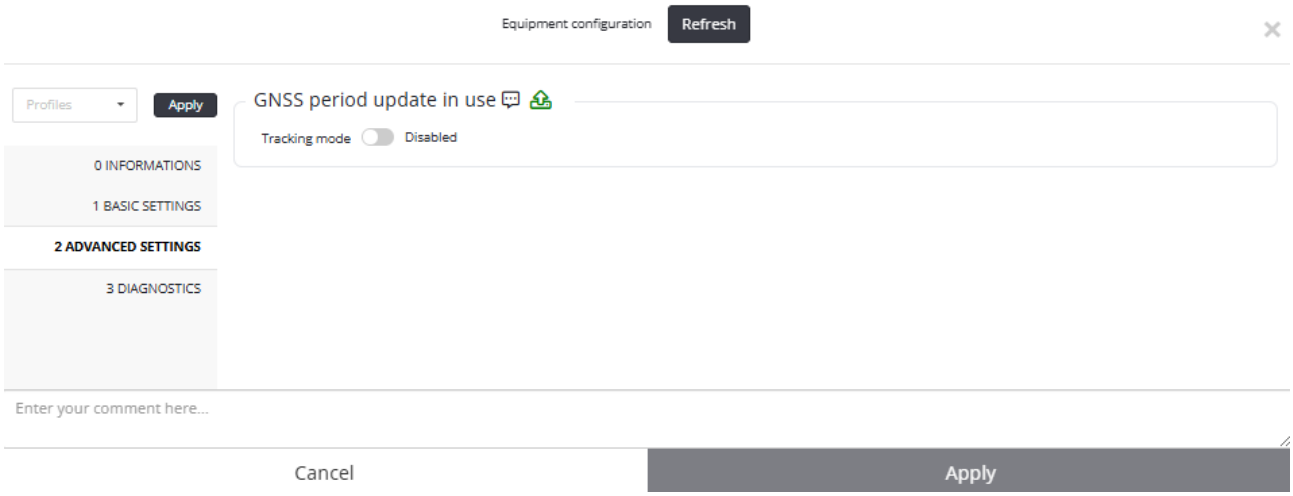
- Date time: Gives the internal date and time of the OTM-GSM, date of configuration request.
- Battery level: Gives the internal battery charge level of the OTM-GSM (0% to 100%).

4.5. BASIC SETTINGS



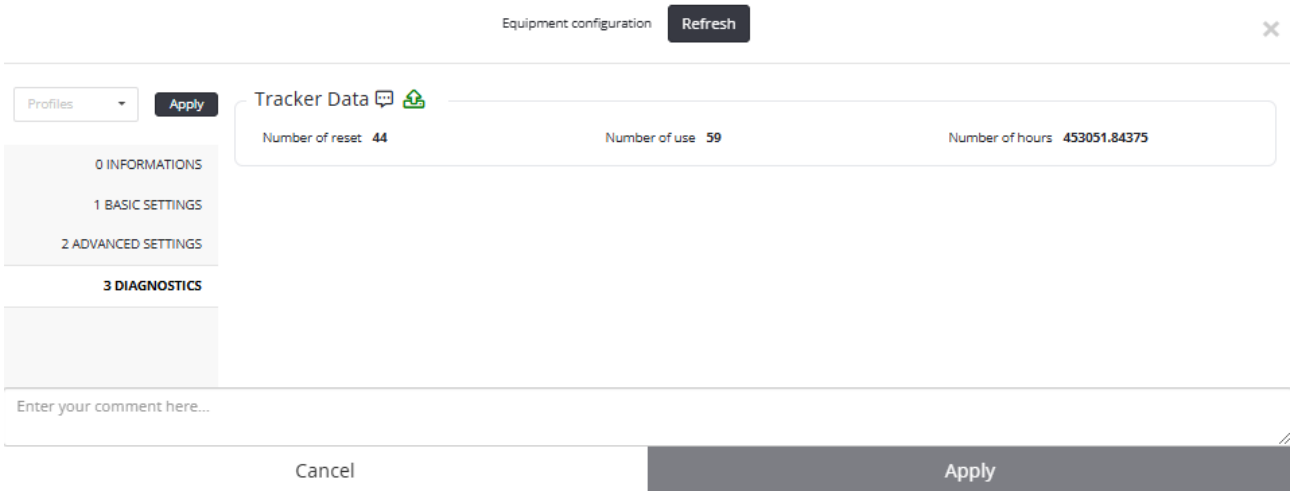
- Name: Allows to change the name of the OTM-GSM. Usually, the name of the OTM-GSM is the ID of the GSE. Note, this is the name that will appear on LHC Mobile.

4.6. ADVANCED SETTINGS



- Tracking mode: Enables or disables tracking mode.
  ⚠: Enabling tracking mode on an OTM-GSM decreases its battery life

4.7. DIAGNOSTICS



- Number of reset: Indicates the number of times the OTM GSM v2 has been reset.
- Number of use: Indicates the number of uses since the beginning of its life.
- Number of hours: Indicates the number of hours (hours in use) since the beginning of its life.

5. Installation recommendations

Note: Incorrect positioning of the module on the GSE can have impacts on GPS and long-distance communication. Thus, during its installation, the product must comply with one of the first 2 orientations contained in Table 4.

Optimal installation orientation		Orientation not recommended	Misdirection
Sky 	Sky  The opening part facing down.	Sky 	Sky  The opening part is facing upwards, or the Adveez logo is upside down.

Table 3 : Installation Recommendation

Fleets equipped with FAMAs and OTMs may have other installation recommendations. A BLE link between OTMs and FAMAs has been developed to enable the OTM to save battery power; using the FAMA as a long-distance transmitter, the OTM only needs to communicate information to the FAMA in BLE.

The OTM must therefore be oriented toward the direction of the FAMA and installed face up, with unobstructed line of sight to the sky. Here are some examples. The transmitter (in red) is located at the vent of the device. The transmitter points towards the vehicle where the FAMA is installed as shown in the image below.
Note: the vent is the 4 small square holes next to the label on the device

Table 4 : Installation Recommendation – For BLE Link

The attachment of the OTM-GSM to a GSE is conducted:

- Either by magnets
- Either by screws
- Either by hose clamp

Table 5 : The different means of fixing (Magnet, Screw and Hose Clamp)

5.1. Installation examples

Table 6 : Installation examples

5.2. Test

1. To begin, the icon of the GSE equipped with the OTM-GSM v2 must be green. This means that the OTM-GSM v2 is stationary, and its position on the Localeez map should match its location at the

airport. It is sometimes necessary to perform several movements (waiting 2 minutes between each movement) to allow the OTM-GSM v2 to lock onto GPS satellites.

2. When the GSE is in motion, the icon turns red. (Note, when mounting the OTM-GSM v2 on the GSE, motion detection may occur, so please wait 10 minutes before making a new movement). It is recommended to wait 15 minutes to allow the GPS to acquire its first position. This delay includes a waiting time of up to 3 minutes to obtain the first position and ensure the GNSS data is updated for subsequent positions

3. When the GSE is no longer in motion, the icon turns green again, and it becomes available once more.

OTM-GSM is Stationary (Green)	OTM-GSM in Use (Red)
	

Table 7 : GSE Icon

5.3. Configuration

To optimize lifespan according to the use case, configurations affecting autonomy and operation are not available. Configuration changes must be requested from Adveez support.

List of available options:

Feature name	Description	Constraints / Impac
Tracking mode	Allows intermediate positions to be recorded, in addition to the starting position and final position, during a long movement or displacement (longer than 10 minutes)	Reduced autonomy
BLE link	Allows the OTM to use the FAMAs in its vicinity (10-15m) as a gateway to send its information.	Improved autonomy if the FAMA density is sufficient.

6. Disclaimer

6.1. Warning to users in the United States

Federal Communications Commission Interference
47 CFR Ch, PART 2, PART 15

FCC ID : *R8T-OTMGSMV2*

FCC Compliance Statement (Part 15)

This OTM GSM V2 device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Statement (§15.105(b))

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception which can be determined by turning the equipment off and on, the user is encouraged to try to correct interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

Rf Exposure

This device complies with FCC RF radiation exposure limits set forth for the general population (uncontrolled exposure). This device must be installed to provide a separation distance of at least 20cm from all people and must must not be co-located or operating in conjunction with any other antenna or transmitter

NO UNAUTHORIZED MODIFICATIONS

FCC Compliance Statement Section 15.21

CAUTION: This equipment may not be modified, altered, or changed in any way without signed written permission from ADVEEZ. Unauthorized modification may void the equipment authorization from the FCC and will void the ADVEEZ warranty.

6.2. Warning to users in the Canada

IC ID : *21312-OTMGSMV2*

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada’s licence-exempt RSS(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Rf Exposure

This device complies with ISED radiation exposure limits set forth for general population. This device must be installed to provide a separation distance of at least 20cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.