

# USER GUIDE RF Monitor Tracker



## **Propos:**

Installation guide and user guide of the software Premium RF-Monitor for Trackers.



## **Kit content:**



## **Protection Level:**

TRK31: IP54TRK33: IP54

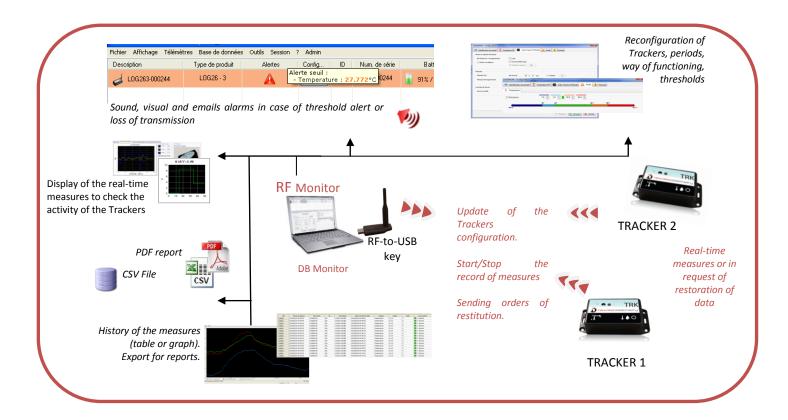
## Assistance technique:

For any question, remark or suggestion concerning this product, please contact your retailer.

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## 1 Overview of a park RF Monitor for Trackers



## 1.1 General description

In your installation site, you need to install RF Monitor on a computer in order to:

- Configure periods of measure, thresholds, and alarms
- Display les measures, generate CSV or PDF files
- Collect measures of Trackers linked to this site (using a RF-to-USB key)
- Fill the database

It is possible to access the database with the software DB Monitor

Never install neither the software RF Monitor, nor the RF-to-USB key for radio reception, directly on the Server of your company.

Prefer a dedicated PC, which will be connected through your network, or the collector Ethernet NEWSTEO to come, also connected to your network.



**DO NEVER let the unused Trackers in "LIVE" MODE REMEMBER** to de-activate your unused Trackers by removing the batteries



→ Extremely rapid wear of the batteries in this mode (few days)



## 1.2 Operation of the Tracker

Le Tracker is used for measurement campaigns with consultation/treatement of data a-postériori, without possibility of tracing the real-time alerts. Il fonctionne en <u>Mode Live/Enregistrement</u>.

"Live" mode allows you to check the operation of the Tracker and "Record" mode corresponds to the registration of the campaign measures.

This record campain can be done with or without silent mode. The Silent mode must be used only if a total ne must be used only if a complete absence of radio transmission is needed (Ex: during transport by air). It is necessary in this case to use the function "Find products in silent mode" in order to stop recording and retrieve measures.

**Measures** received by the software RF Monitor can be stored in files CSV, in the database or in a PDF report (For the Record Mode). By default, all way of storing data are activated. Whatever is the operating mode of the Tracker, the stored measures will be time/date stamped.

Exemple of application: Measure of the temperature, the humidity and impacts for the transport of goods (museums - paintings, aviation, transport of measurement benches, of refrigerated food products ...)

#### Operating principle:

• Start: in 'Live' Mode, the Tracker takes a measure at the settled period (each second by default), and sends it to the PC. RF Monitor displays measures. The user can control the operation of the Tracker. He can activate or de-activate the option "Silent Mode". He can set alert thresholds and settle the measurement period required for the measurement campaign to come.

Reminder: DO NEVER let the unused Trackers in "LIVE" MODE – Remember to remove the batteries

- The user then select 'record' mode to start its measurement campaign. During this recording campaign:
  - ➤ If the option "Silent Mode" is unactivated:
    - Every minute, the Tracker sends a presence signal to indicate its state, alerts and the number of measurements in memory. It takes his measures according to the 'record' period (10 minutes by default) and saves them systematically in his memory.
    - At the end of the measurement campaign, the user stops the recording, and the Tracker goes to 'Live' mode.
  - ➢ If the option "Silent Mode" is activated:
    - The tracker becomes completely quiet. Le tracker takes his measures according to the 'record' period (10 minutes by default) and saves them systematically in his memory. Every minute, the Tracker listen if a request of presence signal is sent.
    - At the end of the measurement campaign, the user starts a « search of the products in Silent Mode » (sends a pesence signal) to enable Tracker to leave the Silent Mode then the user stops the recording, and the Tracker goes to 'Live' mode.
- From then, the user can retrieve all the measures of the campaign on his PC by performing a single restitution.
- The measurements are then downloaded and stored in the remote database.
- Only one Tracker can record multiple campaigns in a row.

## Installation of RF Monitor

## DO NOT INSERT USB KEY BEFORE THE REQUEST.

Newsteo Kit (v4.3.0) Setup NewsteoKit\_v4. \_setup Insert the CD ROM of the RF-kit. newsteo Completing the Newsteo Kit (v4.3.0) Setup Wizard If the installer does not start automatically, select "Run four computer must be restarted in order to complete the installation of Newsteo Kit (v4.3.0). Do you want to rebook NewsteoKit\_v4.x.x\_setup.exe" in the AutoPlay window or launch Newsteo\_Kit\_v4.x.x\_setup.exe file from the CD-ROM of the kit. In the first window select a language then, for a quick installation, keep the default settings

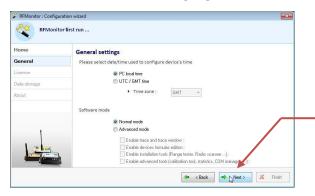
by validating the successive windows from setup program. By the end of installation, keep the option "Reboot now" and click "Finish".



Welcome,

Once the computer restarts, launch the RF Monitor software by double-clicking the shortcut created on the desktop or from the Start Menu.

In the window "Home" of the configuration wizard, choose the desired language and click "Next".

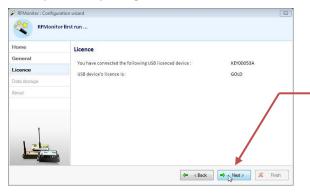


In the window "Général" from the Configuration wizard click « Next ».

Remark: The configuration will be able to be changed later in the program options of RF Monitor, once the installation is complete (by a right-click on the line of the Tracker, then a click on configuration)

At the request of the setup wizard, remove the label "Install the software before inserting!" and insert the RF-to-USB key preferably using the USB extension





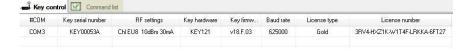
In the window "Licence" from the Configuration wizard click "Next".

In the window « Data storage » of the Configuration wizard click on « Next



At the end of the wizard, click « Finish » to launch RF Monitor.

The information about your key RF-to-USB are now displayed in the tab « Key control » of RF Monitor.





## 3 Using of the RF Monitor software

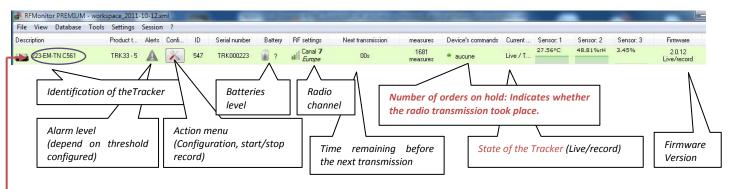
## 3.1 Start the Tracker and check its running

On delivery the batteries are not inserted in the Tracker.

Once the software "RFMonitor" is started and the RF-to-USB key is connected, start your

Tracker by placing batteries (1 lithium or 3 alkaline depending on the model), taking care to observe proper polarity (see: 5.4 New battery Installation and 5.5 Casing closing). The default mode for the Tracker is the "Live" mode on Radio Channel 1

→ The Tracker will automatically appear in the list of the products.



If the clock differs between the Tracker and the PC, a window is opened to ask for a synchronization (synchronization recommended).

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| Committee | Com

**Double-click the line of the Tracker** to display tabs corresponding to the real-time measurements for this Tracker

<u>CAUTION</u>: If you have several trackers, check the tabs that you work on corresponds to the good "Tracker" especially when using the Control Panel to launch a measurements campaign.(Cf. 3.1.4 Control panel). Closing a tab associated with Tracker closes the four tabs associated to this Tracker.

## **3.1.1** Acceleration:

3D representation of the position of the Tracker

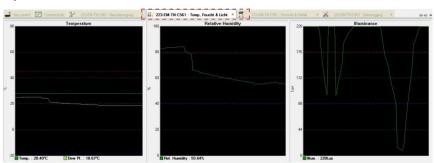
Acceleration curves of the Tracker along the axes x, y, z

Current acceleration on each of 3 axes



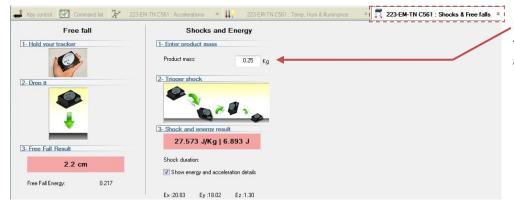
## 3.1.2 Temperature, Relative Humidity and illuminance:

In this tab, curves are displayed with the minimum threshold (blue) and maximum (red) predefined in 3.2.1.4 Configuration thresholds alerts



**[USER GUIDE RF Monitor** Tracker]

#### 3.1.3 Shocks and Free fall



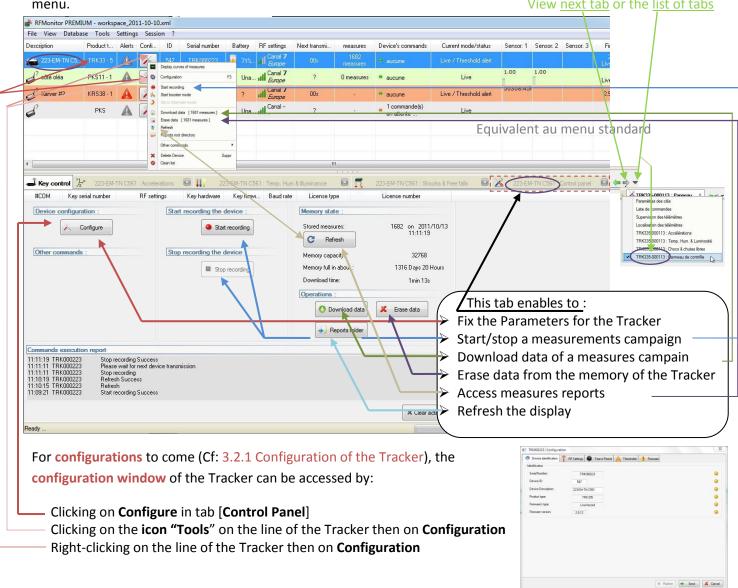
Enter the mass of the Tracker or mass of the product associated to the tracker

Drop the Tracker / Product

This tab displays the height and energy of free fall and the energy of the shock.

## 3.1.4 Control panel

The control panel has been developed specifically for the Tracker. All orders are yet available on the standard View next tab or the list of tabs

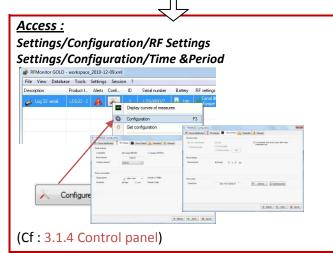




## 3.2 Configuration – Vue d'ensemble

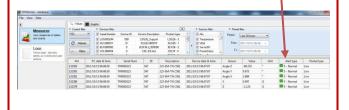
There are two parts in the configuration of the Tracker:

## The Configuration of the Tracker



## This step enables:

- To fix the working channel
- To activate/deactivate the silent mode
- To definie the alert levels for the Tracker. The measures "off limits" recorded in the database will be noticed under "Alert Type"



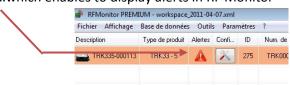
## The configuration of RF Monitor





This step enables:

- To activate alerts...
- ...which enables to display alerts in RF Monitor



- To enable sound alerts for the live mode
- Choose the type of alert (emails, audio, alarm relay ...)
- To Choose the type of alert for each product

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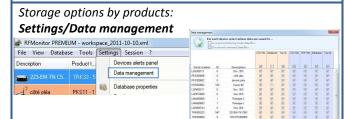
## Access:

General Options for Data Storage:

Settings/Options/Measures storage



This step allows you to select separately the format of the storage measures for Live and recording modes (Database, CSV. PDF ...)



This step allows you to select separately the format of the storage measures by product

[USER GUIDE **RF Monitor** Tracker]

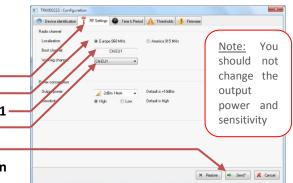
#### 3.2.1 **Configuration of the Tracker**

## 3.2.1.1 Configuration Product Identification

- Open configuration window (cf: 3.1.4 Control panel)
- Select tab [Device Identification]
- Enter a personalized Device identification (number from 0 to 999)
- Enter a description
- Click on « Send » to valide modifications
- Wait for a radio transmission so that the modification is taken in account by the Tracker. (Cf. 3.5 View tab).

## 3.2.1.2 Configuration Working Channel

- Open configuration window (cf: 3.1.4 Control panel)
- Select tab [Paramètres RF]
- Verify the Localization.
- When starting, the working channel of the Tracker is channel 1
- If needed, modify the working channel.
- Click on « Send » to valide modifications
- Wait for a radio transmission so that the modification is taken in account by the Tracker (Cf. 3.5 View tab).



CAUTION: once the working channel has been modified, you must change the working channel of the key (the key and the Tracker must always be on the same channel to communicate; the key must take the channel of the RFMonitor PREMIUM - workspace\_201 File View Database To Tracker) For this:

- Click on [View/Key Control tab]
- Select tab [Key control]

- Tracker.

Right-click on the line of the key Click on sur « Working channel » Choose the working channel which corresponds to the one of the

Comment: At startup (if you remove and then reinsert the battery), the channel will be channel 1 for the Tracker, it will be therefore required to change the working channel of the key for channel 1).

## 3.2.1.3 Configuration Time and Period

- Open configuration window (cf: 3.1.4 Control panel)
- Select tab [Time & Period]
- If needed, activate the dialog box to access to silent mode (Cf: 1.2 Operation of the Tracker)
- Define the measurement period for the recording campaign.

By default, for the recording, all 10 minutes the logger takes a measurement and stores it in memory. These measures will be returned to RF Monitor upon request and/or after a return to mode 'live' (Cf.1.2 Operation of the T

- If needed, set the time of the Tracker.
- Click on « Send » to valide modifications and wait for a radio transmission so that the modification is taken in account by the logger. (Cf. 3.5 View tab).

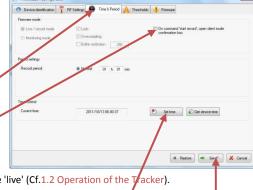
For your tests in 'record' mode, we recommend a shorter period of 1 minute for example Note:

Remark: the higher the frequency is for the measurement, the faster the memory will be full.

For information: period 1 mn  $\rightarrow$  20 days of autonomy

> period 10 mn  $\rightarrow$  200 days of autonomy

> period 30 mn  $\rightarrow$ 2 years of autonomy



Key Control tab

Monitoring tab



## 3.2.1.4 Configuration thresholds alerts

- Open configuration window (cf: 3.1.4 Control panel)
- Select tab [Thresholds]
- Select tab which corresponds to threshold you need to modify.
- Set the thresholds that correspond to the desired level of alerts for the Tracker:
  - Either by entering numerical values
  - Either by moving the sliders

The nominal area is green, dark blue and red correspond to the alert area.

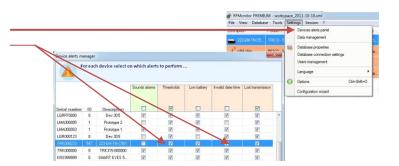
- Click on « Send » to valide modifications.
- Wait for a radio transmission so that the modification is taken in account by the Tracker. (Cf. 3.5 View tab)

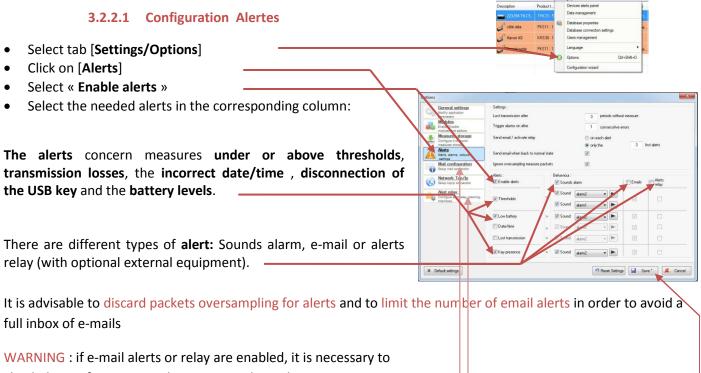
These thresholds are visible on the graphs of the tabs [Accelerations] et [Temp, Hum & illuminance] (Cf. 3.1.1 et 3.1.2)  $\rightarrow$  To refresh the display of these thresholds on graphs, close and reopen the tabs.

## 3.2.2 Configuration of RF Monitor

check the configuration in the corresponding tabs.

- Click on « Save » to valide modifications
- Wait for a radio transmission so that the modification is taken in account by the Tracker (Cf. 3.5 View tab).
- Select tab [Settings/Devices alerts panel]
- **Select** needed **alerts** by **product**.
- Click « OK » to validate the modifications





[USER GUIDE RF Monitor Tracker]

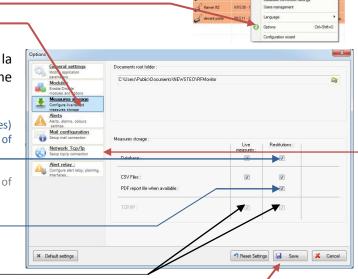
#### 3.2.2.2 Configuration Data – Measures storage

- Select tab [Settings/Options]
- Click on [Measures storage]
- Select the storage format for the measures pour la restitution des données de la campagne d'enregistrement (Cf. :).

<u>Data base:</u> allows full exploitation of the measures (graphs or tables) with available filters (dates, products, sensors ...) and traceability of events (user action, product alerts ...)

 $\underline{\text{CSV}}$ : Raw file data storage to develop its own application for the use of data.

<u>PDF</u>: A report generated for each measurement campaign



- It is **not advisable to store measurements of the Tracker in Live mode**. Indeed, this mode is a demonstration mode that fills the database or CSV file with a large number of unnecessary data. In addition, this storage slows down the computer.
- Click on « Save» to validate the modifications
- Wait for a radio transmission so that the modification is taken in account by the Tracker (Cf. 3.5 View tab).
- Select the tab [Parameters/Gestion des données]
- Check the storage format of the measures wanted by product.

No storage for the Live Mode CSV files and storing in a database only for the TRK-Demo PDF files for both Trackers No option TCP/IP

Click on « OK » to validate the modifications

## WARNING:

The TCP / IP is selected by default in the "option"

To not use this option, you must unselect TCP / IP.

To use this option, you must select TCP / IP in the "Data management" window and do not forget to configure the server and / or TCP / IP Client

The use of TCP / IP is only for data storage and enables not in any way to send remote commands. This storage option is not recommended for the Tracker.

## 3.3 Measures campaign

When starting, the Tracker is in Live mode.

- Check the working of the Tracker (Cf: 3.1 Start the Tracker and check its running).
- Set the period (Cf.: 3.2.1.3 Configuration Time and Period) and thresholds (Cf.: 3.2.1.4 Configuration thresholds alerts) for the measurement campaign.

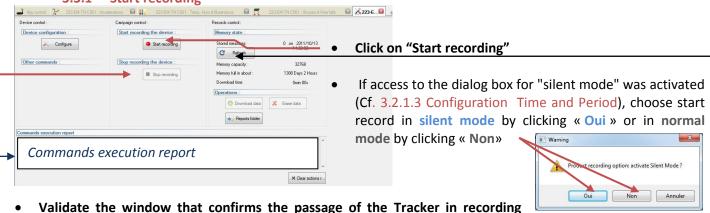
Note: Once configured, it will not be necessary to configure the storage format for each measurement campaign (Cf. : 3.2.2.2 Configuration Data – Measures)

Open the Control Panel of the Tracker (Cf.: 3.1.4 Control panel)





3.3.1 Start recording



- Validate the window that confirms the passage of the Tracker in recording mode by clicking "OK".
  - → In the Commands execution report you get the message « Start recording »
- Wait for a radio transmission so that the modification is taken in account by the Tracker (Cf. 3.5 View tab)
  - ➤ In the Commands execution report you get the message « Start recording success»

The measurement campaign starts, the Tracker records now all measures in memory and sends a signal of presence every minute to indicate its status, its alerts and overtaking the number of measurements in memory ...

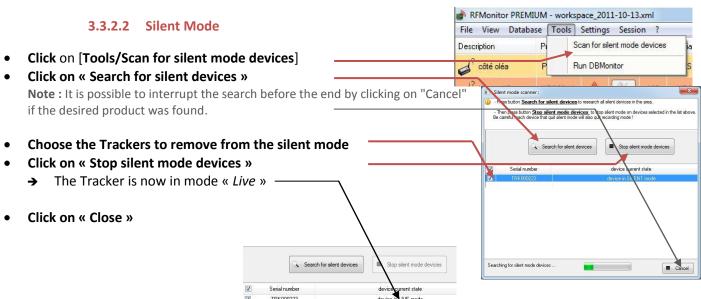
As part of the tests related to learning the use of RF Monitor with a Tracker, stop RF monitor for at least 3 minutes (if the measurement period is 1 min) to simulate a remote location of the product during the measures campaign (away from radio), then restart RF Monitor (and reopen the Control panel)

→ The button « stop recording » is now active

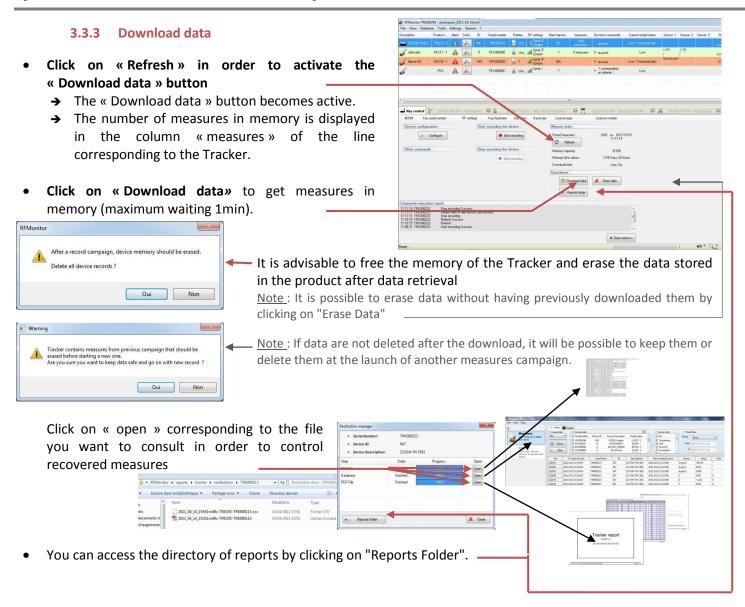
#### 3.3.2 Stop recording

## 3.3.2.1 Standard Mode

- Click on « Stop recording»
- Validate the window that confirms the stop of the recording « Oui ».
  - → In the *Commands execution report* you get the message « Stop recording » « Please wait for the next transmission »
- Wait for a radio transmission so that the modification is taken in account by the Tracker (Cf. 3.5 View tab)
  - → In the Commands execution report you get the message «stop recording success »
  - → The Tracker is now in mode « Live »



[USER GUIDE RF Monitor Tracker]



#### 3.4 Exploitation des mesures

Depending on the chosen storage options (cf. 3.2.2.2 Configuration Data – Measures), the following reports are available:

## 3.4.1 PDF report

A PDF report is generated for each download of measures. The name of this PDF report is explicit: it mentions the name of the Tracker, the date and time of creation. The PDF report consists of tables of measures, related graphics and logs of alerts.

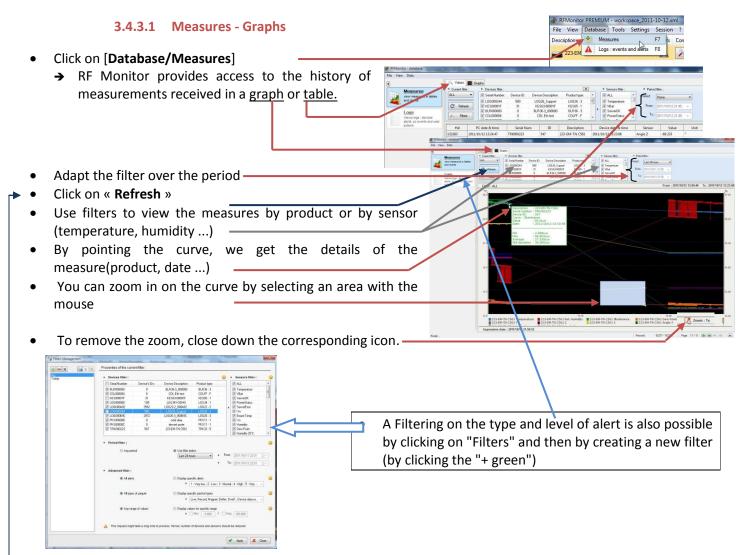
WARNING, if the data are not erased at the end of downloading or before the launch of a new series of measurements, the data will be in several reports.

#### 3.4.2 CSV file

A CSV file is generated for each download of measures. The name of this CSV report is explicit: it mentions the name of the Tracker, the date and time of creation. It contains time-stamped line measures.



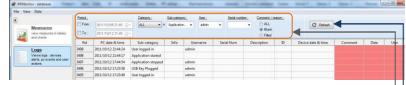
#### 3.4.3 Database



After each change of filter or to view the latest action, click on « Refresh »

## 3.4.3.2 Logs – Alerts and events

- Click on [Database/Logs] -
  - → The window *Logs* includes all the alerts and events related to Tracker :
  - **Alerts** (measures out thresholds)
  - The Starting or the stop of the application
  - USB key connected or disconnected ...



- → At each event, it is possible to enter a comment justifying the alarm or occurrence of the event (Ex: on a temperature freezer alarm with a threshold set at -15 °C, if "-14 °C" is measured, enter the comment "Door opened for 5 min for maintenance").
- Like in the table "measures", it is possible to apply filters to highlight certain measures or certain events.

After each change of filter or to view the latest action, click on "Refresh."

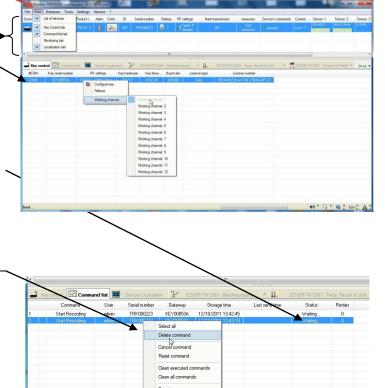
#### 3.5 View tab

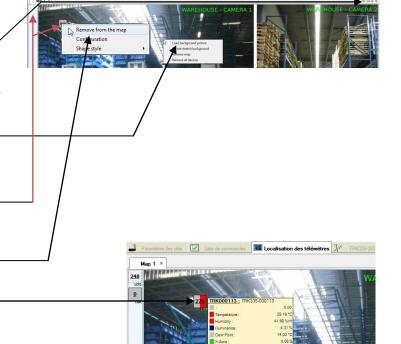
- Click on [View] then select suggested options:
- → List of devices: it displays the window in which the products are listed
- → Key control tab: Provides information on the USB key and enables to change the channel of the key with a "right-click" on the line key (Cf. 3.2.1.2 Configuration Working Channel)
- → Command list tab: This tab provides information on current orders (waiting) or ended (Finish) for a given product. A "rightclick" on a line enables to access a menu "action" on the commands like "cancel", "delete" ...



It is normal to get no curve in this window because this view is only for the product family of Lxx and not for TRK.

- Localization tab: Memorize the location of the Tracker (to know in which truck corresponds to a TRK, for example)
  - Create a map
  - « Right click » on the map and then "Load a background picture" to customize your card with the photo of the truck corresponding to your TRK.
  - Take one or several TRK listed in the left column and drop them on the map (hold the left click to move the Tracker)
  - « Right click » on the Tracker to remove it from the map.
  - By pointing a Tracker, details of the measured values appear.







## 3.6 Deactivate the Tracker

In order to save its batteries, the Tracker must be disabled to be stored or at the end of a measurement campain or testing. To do this, remove the batteries.

Warning: the Tracker always starts on channel 1 (Cf: 3.2.1.2 Configuration Working Channel)

Remember to remove the batteries from your Trackers to save batteries DO NEVER let the unused Trackers in "LIVE" MODE

To restart the Tracker, insert again batteries.

## 4 Installation of DB Monitor to consult data

DB Monitor is a software to consult measurements (values and graphs) and the event list (alerts) of the database. This is the software which is called by RF Monitor.

Once the computer restarts, launch the DB Monitor software by double-clicking the shortcut created on the desktop or from the "Start Menu".

 In the "General options" window of the configuration wizard, choose the desired language and click "Next".



Welcome in configuration assistant for NILVOTED DIMinisities earthware ...

1. General Cystem

2. Database

2. Database

3. Prediction

Finance first

6. Rende database

Database (see:

Data

In the *Database* window, of the configuration wizard, choose *Local database* « Base de données locale ».

Enter the path of the local database

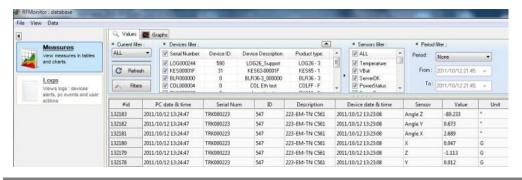
Test the connection – Click OK to validate



Click on « Next »

In the *Finalisation* window of the configuration wizard, click on "*Validate*", then click on *Finish*.

→ We find again the operating window for the database.



## 5 Battery replacement

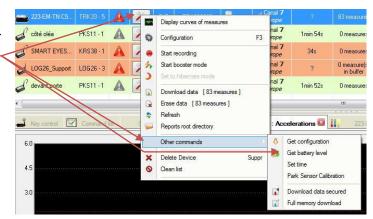
## 5.1 Control the batteries level

The batteries level is not automatically displayed.

To display batteries level:

Click on the **icon "Tools**" on the line of the Tracker then on **Other commands/Get battery level** 

(Or Right-clicking on the line of the Tracker then on **Other** commands/Get battery level)





## 5.2 Battery model

TRK31: 1.5V, AA model - Alkaline TRK33: 3.6V, AA model - Lithium

Newsteo can provide set of batteries. Please reach us.

## 5.3 Casing opening

#### For TRK31 and TRK33

Proceed in a dry place to open the casing and change the battery.

The housing must be clean and free of dust. Clean it if necessary before opening.

Use a Phillips screwdriver PH2.

Unscrew the 4 screws on the back of the housing.

## 5.4 New battery Installation

Remove the old battery from its holder and replace it by the new battery.

Respect polarity as indicated on the product.

Check the restart of the product on the software "RF Monitor" or the operating system.

## 5.5 <u>Casing closing</u>

Close the casing.

Place the 4 screws and tighten until it stops and until the two housing parts are joined without spaces.



# Address of the manufacturer:

NEWSTEO S.A.S. 93 avenue des Sorbiers – ZE Athelia 4 13 600 La Ciotat – France