EMILIANA SERBATOI
ADVANCED FUEL SOLUTIONS
40 YEARS 1983-2023
Emiliana Serbatoi S.r.l. - Largo Maestri del Lavoro, 40 - 41011 Campogalliano (MODENA) Italy / P.iva e C.F 01499200366
Tel. **+39-059-521911** / Fax +39-059-521919 / emilianaserbatoi.com / **info@emilianaserbatoi.it**

EMIL LEVEL

TECHNICAL SPECIFICATIONS

Hardware Features

Item	Detail
Sensor type	Laser
Reading Frequency	Every Hour
Communication	NB-IoT / CAT-M
Data Backup	7 Days offline (150 Readings)
Thread Type	1,5" e 2" Gas Thread / Glass-filled Nylon
Power Supply	2 Alkaline C-Type batteries 1.5V / LR14
GPS Geolocation	Integrated
NFC	For Android / iOS mobile APP
Max level reading Height	3 mt
Operating Temperature	Range - 10° + 55°

Battery Replacement Technical Note:

Be careful NOT TO DAMAGE the electrical wires and ensure the gasket is properly in place during replacement.

IN-APP ALERT MANAGEMENT

Status, Subscription, and Notification Management

Status	Icon	Action
No Measurement > 2 Days	Red Clock Icon	The sensor is not recording new levels or has a different position compared to the initial reading from 2 days ago, or it is outside the data network coverage.
Low Level Battery	Battery Icon	Replacement Required.
Data Plan Active	Data plan Icon	Renewal available via the online app.
Data Plan Expired	Icon	Deactivation occurs after 15 days without renewal.

EMILIANA SERBATOI
ADVANCED FUEL SOLUTIONS
40 YEARS 1983-2023
Emiliana Serbatoi S.r.l. - Largo Maestri del Lavoro, 40 - 41011 Campogalliano (MODENA) Italy / P.iva e C.F 01499200366
Tel. **+39-059-521911** / Fax +39-059-521919 / emilianaserbatoi.com / **info@emilianaserbatoi.it**

SOFTWARE SPECIFICATIONS

OPERATION AND LOGIC OF FUNCTIOING

1. App available for Android devices via Play Store and iOS via Apple Store.
2. The sensor will perform readings using either a customized centimeter scale or a predefined one for existing tanks. The app also allows for OFFSET calibration adjustments, useful in cases where the height exceeds the base diameter due to manhole constraints (e.g., Tank Fuel or similar). The sensor will automatically measure the level every hour unless it has been set to Standby mode.
3. STANDBY mode can be activated and deactivated via the app or by "TAP" on the sensor using NFC reading.
   (📌 "TAP" refers to the procedure of reading an EMILLEVEL sensor via smartphone using NFC.)
4. After 2 days of inactivity in the same position with the same reading, the sensor will still update the app with the latest possible reading, provided there is a data network signal.
5. In case of no data network coverage, the sensor will store up to 150 readings and send them to the app once it reaches a coverage area. Upon publishing a new valid measurement, the sensor will also update the app with any historical data not previously sent.
6. Data transmission updates are triggered by changes in level compared to the previous reading. If the level remains unchanged in subsequent hourly readings, the previous reading will remain valid and no update will occur.
7. GPS Geolocation Update: The position will also be updated under the following condition:
   a. If the sensor detects movement for more than 5 minutes via its internal accelerometer, level readings will be suspended and data communication will be disabled.
   b. Measurement and reading will resume only after the sensor detects a stationary period of at least 30 minutes.
   (Measurement inhibition during movement > 5 min – Resumption of level and GPS readings after ≥ 30 min stationary)
8. GPS Geolocation icons in the app: Not Updated / Updated
9. The sensor will perform readings even under tilt conditions with the following reliability:
   a. - OK up to ±5° / Between ±5° e ±10° / Beyond ±10°

   If the sensor detects a tilt beyond ±10°, no reading will be performed and no level will be displayed, as the measurement would be completely out of range and therefore unreliable.
10. The sensor will also provide temperature measurement, associated with each reading verified as valid

Emiliana Serbatoi S.r.l. - Largo Maestri del Lavoro, 40 - 41011 Campogalliano (MODENA) Italy / P.iva e C.F 01499200366
Tel. **+39-059-521911** / Fax +39-059-521919 / emilianaserbatoi.com / **info@emilianaserbatoi.it**

11. Daily Log: In the dedicated log section within the app, the following will be available and visible:

    a. The 24 daily readings (*1 per hour if data network coverage is available, even if the measurements have not changed*), storing the last 150 valid readings in total.

    b. The level measurement at that precise moment.

    c. The GPS position assigned to that valid reading.

DATA NETWORK PLAN AND SUBSCRIPTION

1. The sensor includes a 2-year eSIM data subscription with purchase.

    a. **Condition 1**: 30 days before the subscription expires, a renewal notice will appear in the "tank list" section of the app, linked to the tank where the specific sensor is installed. After the 30-day expiration period, the sensor will continue to operate for an additional 15 days to prevent critical downtime or missed renewals.

    b. **Condition 2**: After the following 15 days, the sensor will automatically switch to OFFLINE mode.

    c. **Condition 3**: If payment is made BEFORE the expiration date, the sensor will continue to operate without interruption.

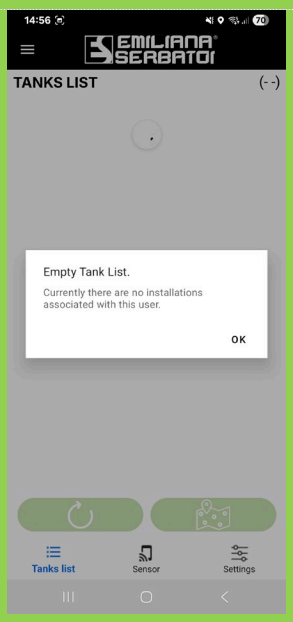
    d. Condition 3_B: If payment is made AFTER the subscription has expired, the sensor will require 1 day of automation to be reactivated by the server.

Emiliana Serbatoi S.r.l. - Largo Maestri del Lavoro, 40 - 41011 Campogalliano (MODENA) Italy / P.iva e C.F 01499200366
Tel. **+39-059-521911** / Fax +39-059-521919 / emilianaserbatoi.com / **info@emilianaserbatoi.it**

APPLICATION INTERFACE SECTIONS

FUNCTIONAL CAPABILITIES OF THE SOFTWARE

1.



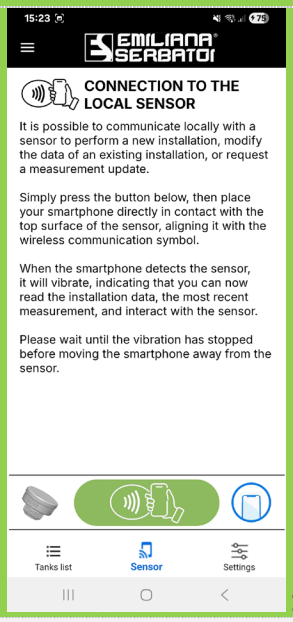
IMG. 1. : When the software is first opened—newly installed and properly configured—with the account registration completed as described in the **QUICK START GUIDE**, the list of sensors linked to tanks will naturally be empty.

The software features a menu structure with the main options located at the bottom of the screen, namely:

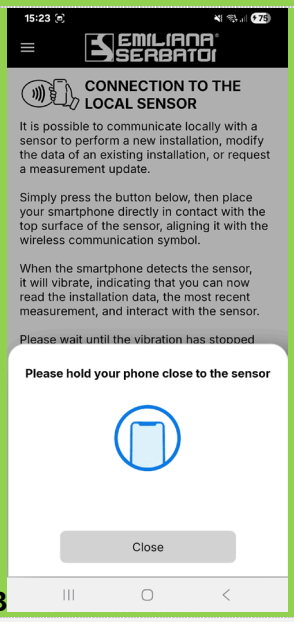
- **TANK FUEL LIST (**bottom left**)**
- **SENSOR** (Bottom center)
- **SETTINGS** (bottom right)

Above these, two green buttons are displayed: **"UPDATE TANK FUEL LIST"** and **"EMIL LEVEL GPS POSITION"**. These will be explained in detail in the following sections of the manual.

2.



2.B

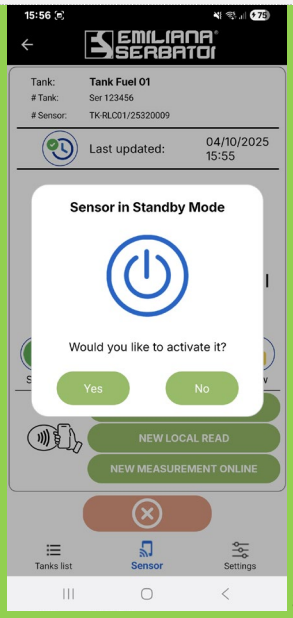


IMG. 2. : By clicking on the SENSOR icon, located as described at the bottom center of the screen, the sensor reading page will appear. A green icon will be displayed, which must be pressed to put the smartphone into NFC listening mode.

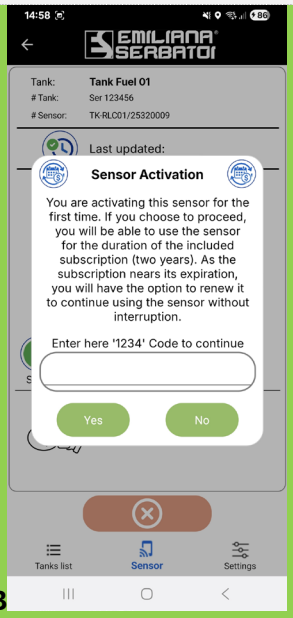
IMG.2.B: By pressing this button , the software will prompt an NFC reading of the sensor, whether it is new or has already been previously activated.

📌 *(You can access the manual reading / online reading option, or use it to change the configuration IMG. 9 – IMG. 9.B)*

EMILIANA SERBATOI
ADVANCED FUEL SOLUTIONS
40 YEARS 1983-2023
Emiliana Serbatoi S.r.l. - Largo Maestri del Lavoro, 40 - 41011 Campogalliano (MODENA) Italy / P.iva e C.F 01499200366
Tel. **+39-059-521911** / Fax +39-059-521919 / emilianaserbatoi.com / **info@emilianaserbatoi.it**



3.



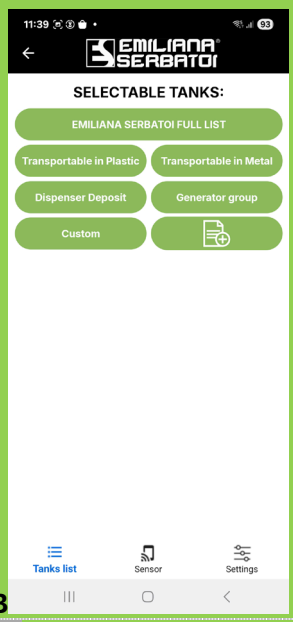
3.B

IMG. 3. : By placing the smartphone near the sensor, IF the reading is successful, a confirmation of sensor activation will appear. The sensor, when new, is shipped from production in STANDBY mode.

⚠ *(If a sensor reading error occurs due to the different positioning of the NFC chip depending on your smartphone model, please try the reading again)*

IMG. 3.B : To confirm activation, manually enter the code **1234 > YES** as requested by the software, and proceed with configuring the sensor by selecting the appropriate tank model.

4.



4.B

IMG. 4. : Once the activation of the sensor is confirmed by entering the code **1234 > YES**, the software will display the sensor configuration screen, allowing you to select the tank model on which the sensor will be installed.

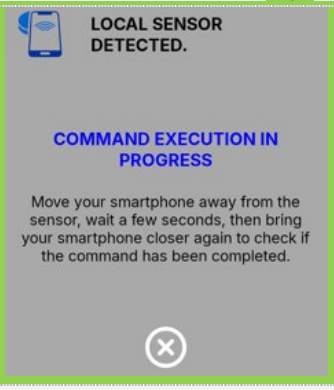
As a first step, the activation selector at the top must be switched from STANDBY mode to **ACTIVE** mode.

⚠ *(Battery usage activation will begin once the selector is set to ACTIVE mode, at the moment the tank configuration is saved.)*

IMG. 4.B : Next, you can select the tank model to assign to the sensor from a preconfigured and grouped list, using the "MODEL" button. (> **IMG. 5**)

By selecting the **CUSTOM > +** button, you can choose a custom tank, with the option to upload a personalized table using the IMPORT DATA FROM CSV FILE button, or to preselect a geometric shape based on height, width, and even depth values. In this case, the software can generate a custom table, which can then be manually edited at any time using the GENERATE TABLE button.

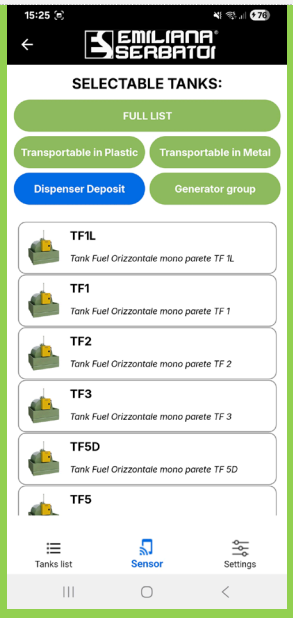
Save to confirm the creation of the tank.



⚠

📌 In the case of multiple NFC readings after configuring EMIL LEVEL, the command shown in the image indicates that communication with the server is in progress to complete the configuration.
As mentioned, it is necessary to wait for the full activation and saving of the changes, which will be applied by the server as quickly as possible.

EMILIANA SERBATOI
ADVANCED FUEL SOLUTIONS
40 YEARS 1983-2023
Emiliana Serbatoi S.r.l. - Largo Maestri del Lavoro, 40 - 41011 Campogalliano (MODENA) Italy / P.iva e C.F 01499200366
Tel. **+39-059-521911** / Fax +39-059-521919 / emilianaserbatoi.com / **info@emilianaserbatoi.it**



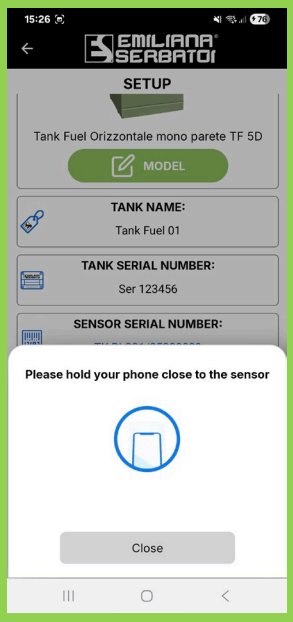
5.

5.B

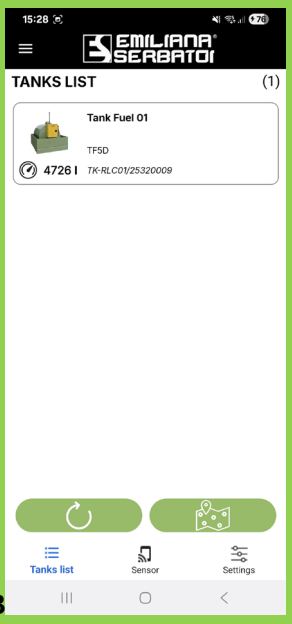
IMG. 5.B. : When selecting a tank from the various preconfigured compatibility lists, the software will prompt you to enter the necessary options according to your preferences, including:

- **TANK FUEL NAME**
- **TANK FUEL REGISTRATION NUMBER**
- **EMIL LEVEL SERIAL NUMBER**
  (This field will be pre-filled, as it is automatically retrieved via NFC)
- **SELECTED LIQUID TYPE** (DIESEL or ADBLUE)
- **OPTIONAL READING OFFSET :**
  In case the sensor is positioned higher than the base diameter of the tank.

⚠ *All tanks listed in the APP are already preconfigured with the centimeter calibration table required by the sensor to accurately read liquid height levels.*



6.



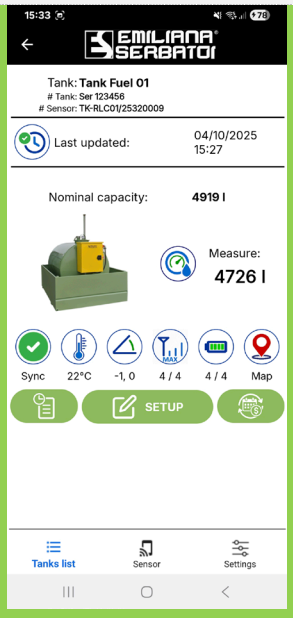
6.B

IMG.6. : Once all options have been selected as needed, pressing the "SAVE" button at the bottom will prompt the software to perform a new NFC reading, just as it was done during the initial SETUP..

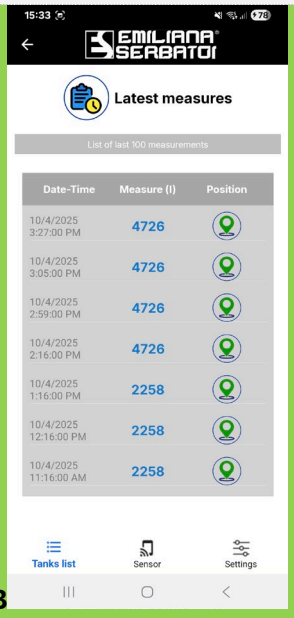
IMG. 6.B. : Once the reading is successfully completed, the sensor will be added to the list of tanks on the software's main page.

⚠ *(Sensor activation will take approximately 1 to 2 minutes to appear in the list.. Press the "REFRESH LIST"* *button to manually update the page).*

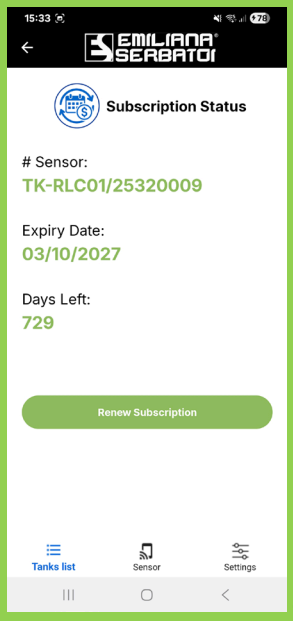
EMILIANA SERBATOI
ADVANCED FUEL SOLUTIONS
40 YEARS 1983-2023
Emiliana Serbatoi S.r.l. - Largo Maestri del Lavoro, 40 - 41011 Campogalliano (MODENA) Italy / P.iva e C.F 01499200366
Tel. **+39-059-521911** / Fax +39-059-521919 / emilianaserbatoi.com / **info@emilianaserbatoi.it**



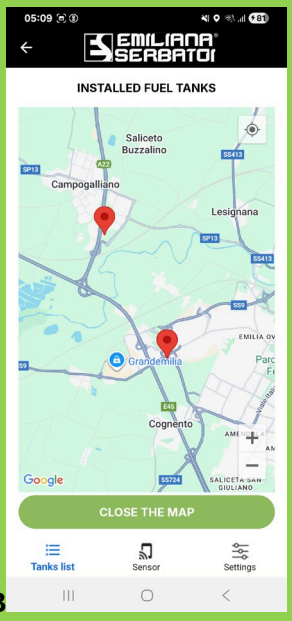
7.



7.B



8.



8.B

IMG. 7. : By clicking on the assigned tank listed on the screen, you will access the configuration page and view the tank status based on the latest valid online reading. At the top of the page, the tank's name, registration number, and serial number will be displayed.
Just below, the latest valid online reading will be shown—for example, as illustrated in the image: **04/10/2025 15:27**.
In the center, the tank fuel will be displayed along with its options, and next to it, the quantity of liters detected during the last valid reading.

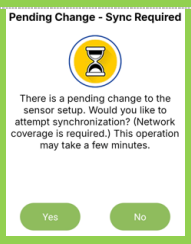
Below the tank, the following icons will be available:

- **SYNC**
- **TEMPERATURE**
- **SENSOR INCLINATION** (in degrees)
- **DATA NETWORK SIGNAL**
- **SENSOR BATTERY LEVEL**
- **GPS POSITION** (IMG.8.B)

By clicking on each option, a POPUP will appear with a brief explanation of the selected feature, although the icon design itself already makes the function quite intuitive.
By clicking on the GPS icon, a map will open showing the last valid GPS position detected by the sensor. The map will display the most recent valid location of all EMIL LEVEL devices. **(Reference: OPERATIONS AND FUNCTIONAL LOGIC – Page 2, Point 8)**

Below the six service icons, the following three buttons are available:

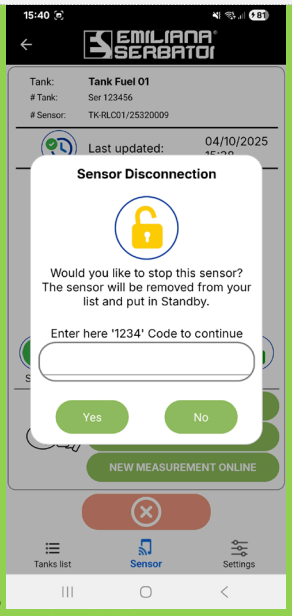
- **OPERATION LOG** (IMG. 7.B)
  (Displays the reading history, up to the last 150 valid entries)
- **SETUP**
  (Allows verification or modification of the tank configuration if needed)
- **eSIM DATA PLAN** (IMG. 8)
  (Shows the current data plan and allows updates in case the data subscription has expired)



Using the **SETUP** button, it is possible to modify the configuration. If the original SETUP is changed, a "double-check" confirmation will be required upon saving, as usual. This is to prevent unintended or accidental modifications.
By pressing the **YES** button, the new configuration will be confirmed and saved, and synchronization with the server will be required.

EMILIANA SERBATOI
ADVANCED FUEL SOLUTIONS
40 YEARS 1983-2023
Emiliana Serbatoi S.r.l. - Largo Maestri del Lavoro, 40 - 41011 Campogalliano (MODENA) Italy / P.iva e C.F 01499200366
Tel. **+39-059-521911** / Fax +39-059-521919 / emilianaserbatoi.com / **info@emilianaserbatoi.it**

9.



9.B

IMG. 9: By performing a "TAP" on EMIL LEVEL
(📌 "TAP" refers to the procedure of reading an EMIL LEVEL sensor via smartphone using NFC)

The sensor, in addition to allowing configuration changes either due to necessity or to reassign it to a different tank model can be accessed via the standard NFC reading procedure used during initial activation. This will open the "hidden" options page, where the following management functions are available:

- **CHANGE SETUP** (Modify configuration)
- **LOCAL READING**
- **NEW ONLINE READING**

CHANGE SETUP:
This option allows you to convert the sensor from a tank of type A to a tank of type B, changing its model, name, and serial number.

LOCAL READING:
With this option, you can perform a level reading via NFC at any time, without waiting for the next scheduled update, to immediately view the tank level.

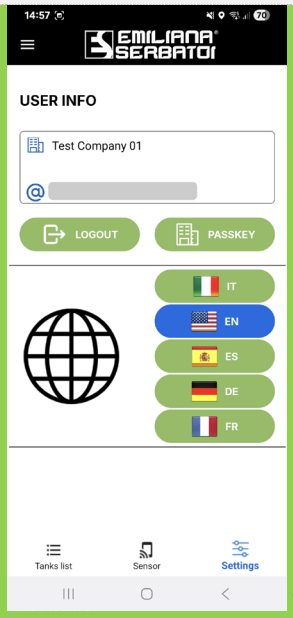
⚠️ (The local reading updates the level only on your smartphone. Other users will not be notified of this updated reading.)

NEW ONLINE READING:
This option allows you to perform an NFC reading on the sensor and receive the updated level in real time. This measurement will be published online and made visible to all users within the company.

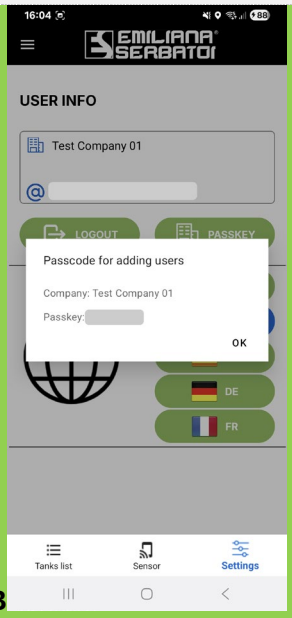
IMG. 9.B: The last button at the bottom
Allows the sensor to be disconnected from its current configuration, effectively releasing it from the assigned tank. Once disconnected, the sensor will automatically return to its initial STANDBY mode.

⚠️ (To confirm sensor deactivation, the system requires entering the code 1234 > YES, ensuring protection against accidental deletion through a "double-check" safety method.)

EMILIANA SERBATOI
ADVANCED FUEL SOLUTIONS
40 YEARS 1983-2023
Emiliana Serbatoi S.r.l. - Largo Maestri del Lavoro, 40 - 41011 Campogalliano (MODENA) Italy / P.iva e C.F 01499200366
Tel. **+39-059-521911** / Fax +39-059-521919 / emilianaserbatoi.com / **info@emilianaserbatoi.it**



10.



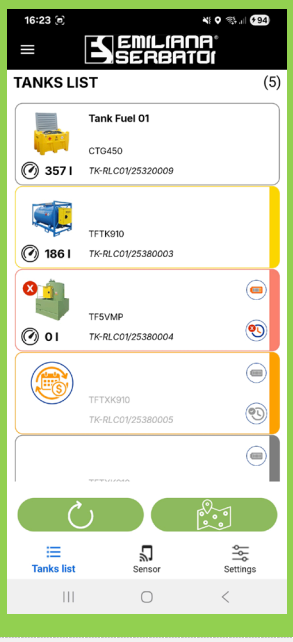
10.B

IMG. 10. : In the last button at the bottom right, **SETTINGS**, you will find the page displaying the **COMPANY NAME** and the assigned **PASSKEY**, as shown in **IMG. 10.B.**

📌 This information allows other users from the same company to connect and view the same tanks — for this step, READ THE QUICK GUIDE, **BLUE section > JOIN EXISTING COMPANY.**

The app also offers the option to LOG OUT and to change the application language, currently available in:

- **ITALIAN**
- **ENGLISH**
- **SPANISH**
- **GERMAN**
- **FRENCH**



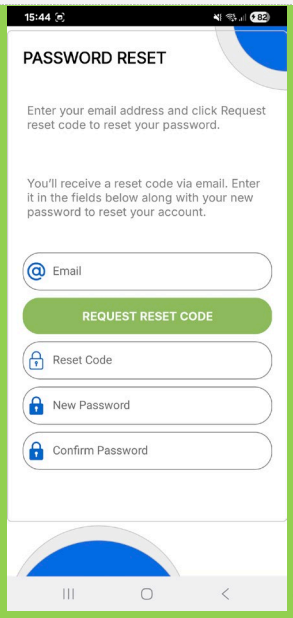
11.

IMG. 11. : In the list of previously configured tanks, displayed on the HOME PAGE, the EMIL LEVEL sensors linked to the tanks may show a reserve level status, meaning:

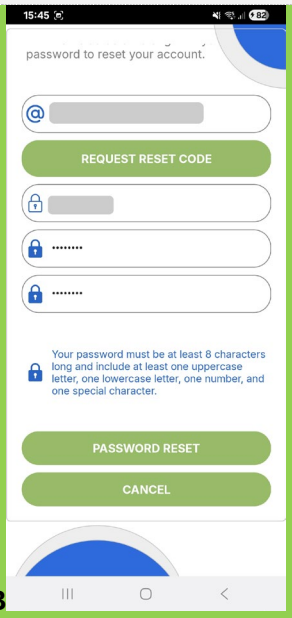
🟧 Yellow: from 10–20%/ 🟥 Red: Below < 10%

In addition to displaying in ORANGE those sensors with an expiring data network subscription, the ones set to STANDBY mode will appear in GREY.

EMILIANA SERBATOI
ADVANCED FUEL SOLUTIONS
40 YEARS 1983-2023
Emiliana Serbatoi S.r.l. - Largo Maestri del Lavoro, 40 - 41011 Campogalliano (MODENA) Italy / P.iva e C.F 01499200366
Tel. **+39-059-521911** / Fax +39-059-521919 / emilianaserbatoi.com / **info@emilianaserbatoi.it**



12.

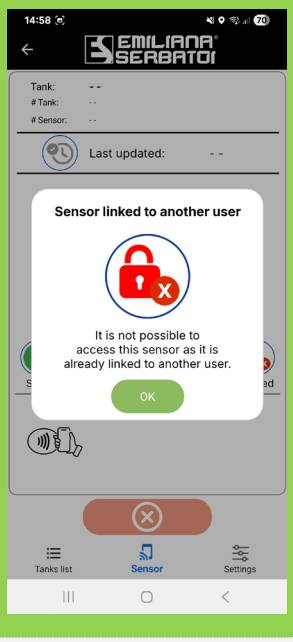


12.B

IMG. 12. : In case of a forgotten LOGIN password, you can recover your account password by entering the previously configured email address and then pressing the green button: **SEND RESET CODE**.

An email containing a **RESET CODE** will be sent to the configured email address. This code must be entered in the designated RESET CODE box, along with your preferred new password, typed twice to confirm correct entry.

IMG. 12.B. : By finally pressing the RESET PASSWORD button, you will receive confirmation that your account password has been successfully changed. At this point, you can log in using your updated email credentials and the newly replaced password.



13.

IMG. 13. : In case of loss or theft of an EMIL LEVEL sensor, it cannot be configured or used by any account outside the original COMPANY group.

This can only be done if the previous owner of the EMIL LEVEL has disconnected it from their assigned tanks using the procedure described in Reference **IMG. 9 / 9.B**, and has subsequently set the sensor to STANDBY mode.

EMILIANA SERBATOI
ADVANCED FUEL SOLUTIONS
40 YEARS 1983-2023
Emiliana Serbatoi S.r.l. - Largo Maestri del Lavoro, 40 - 41011 Campogalliano (MODENA) Italy / P.iva e C.F 01499200366
Tel. **+39-059-521911** / Fax +39-059-521919 / emilianaserbatoi.com / **info@emilianaserbatoi.it**

QUESTION & ANSWERS

1. How can I add a colleague or team member to my company?

As described in the quick guide, the already registered colleague must provide the new user with the COMPANY NAME and PASSKEY, which can be found in the SETTINGS page, IMG. 10.B of this manual. The new user simply needs to register by selecting the option ADD TO EXISTING COMPANY, and enter the COMPANY NAME and PASSKEY provided by the company creator.

2. How can I check if EMIL LEVEL is still active?

Every 2 days, even if the level measurement and GPS position have not changed, EMIL LEVEL will perform a forced reading and update the app. This ensures that the most recent EMIL LEVEL data is always available, with a maximum delay of 2 days.

If online readings do not show updated date and time every 2 days, check the following conditions:

- No data network coverage
- Battery depleted
- Data network subscription expired

Verify these conditions to ensure proper operation of EMIL LEVEL.

3. I've lost my account password, how can I recover it?

If you've lost your password, you can follow the password recovery procedure described in IMG.12. This will allow you to replace the lost password with a new one. Your account configuration and activated EMIL LEVEL devices will remain unchanged.

4. My data network subscription has expired. I've renewed it, but EMIL LEVEL still appears inactive.

No worries! If the data plan is renewed after the subscription has expired, EMIL LEVEL requires approximately 24 hours to synchronize with the server. After successful synchronization, EMIL LEVEL will resume normal operation without any issues, maintaining all previously configured settings.

📌 To avoid this delay, it is recommended to renew the subscription before the end of the 15-day grace period following the standard subscription expiration.

5. I've activated EMIL LEVEL, but it doesn't appear in my tank fuel list.

After configuring EMIL LEVEL and assigning it to the correct tank model, complete the setup request and press SAVE. The system will begin the initial activation of EMIL LEVEL on the cloud server. The activation process usually takes about 2 minutes to complete.

Emiliana Serbatoi S.r.l. - Largo Maestri del Lavoro, 40 - 41011 Campogalliano (MODENA) Italy / P.iva e C.F 01499200366
Tel. **+39-059-521911** / Fax +39-059-521919 / emilianaserbatoi.com / **info@emilianaserbatoi.it**

TECHNICAL SUPPORT AND CONTACT INFO

QR Code for downloadable document reference from the web, included inside the product packaging.

Website: https://www.emilianaserbatoi.com/en-ww/emil-level.aspx

📌 ⚠️ Any hardware-related product bugs will be resolved through direct "FOTA" (Firmware Over The Air) updates.

📌 ⚠️ Any app-related bugs will be resolved in the background by updating the app when a new version becomes available. As usual, a notification will appear prompting the user to update the app, just like any standard app on both Android and iOS platforms.

IT _ Rev. 1.0 _ 15/10/2025