User Guide for RF Monitor software

Purpose:
User guide for Newsteo RF-Monitor LOGGERS (LOG, LGR, LGS…) in MONITORING or RECORD modes

Technical support:
For any question, remark or suggestion concerning this product, please contact your retailer

Commercial contact:
Please have a look at our website www.newsteo.com, or email any request at: sales@newsteo.com.

Compatibility:
RFMonitor is compatible with all the Newsteo™ products.

Purpus:

Main user manual for software RF-Monitor

1 PRESENTATION 5

1.1 Introduction 5

1.2 Park overview 5

1.3 General description 6

2 INSTALLATION 6

2.1 Installation of RF Monitor software and RF-to-USB key drivers 6

2.2 Start the RF Monitor software for the first time 9

3 START A DEVICE 10

4 USING OF THE RF MONITOR SOFTWARE 11

4.1 Main interface 11

4.2 List of devices 11
4.2.1 Default display 11
4.2.2 Change display : 12

4.3 Icon « Tools » of a logger 13
4.3.1 Display curves of measures 13
4.3.2 Configuration 14
4.3.2.1 Generality on the logger configuration process 14
4.3.2.2 Configuration of loggers – Identification 14
4.3.2.3 Configuration of loggers – RF settings 15
4.3.2.4 Configuration of loggers – Time and Period 16
4.3.2.5 Configuration of loggers – Thresholds 18
4.3.2.6 Configuration of loggers – Firmware 19
4.3.3 Start/ Stop Recording 20
4.3.4 Start/Stop booster mode 20
4.3.5 Set to hibernate mode 21
4.3.6 Download data 21
4.3.7 Erase data 22
4.3.8 Refresh 22
4.3.9 Reports root directory 22
4.3.10 Other commands 24
4.3.10.1 Other commands – Get configuration 24
4.3.10.2 Other commands – Get battery level 24
4.3.10.3 Other commands – Set time 24
4.3.10.4 Other commands – Full memory download 25
4.3.10.5 Other commands – Download date filter 25
4.3.11 Delete Device 25
4.3.12 Clean list 26

4.4 Tab [File] 26
4.4.1 New workspace 26
4.4.2 Open workspace 27
4.4.3 Save workspace 27
4.4.4 Save workspace as 27
4.4.5 Lock workspace 27

4.4.6 Quit 28

4.5 Tab [View] 28
4.5.1 List of devices 28
4.5.2 Key control tab 28
4.5.2.1 Configure Key 29
4.5.2.1.1 Configuration of the RF-to-USB key – Device identification 29
4.5.2.1.2 Configuration of the RF-to-USB key – RF settings 30
4.5.2.1.3 Configuration of the RF-to-USB key – Firmware 31
4.5.2.2 Reboot 31
4.5.3 Command list tab 32
4.5.4 Monitoring tab 32
4.5.5 Localization tab 34

4.6 Tab [Database] 37
4.6.1 Measures 37
4.6.1.1 Graphs 37
4.6.1.2 Values 40
4.6.1.3 Create Filters 41
4.6.1.4 File 42
4.6.1.4.1 Database properties 42
4.6.1.4.2 Export table 42
4.6.1.4.3 Export graph 42
4.6.1.4.4 Print table 42
4.6.1.4.5 Print graph 43
4.6.1.4.6 Close 43
4.6.1.5 View 43
4.6.1.6 Data 43
4.6.1.6.1 Refresh 44
4.6.1.6.2 Filters 44
4.6.1.6.3 Enable periodic refresh – Refresh 44
4.6.1.6.4 Refresh period 44
4.6.1.6.5 Export to archive 44
4.6.2 Logs : events and alerts 44

4.7 Tab [Tools] 46
4.7.1 Advanced tools 46
4.7.1.1 Trace window 46
4.7.2 Installation tools 47
4.7.2.1 Range tester 47
4.7.2.2 Radio Scanner 48

4.8 Tab [Settings] 49
4.8.1 Devices alerts panel 49
4.8.2 Data management 49
4.8.3 Database properties 50
4.8.3.1 Erase 50
4.8.3.2 Export 51
4.8.4 Language 51
4.8.5 Options 52
4.8.5.1 General settings 52
4.8.5.2 Modules 53
4.8.5.3 Measures storage 54
4.8.5.4 Alerts 55
4.8.5.5 Mail configuration 56
4.8.5.6 SMS configuration 56
4.8.5.7 Network Tcp/IP 57
4.8.5.8 Alert relay 57
4.8.5.9 Automatic reports 58
4.8.6 Configuration Wizard 58

5 ANNEX 59

5.1 ANNEX 1 – Change the working channel of your logger 59
5.1.1 Secure the channel of the loggers first 59
5.1.2 Secure the channel for the RF-to-USB Key 60
5.1.3 To unsecure the installation 60
5.1.4 If you can't remember the channel of your securized loggers 60

5.2 ANNEX2 – Operating Mode for loggers 61

1 Presentation

1.1 Introduction

Newsteo RF Monitor software is designed to manage the Newsteo products: logger, tracker and builder.

LOG

LGR

LGS – LGJ - LGW …

TRK – TRE - TRP

BUILDER

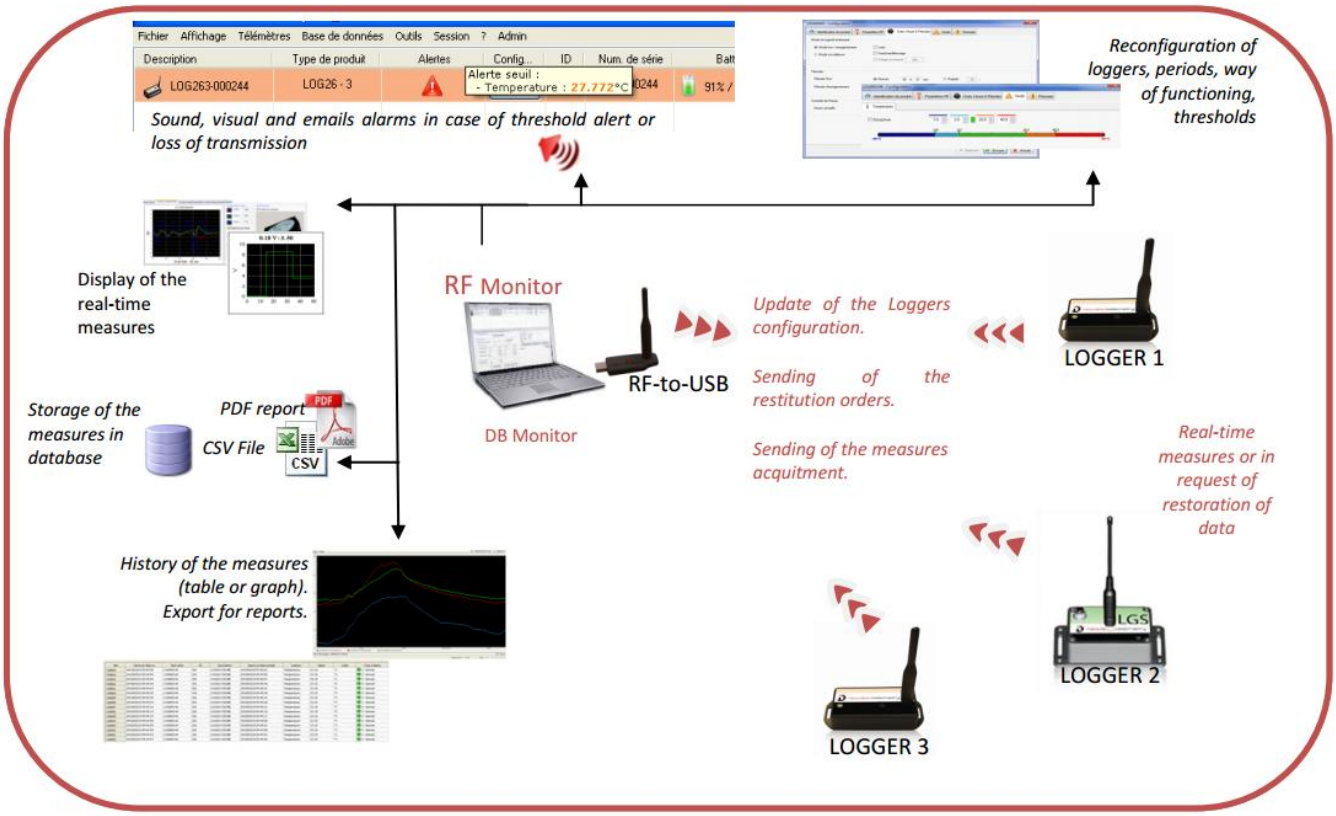
Those products are using radio transmission (ISM 868MHz for Europe, 915MHz for North America) for:

- The radio transmission of the measurements
- Configuration (measurement period, alert thresholds, RF-settings …)
- Calibration
- Update (firmware download)

It is necessary to use a NEWSTEO RF-to-USB Key to communicate with the loggers.

Before using the products, you will need to install the RF Monitor software and the RF-to-USB key drivers on your PC
Just follow carefully instructions in this document if you are not familiar with Newsteo products.

1.2 Park overview



1.3 General description

RF-Monitor main functionalities are:

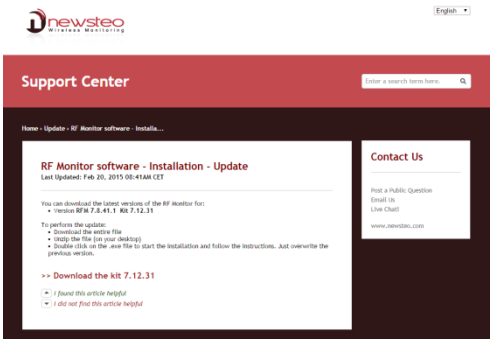
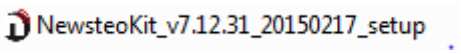
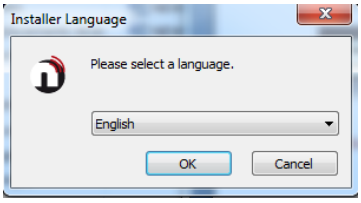
- Get the list of all NEWSTEO devices detected in the area
- Save and restore devices configuration (workspace)
- Configure RF settings (channel)
- Update device firmware
- Configure the period of measures
- Configure sensor thresholds and alert levels
- Collect measures of loggers (using a RF-to-USB key)
- Display the measures
- Store the measures in the database
- Generate CSV or PDF files reports

2 Installation

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

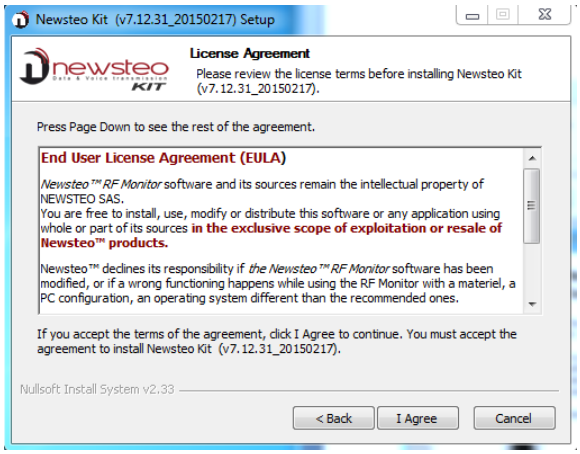
2.1 Installation of RF Monitor software and RF-to-USB key drivers

DO NOT INSERT USB KEY BEFORE THE REQUEST ⚠

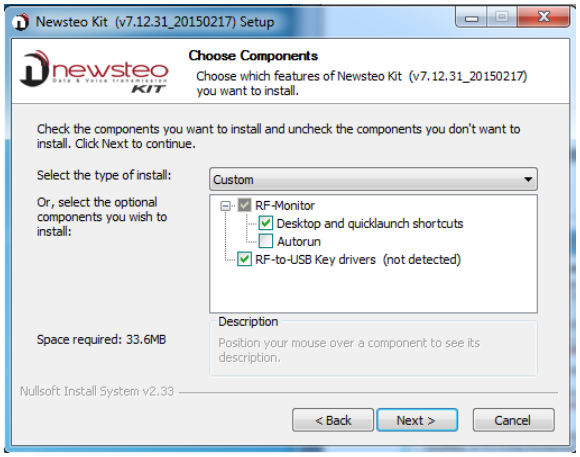
▪ Download the RF Monitor installation kit from the NEWSTEO website : http://support.newsteo.com/customer/en/portal/articles/1133777-rf-monitor---installation---mise-%C3%A0-jour and launch the Newsteo kit setup	
▪ Or Insert the CD ROM of the RF-kit. ▪ If the installer does not start automatically, select "Run NewsteoKit_vx.x.x_setup.exe" in the AutoPlay window or launch Newsteo_Kit_vx.x.x_setup.exe file from the CD-ROM of the kit.	
▪ Select the language then click [OK]	

- Click [Next]

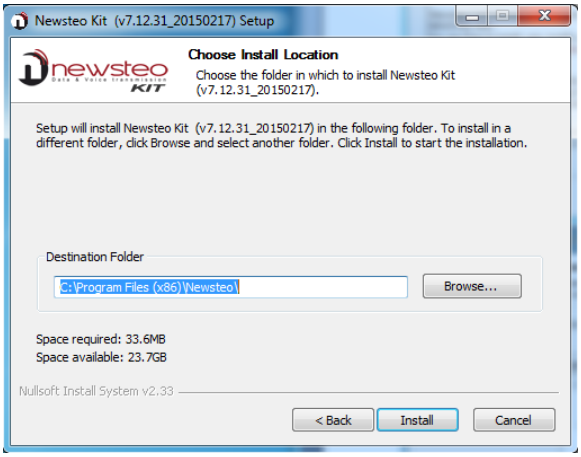
- Please read license agreement carefully, and then accept it by clicking [I Agree]

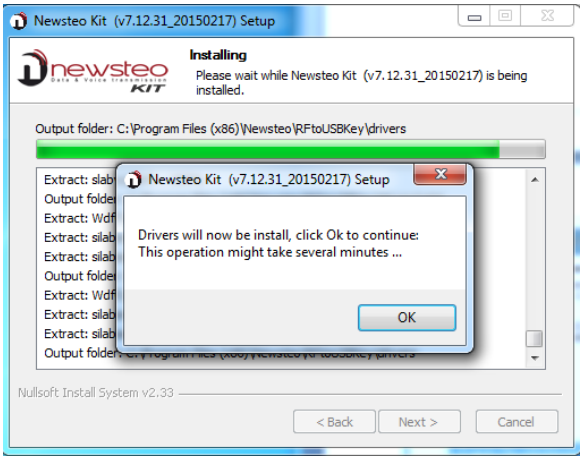
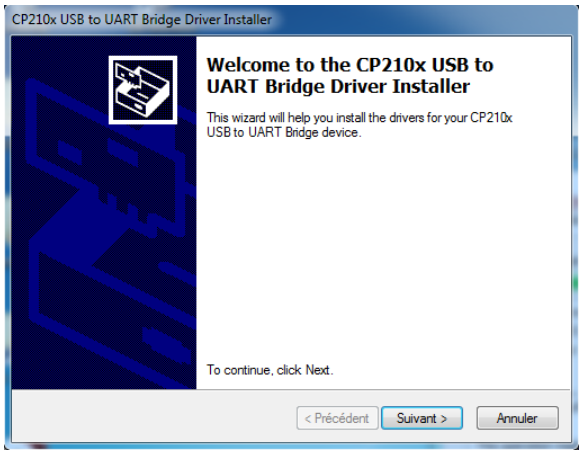
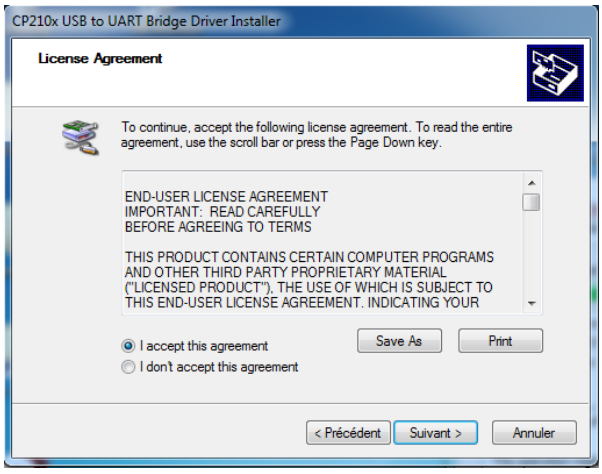
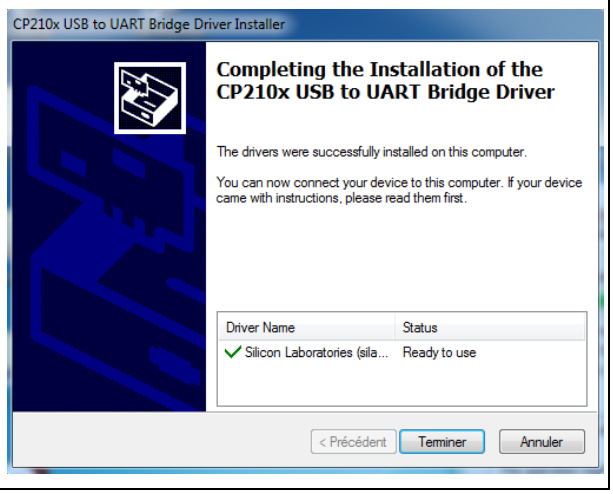


- Keep the default options
- If you want RF Monitor to start automatically at the start of your computer, select the Autorun option.
- Click [Next]



- Click [Install]



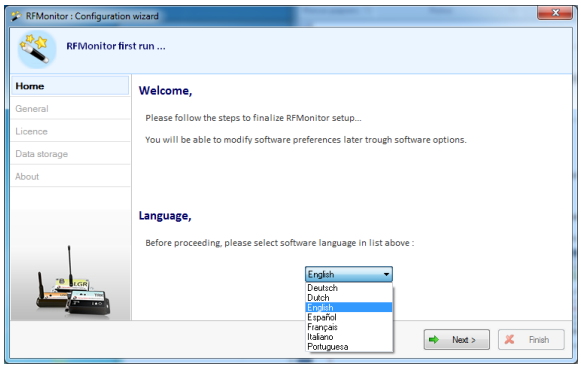
▪ Click [OK] to start the installation of the drivers for the radio USB Key	
▪ Click [Next]	
▪ Please read carefully the licence agreement and select “I accept the agreement” ▪ Click [Next]	
▪ Click [Finish]	

- By the end of installation, keep the option “Reboot now”, close the application of your computer and click [Finish] to restart your computer

2.2 Start the RF Monitor software for the first time

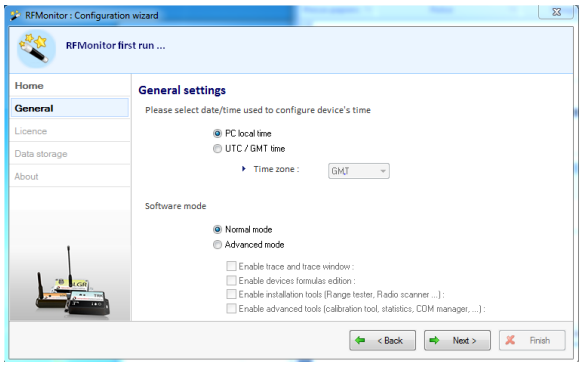
- Once the computer restarts, launch the RF Monitor software by double-clicking the shortcut created on the desktop or from the Start Menu.

- In the window “Home” of the configuration wizard, choose the language and click [Next].



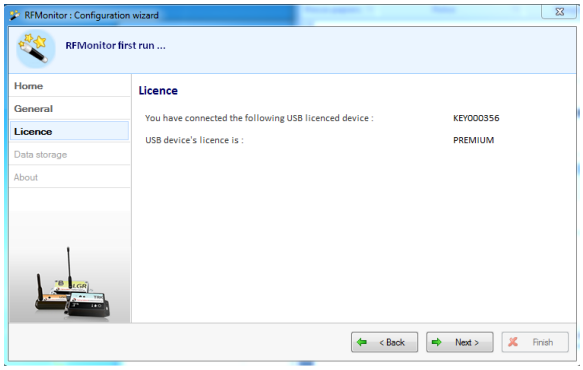
- In the window "*Général*" from the Configuration wizard click [Next].

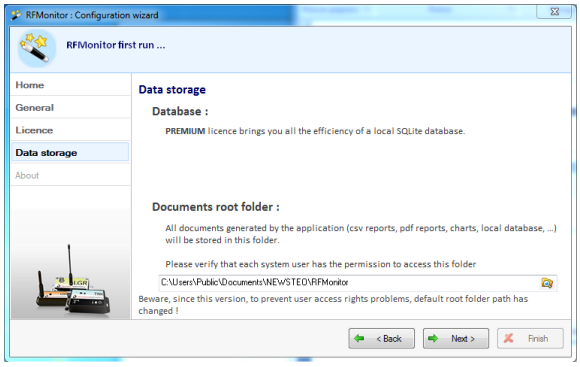
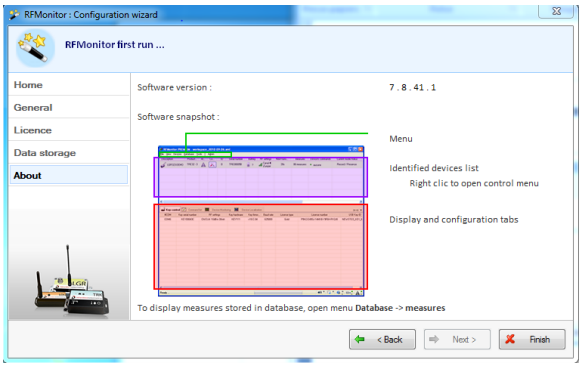
Remark : The configuration will be able to be changed later in the program options of RF Monitor, once the installation will be completed. (see: *4.8.5.2 Modules*)



- In the window "Licence" from the Configuration wizard click [Next].
- At the request of the setup wizard, remove the label "Install the software before inserting!" from the RF-to-USB key
- Insert the RF-to-USB key preferably using the USB extension cable

Remark: We recommend you to use the provided USB extension cable to move away the key from the screen of the computer which can disturb the radio transmission.



▪ In the window « Data storage » of the Configuration wizard, click [Next].	
▪ At the end of the wizard, click [Finish] to launch RF Monitor.	

3 Start a device

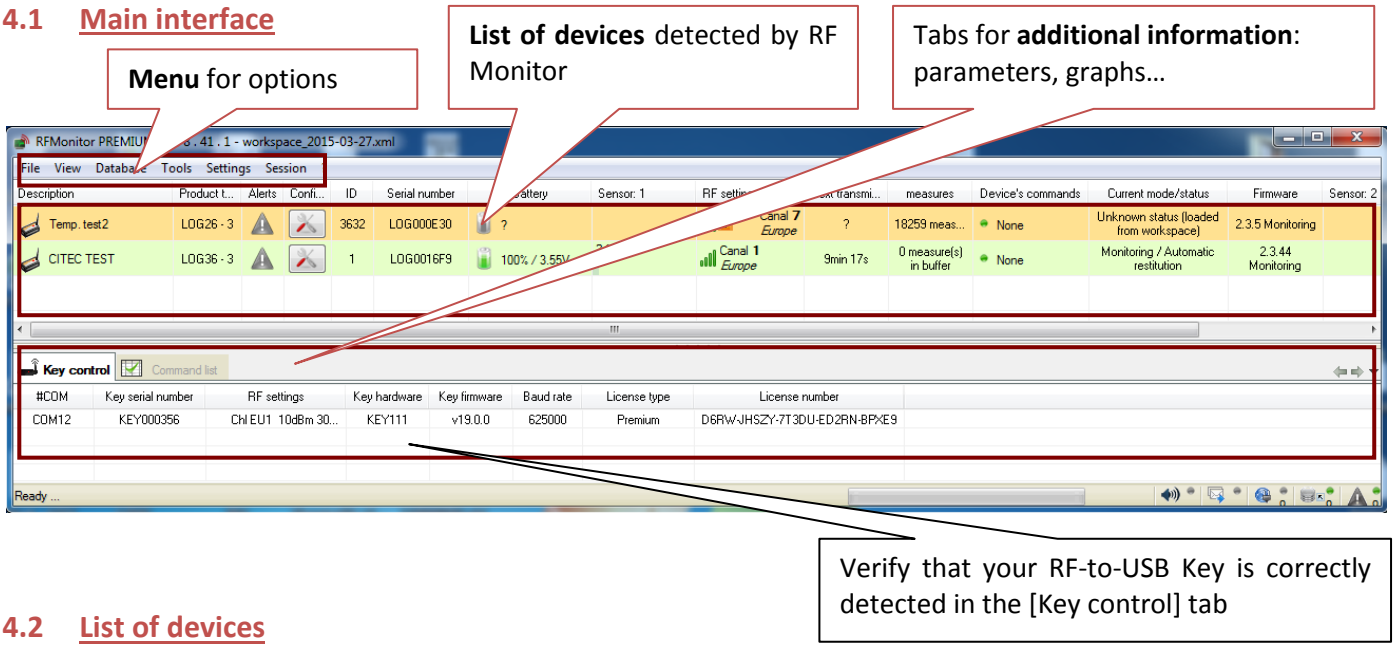
Once the software "RFMonitor" is started and the RF-to-USB key is connected, start your device by passing the magnet on it.

The default mode for most of the NEWSTEO devices is the "Monitoring" mode with a period of 10s on the Radio Channel 1

The logger will automatically appear in the list of devices.

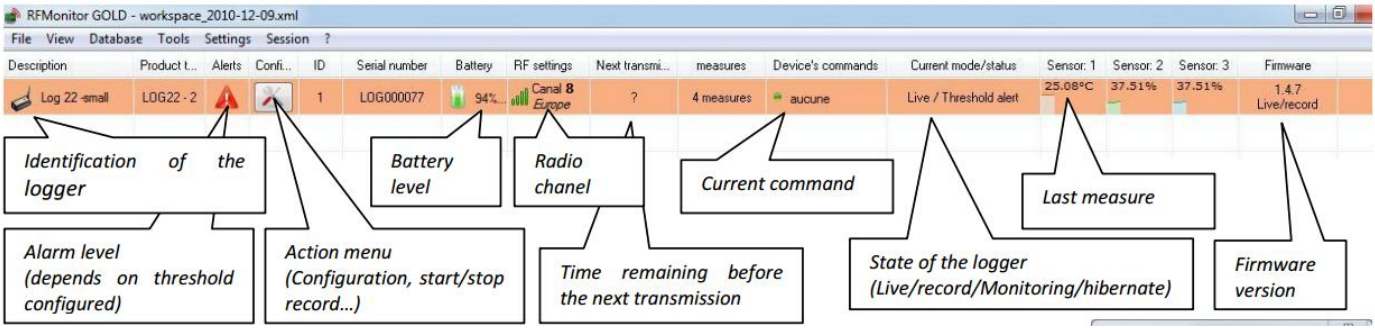
4 Using of the RF Monitor software

4.1 Main interface



4.2 List of devices

4.2.1 Default display



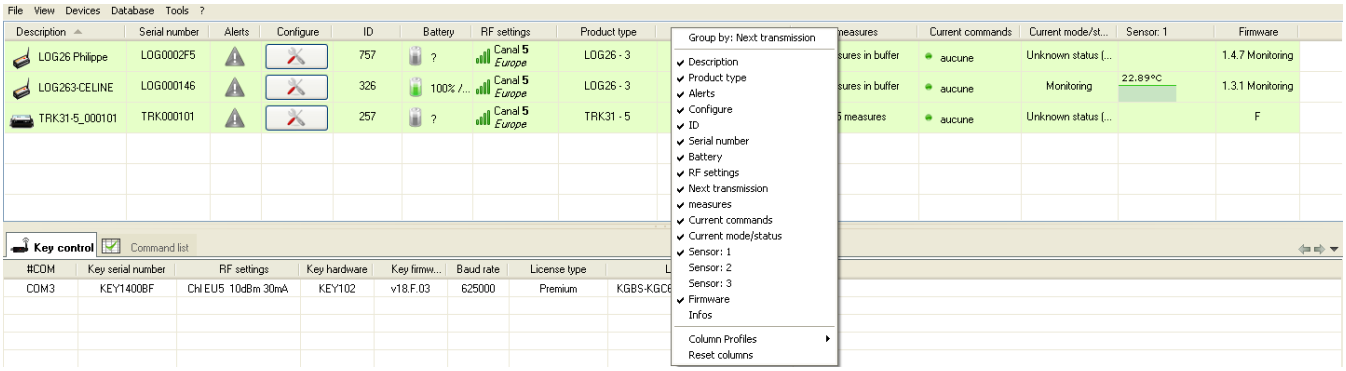
- **Description:**
  A description that you can modify to easily identify your logger.
- **Product type:**
  It indicates the product reference in the NEWSTEO products range.
- **Alerts :**
  This icon shows if an alarm is detected on the corresponding product. If the icon is black, it means that there is no alert. If it becomes red, an alert occurs. Different kinds of alarms can happen:
  - **Threshold alarm**: the last measurement is outside the set thresholds
  - **Lost transmission**: RF Monitor cannot communicate with the device anymore.
  - **Low battery**: the battery level is low. The user needs to change the battery.
- **Configuration:**
  This button allows to access to the product settings (see *4.3.2 Configuration*).
- **ID:**
  A number that you can modify to easily identify your logger (see *4.3.2 Configuration*).
- **Serial Number:**
  Unique device identifier. This serial number corresponds to the one printed on the label of the product.
- **Battery:**
  Estimated remaining level of battery (in %). The color turns to red when the battery is almost empty. It is then necessary to change it.

- **RF settings:**
  The Radio Frequency channel on which the product is communicating. To be able to communicate with a product, both the product and the RF-to-USB key have to be on the same channel.
- **Next transmission:**
  Estimated time before next incoming packet. This value is automatically calculated by the software. The software has to receive several transmissions from the product before indicating when it should receive the next packet. If the software has not received enough packets to give this information, it displays “?”.
  “?” can also correspond to a loss of transmission. In this case the alert icon will become red.
- **Measures:**
  Number of measures stored in the logger and not yet transmitted to the software.
  In case of a loss of transmission between the logger and the RF-to-USB key, the logger continues to take measures. As soon as the communication is restored, the number of measures stored in the logger is indicated and starts decreasing while the measures are sent to RF Monitor
- **Devices commands:**
  None: If there is no waiting command
  X command(s) waiting: X corresponds to the number of commands. You get this information if you make a modification in the configuration of the logger or if you send a command (ex: hibernate command). Once the command correctly sent to the logger, you get ”None” again.
  REMARK: *Each time you send a command to the logger, you must wait for a radio transmission or pass the magnet on the logger so that the modification be taken in account by the logger.*
- **Current mode/status:**
  Gives information on the functioning mode of the product:
  - **Unknown status(loaded from workspace**): The software has already seen this product in a previous session but is not able to communicate with it any more (see *4.4 Tab [File]*).
  - **Monitoring / Record / Live:** Product mode (see *4.3.2.4 Configuration of loggers – Time and Period*).
- **Sensor 1/2/3:**
  It indicates the value of the last measure for the logger.
  Some loggers can have several sensors (ex: temperature, humidity, board temp (temperature of the electronic card)...)
- **Firmware Version:**
  Current firmware version. To upgrade the firmware, see *4.3.2.6 Configuration of loggers – Firmware*

4.2.2 Change display :

The position and the number of columns can be modified by the user in order to simplify the use and the vision of the software.

- The move of a column is done by remaining clicked the title of the column and by slipping it to the desired position.
- To remove a column, right click the title and unselect it in the list.

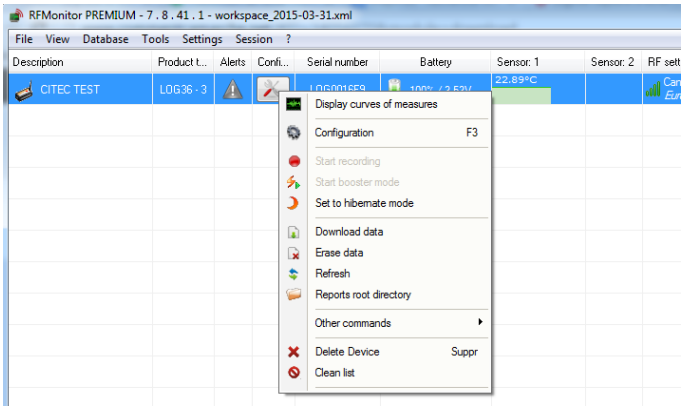


4.3 Icon « Tools » of a logger

Click [Tools] on the line of a logger

This opens a menu to perform actions on your product

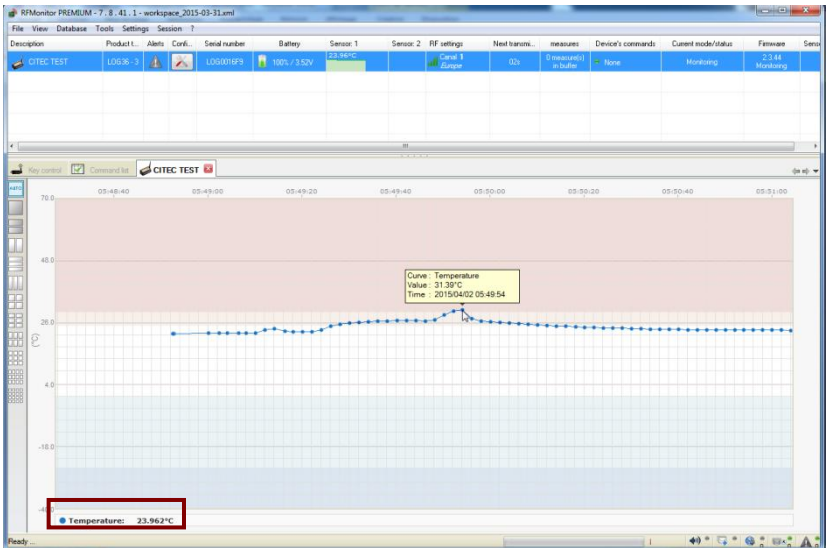
You can also get this menu by a right-click on the line of the Logger



4.3.1 Display curves of measures

Select the option [Display curves of measures]

You can also get this tab by a double-click on the line of the Logger.



It displays a new tab in the additional information part of the software. It corresponds to the graphic of the real-time measurements for the logger. On this graphic, only the last measures can be visualized.

If the product includes several sensors, the panel is automatically divided into several screens to display all the sensors.

Visual Checking

This function enables the supervisor to verify if the measures are normal.

Value and time stamp of a measure:

Pass the cursor of your mouse on points of the graphic.

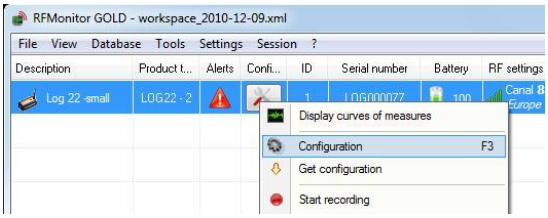
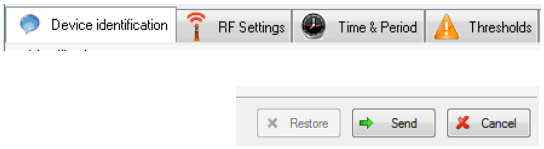
The last measure value :

Indicated in real time down to the left of the screen.

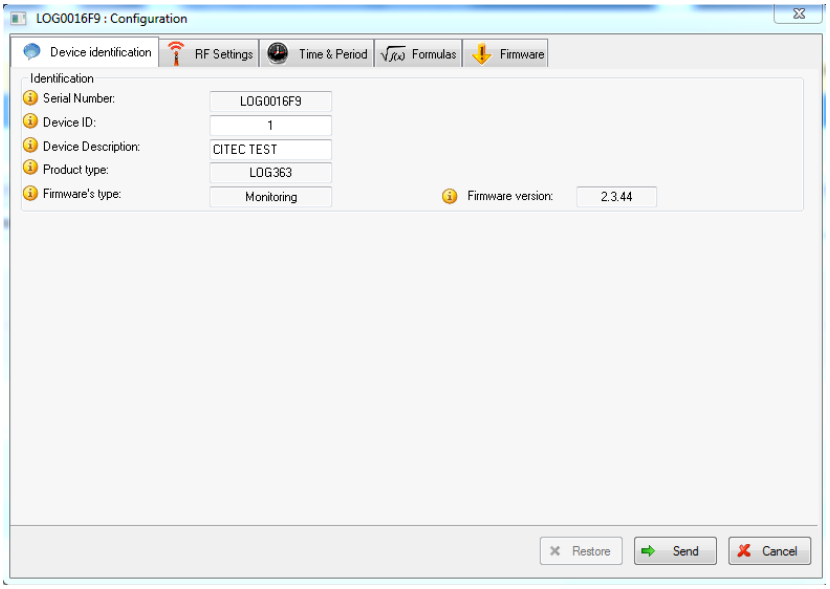
4.3.2 Configuration

4.3.2.1 Generality on the logger configuration process

For any configuration in this section:

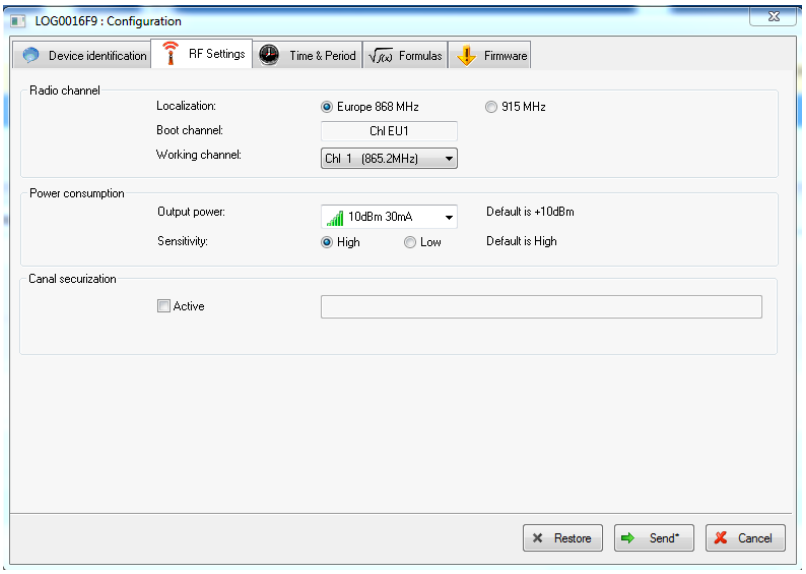
 Select the option [Configuration]	
For each of the following tabs (Device identification, RF settings, …), if you change a configuration, click **[Send]** to validate modifications Wait for a radio transmission or pass the magnet on the logger so that the modification be taken in account by the logger (see: **Devices commands** in *4.2.1 Default display*)	

4.3.2.2 Configuration of loggers – Identification

Select the tab [Device Identification]	
You get information concerning your logger and you can only modify : **Device ID** (identification): number from 0 to 999 **Device Description**: 16 characters **[Send]:** to validate modifications	

4.3.2.3 Configuration of loggers – RF settings

Select the tab [**RF Settings**]



Radio Channel

Localization / ISM Band:

Set Europe or North America localization to respect local normalization of ISM frequencies.

Boot Channel:

The channel of starting for the loggers is the channel 1 by default. This parameter can't be modified.

Working Channel:

When starting, the working channel of the Logger is channel 1.

12 working channels can be used.

We recommend to change the working channel to avoid the loss of measures.

CAUTION: once the working channel of a logger has been modified, you must change the working channel of the key (the key and the logger must always be on the same channel to communicate; the key must take the channel of the logger)

For this operation, please carefully follow instructions in *5 ANNEX*

ANNEX 1 – Change the working channel of your logger

Power consumption

Output power :

Power of emission – The default value is « 10dBm 30 mA ». We recommand you not to change this parameter for a best radio transmission

Sensitivity:

Sensitivity for reception - The default value is « High » We recommand you not to change this parameter for a best radio transmission

Channel securization :

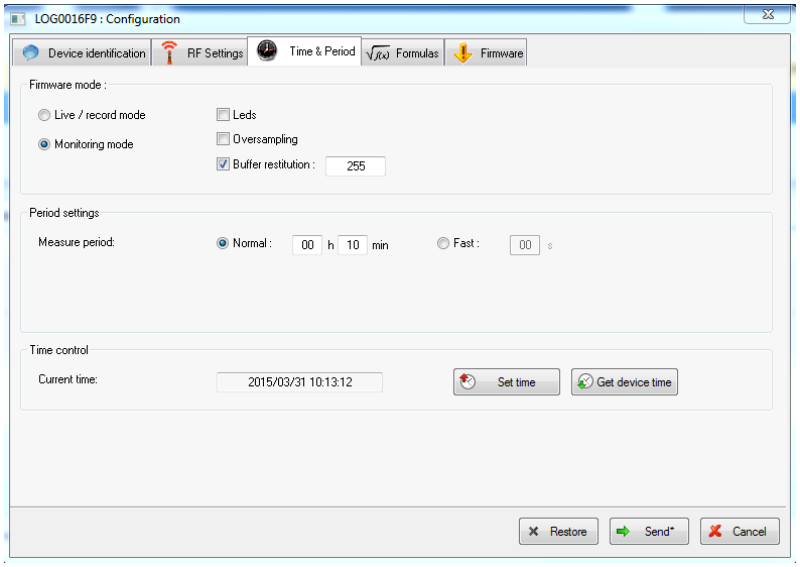
This option enables to securize the working channel of your logger to avoid the loss of measure. For this operation, please follow instructions in *5 ANNEX*

ANNEX 1 – Change the working channel of your logger)

[Send]: to validate modifications

4.3.2.4 Configuration of loggers – Time and Period

Select the tab [**Time & Period**]



Firmware Mode :

Live / record mode:

It is dedicated to campaigns of measures, mainly for TRE, TRK and TRP products. The user must manually send a command to start the campaign of measure and another one to stop it. Then, he needs to download the measure by sending a download command in order to fill the database and to generate the reports (.pdf and .csv file).

Monitoring mode :

In this mode, the logger sends automatically, in real time, its measurements to the computer. If a measure is not received by the computer, the logger stores it in its internal memory and sends it to the computer during the next transmission.

REMARK:To have more information concerning those two functioning modes, please see *5.2* ***ANNEX2 – Operating Mode for loggers***

Led :

You can choose to activate or not the LEDs. If they are activated, the consumption of the Logger slightly increases.

The LEDs are only available on some loggers (LOG, LOM and LOP)

The LED lights green if the measures taken by the Logger is inside the set thresholds.

The LED lights red if the measures taken by the Logger is outside the set thresholds

Oversampling :

When this mode is activated, le logger takes more measures

- If the measurement period is upper than 1minute (ex.:10 minutes), the Logger will take a measure every minute. If a threshold alert is overtaken, the measures will be stored in the database every minute. If the thresholds aren't overtaken, only the periodic measures will be stored in the database.
- If the defined period is lower than 1 minute (ex.:20 seconds), the Logger will have the same behaviour as above but it will take a measure every second instead of every minute

CAUTION: This option significantly increases the logger consumption.

Buffer Restitution: (monitoring mode only) :

When the product is in monitoring mode and is not able to transmit its measurements to the PC, it automatically stores them. At the next connection with the computer, the Logger will transmit all recorded measures.

The Buffer restitution value allows to define the number of stored data sent at each transmission. By default, it is defined to 255. This value means that the Logger will send in one time all the stored measures (up to 32256 measurements) as soon as there will be a communication between the logger and the RF-to-USB key.

It can be necessary to modify this parameter if many loggers are used in the same site and if there are a risk of radio collision. The user can set it for example on 9. The device will send 9 by 9 the storeded measures in addition to the current measure, at each transmission to the PC (every 10 minutes if the measure frequency is set on 10 minutes). It will be longer to download all the data but it will avoid radio collision between several products.

Period settings :

Measure Period – For Monitoring Mode :

Time between two measures.

By default, a measure is transmitted every 10s to RF-Monitor from the Logger with a request for acknowledgment.

You can define a period up to 4 hours.

Measure Period – For Live / Record Mode :

Measurement period between two campaign of measure.

By default in 'live' mode, a measure is transmitted every 10s from the Logger to RF-Monitor which allows the user to set alert thresholds and verify the operation of the Logger.

Record Period – For Live / Record Mode :

Measurement period for the recording campaign

By default, in 'record' mode, the logger takes a measure every 10 minutes and stores it in its memory. These measures will be restituted to RF Monitor on request and after a change for the 'live' mode by a "stop record command".

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

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

For information:

period	**1 mn**	**→ 20**	**days**	**of autonomy**
period	**10 mn**	**→ 200**	**days**	**of autonomy**
period	**30 mn**	**→ 2**	**years**	**of autonomy**

Time control :

Current time :

It indicates the current time of the logger.

Set time :

It forces the setting of the time for the logger

Wait for a radio transmission or pass the magnet on the logger so that the modification be taken in account by the logger.

Get Device Time :

If the current time is still not indicated, you can get it by clicking on [**Get device time**]

Wait for a radio transmission or pass the magnet on the logger so that the modification be taken in account by the logger.

The loggers can automatically be put right to the time of the computer if this option is selected (see *4.8.5.1 General settings*).

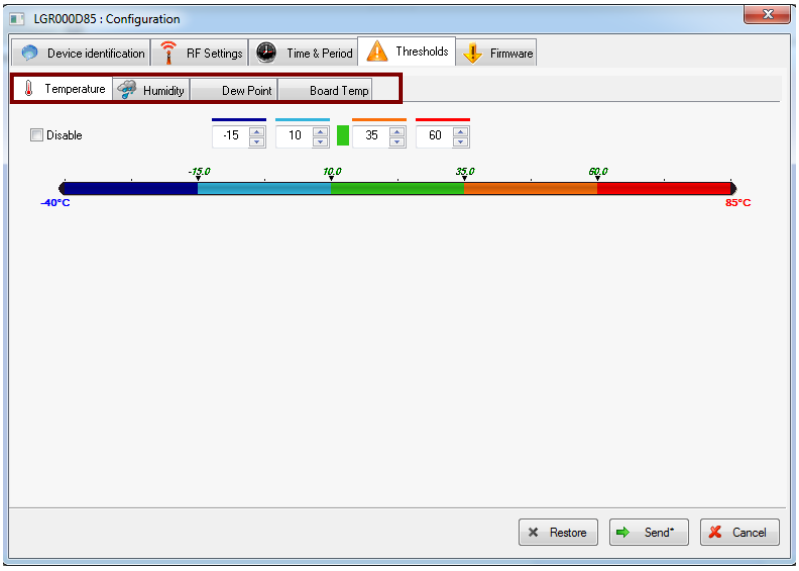
[Send]: to validate modifications.

4.3.2.5 Configuration of loggers – Thresholds

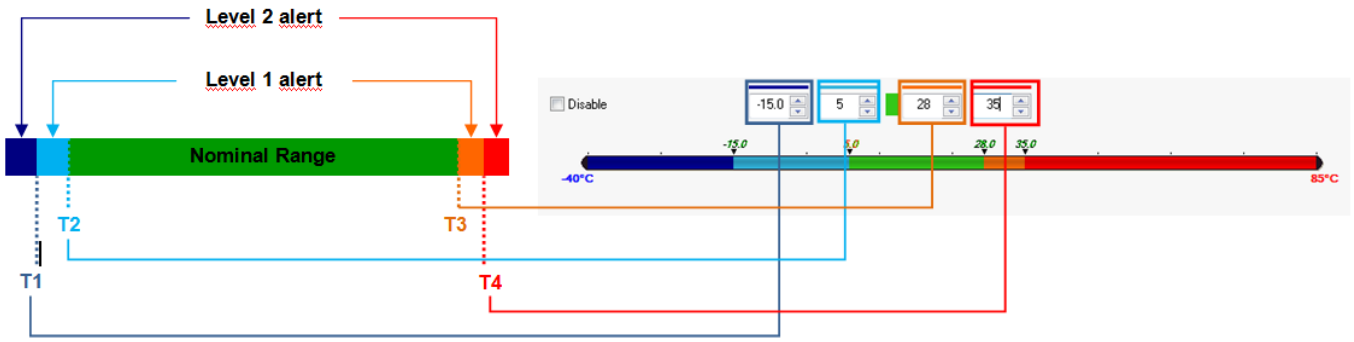
Select the tab [**Thresholds**]

It can have several tabs available.
It depends on the logger.
It corresponds to the sensors 1, 2 … displayed on the line of the logger in the main interface

Disable :
Unselect this option in order to configure the thresholds for alerts



You can define low and high levels thresholds alarms for each sensor (here, temperature sensor).
There are several levels for alerts
The **nominal area is green**, light blue, dark blue, orange and red correspond to the alert areas.

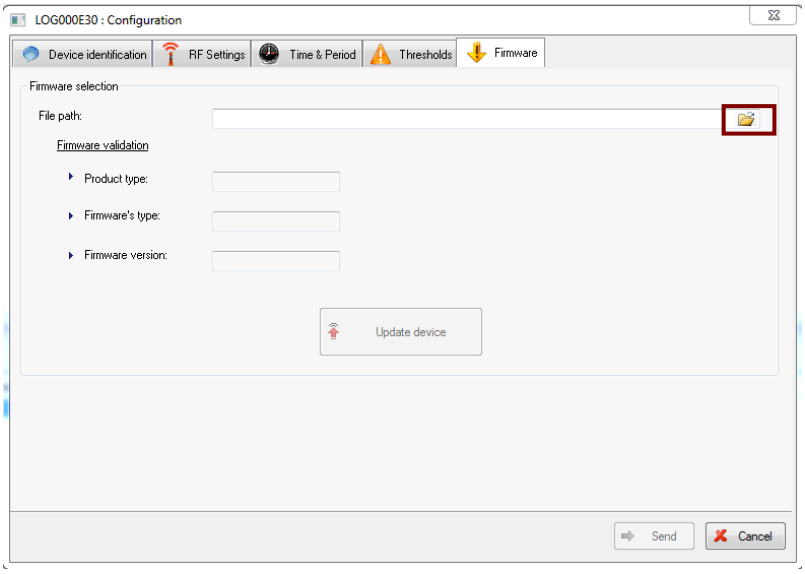


[Send]: to validate modifications

4.3.2.6 Configuration of loggers – Firmware

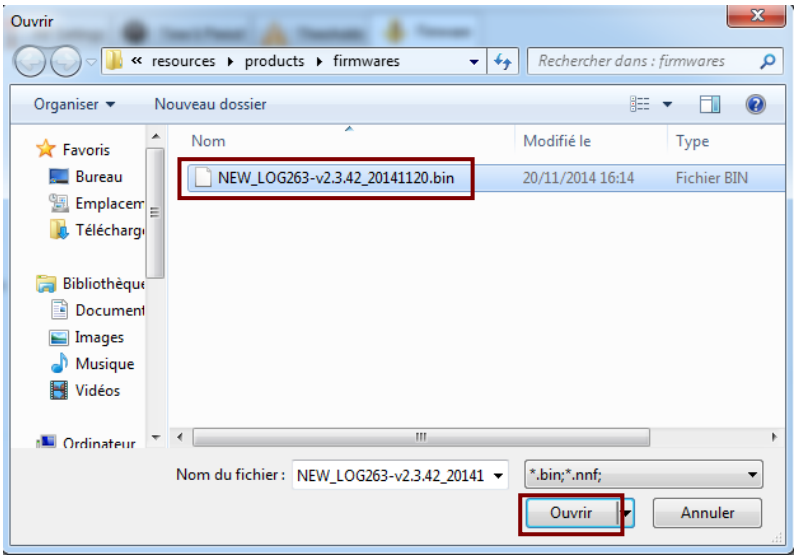
Select the tab [**Firmware**]

This menu has to be used to update the device's embedded software (firmware) when a new one has been released.
Click [**Browse**] to select the file.



If a new firmware is available for your logger in the RF Monitor software, it automatically appears.
Select it and click [open]

REMARK: A new firmware can be provided by the technical support to correct a problem. The new firmwares can be available in the new versions of RF Monitor that can be download on the Newsteo Website.
Generally speaking it is advised not to upgrade the logger firmware if your logger is working properly.



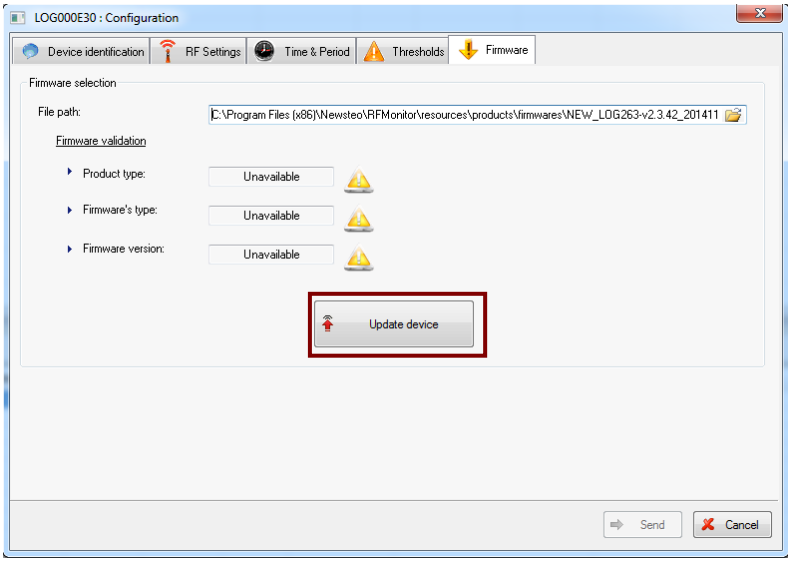
Click [**Update device**]

The command is sent to the product.
Wait for a radio transmission or pass the magnet on the logger so that the modification be taken in account by the logger (see: **Devices commands** in *4.2.1 Default display*)

REMARK: It is possible to pass the magnet on the logger to force the command.

Process windows will automatically close at the end of firmware update.

CAUTION: Do not remove key, do not remove device batteries, do not close RF-Monitor while the update is in progress.

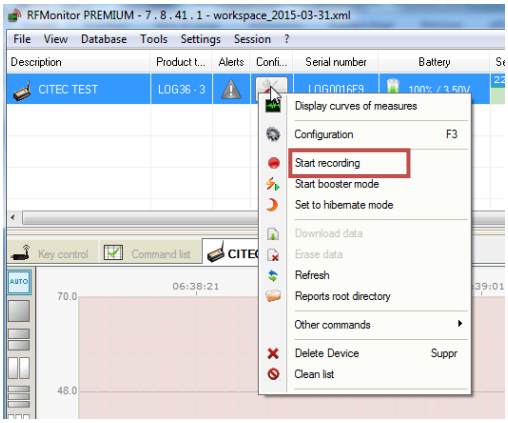


4.3.3 Start/ Stop Recording

Select the option [**Start recording**] to start the campaign of measure of a logger.

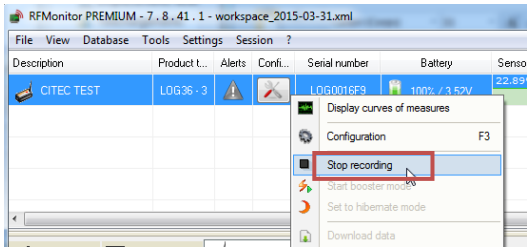
This option is activated only if the logger is configured in Live / Record mode. (See: *4.3.2.4 Configuration of loggers – Time and Period* to modify the period of measure)

REMARK: If this option is not activated, the logger is in monitoring mode and it takes measures automatically at the defined period in *4.3.2.4 Configuration of loggers – Time and Period*



Select the option [**Stop recording**] to stop the campaign of measure of a logger.

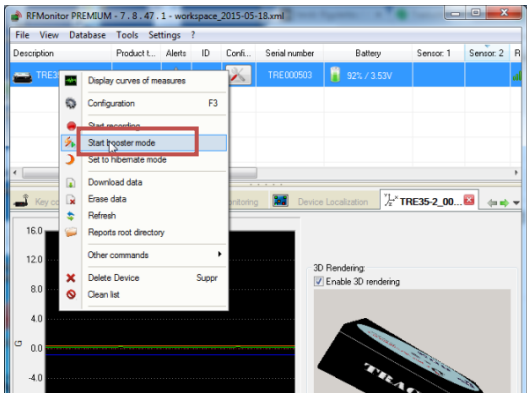
This option is activated only if a record has been previously started



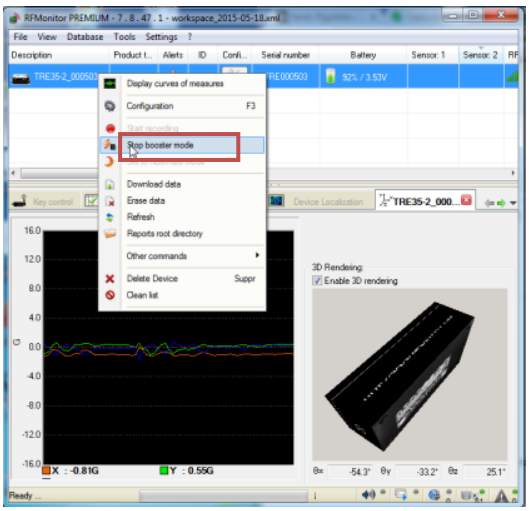
4.3.4 Start/Stop booster mode

Select the option [**Start booster mode**] to take 7 measures per second.

This option is available for the trackers TRE and TRP.
Once this mode is started, the tracker takes one measure every 130 milliseconds in order to enable the visualization of the acceleration in real time according to the axis x, y and z and to visualize the 3D rendering (See: tRE TRK)



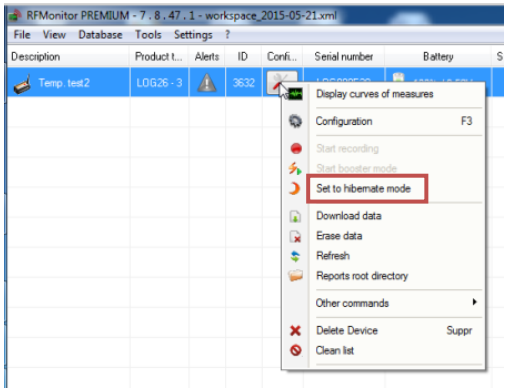
Select the option [**Stop booster mode**] to stop the visualization in real time.



4.3.5 Set to hibernate mode

Select the option [Set to hibernate mode] to stop your logger.

This function enables to save battery when you don't use your logger after the command [stop recording].
You can restart you logger by passing the magnet on it.
(see *3 Start a device*)

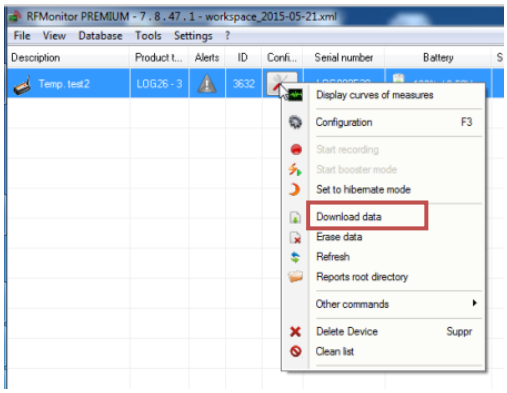


4.3.6 Download data

Select the option [Download data] to get the measurements stored in the logger.

This function enables to get the measurements stored during a campaign of measure after a command [Stop recording].

REMARK: You can also use this command to download the measurements stored in the logger after a communication interrupt.
For example: After a RF-to-USB key removed during a long time, you have a lot of measurements which have been automatically recorded in the logger memory (See **Monitoring Mode** in *5.2 ANNEX2 – Operating Mode for loggers*). If the RF-to-USB key is connected again, the measurements will be automatically transmitted to the database in their time. If you want to get them faster, use the command [Download data].

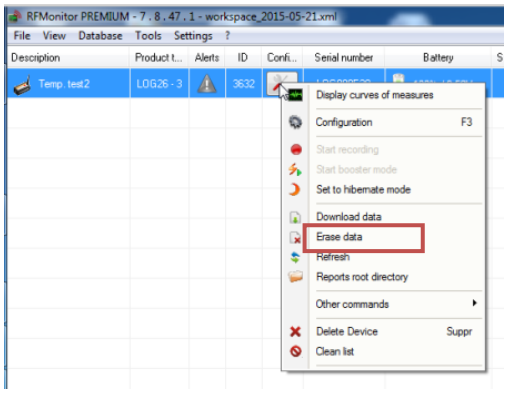


4.3.7 Erase data

Select the option [**Erase Data**] to erase the measurements stored in the logger.

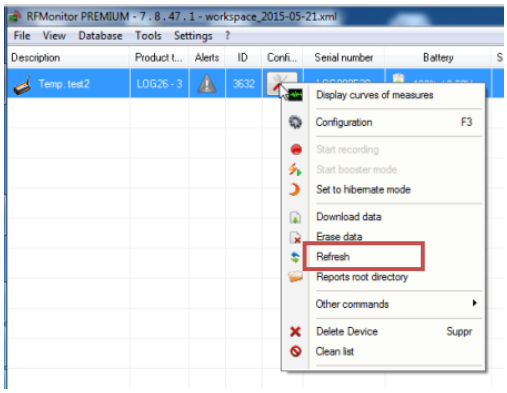
This function enables to erase the measurements stored during a campaign of measure after a command [**Stop recording**] if you don't want to store the measures in the database.

REMARK: You can also use this command to erase the measurements stored in the logger after a communication interrupt.
For example: After a RF-to-USB key removed during a long time, you have a lot of measurements which have been automatically recorded in the logger memory (See **Monitoring Mode** in *5.2 ANNEX2 – Operating Mode for loggers*). If the RF-to-USB key is connected again, the measurements will be automatically transmitted to the database in their time. If you don't want to get them and if you don't want them to be stored in the Database, use the command [**Erase data**].



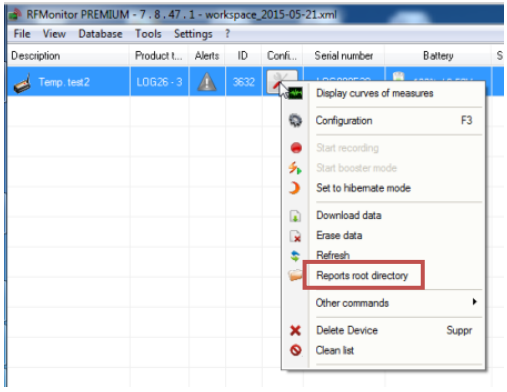
4.3.8 Refresh

Select the option [**Refresh**] to reload the information concerning the logger.
It enables to be sure that the information displayed have not changed.
They could have changed if the logger had been used with another computer. In this case, the information displayed do not correspond exactly to the current status of the logger but to the one saved in the context of the software during the last use (See *4.4 Tab [File]*).



4.3.9 Reports root directory

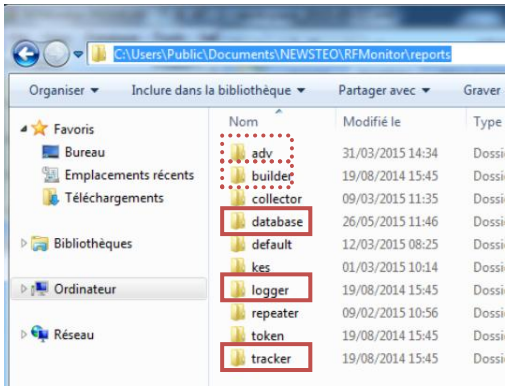
Select the option [**Reports root directory**] to directly access to the directory:
C:\Users\Public\Documents\NEWSTEO\RFMonitor\reports



The report directory contains directories which correspond to different types of loggers :

- If you use products type **LOG, LOM, LOP, LGR, LGS, LGP, LGJ, LGA…**, you are concerned by the directory [**logger**].
- If you use products type **TRK, TRE, TRP** dedicated to the transport tracking, you are concerned by the directory [**tracker**].
- If you use products type **ADV, MRB…**, you are concerned by the directory [**adv**].
- If you use products type **BLD** you are concerned by the directory [**builder**].
- If you have **generated a .csv or .pdf file from the data base**, (see *4.8.5.3 Measures storage*) you are concerned by the directory [**database**].

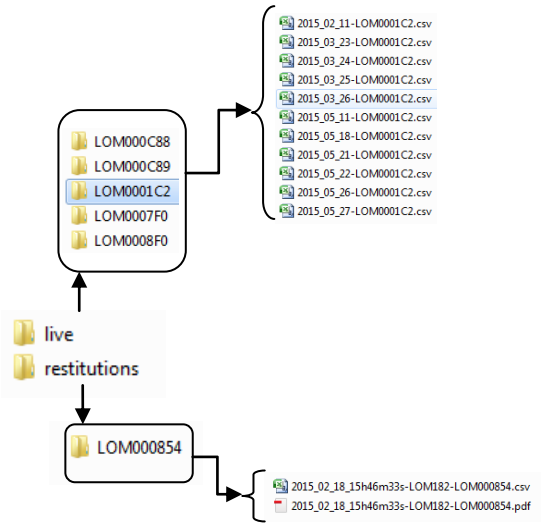
REMARK: The other directories do not contain information that could be useful for a user. They can give information for the technical support in case of problem.



In each directory you can have up to two directories:

- **Live:** It contains the list of the loggers that have been already used with your RFMonitor in **Monitoring mode** (see **Monitoring mode in** *4.3.2.4 Configuration of loggers – Time and Period*)
  If you open the directory which the name corresponds to the serial number of the logger, you get a list of files that correspond to the **measurements recorded by the logger each day in monitoring mode (if you previously configured it** (see *4.8.5.3 Measures storage*). The file can be easily identified. The name is composed by the date (yyyy_mm_dd) followed by the serial number of the logger.

- **Restitution:** It contains the list of the loggers that have been already used with your RFMonitor in **Record mode**. (see **Live/Record mode in** *4.3.2.4 Configuration of loggers – Time and Period*)
  If you open the directory which the name corresponds to the serial number of the logger, you get a list of files. There are two possible type of file (.csv and .pdf files depending of the configuration defined in *4.8.5.3 Measures storage*). Those files correspond to the data recorded during each campaign of measurements. They are generated after a campaign of measurement when the user downloads the data. (see *4.3.6 Download data*). The files can be easily identified. The name is composed by the date (yyyy_mm_dd) and the time followed by the serial number of the logger.

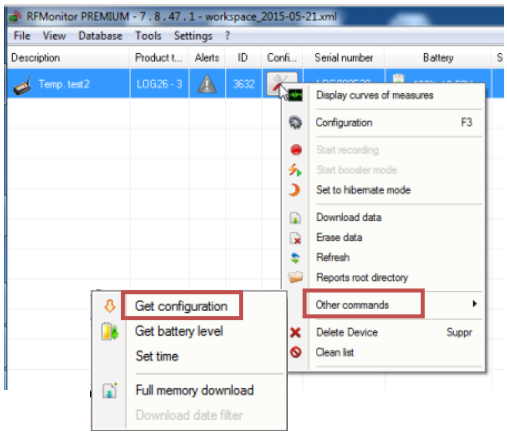


4.3.10 Other commands

4.3.10.1 Other commands – Get configuration

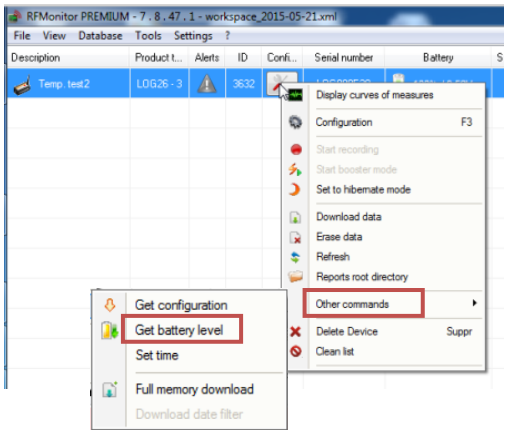
Select the option [**Other commands/Get configuration**] to reload the descriptor of the logger.
It enables the RF Monitor software to get all the settings that have been sent to the logger during the configuration (period of measure, level for threshold …) (see *4.3.2 Configuration*)

REMARK: The descriptor of a logger is automatically sent to RF Monitor at the starting of the logger.
Sometimes it can be necessary to reload it after a specific operation. In this case you will be asked to do it by the technical support for example.
You can also perform this operation by suppressing the line of the logger in RF Monitor and by passing the magnet on the logger. When the line of the logger appears again in green in the software, it means that the descriptor has been reloaded.



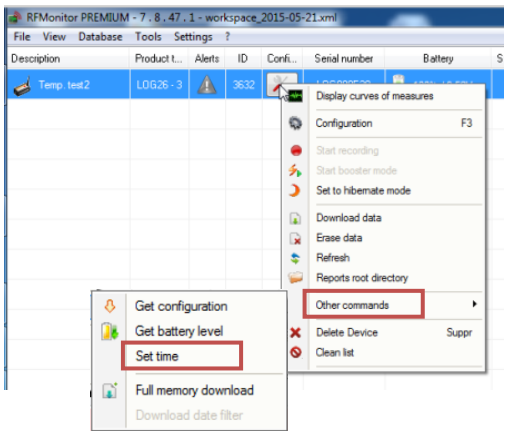
4.3.10.2 Other commands – Get battery level

Select the option [**Other commands/Get battery level**] to reload the logger battery level.
The logger battery level is automatically sent to RF Monitor every 32 measures. Then it remains displayed in RF Monitor.
If you want to get it immediately, you can use this command.



4.3.10.3 Other commands – Set time

Select the option [**Other commands/Set time**] to manually set the time of a logger.
The time of the loggers is automatically set by RF when there is a difference upper than 2 minutes between the time of the logger and the time of your computer.
If you want to set it immediately, you can use this command.

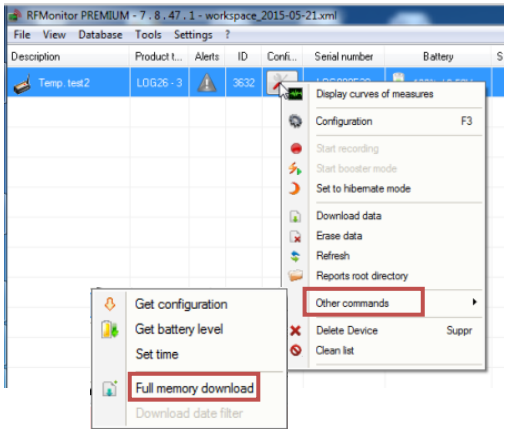


4.3.10.4 Other commands – Full memory download

Select the option [**Other commands/Full memory download**] to fully download the memory of the logger.

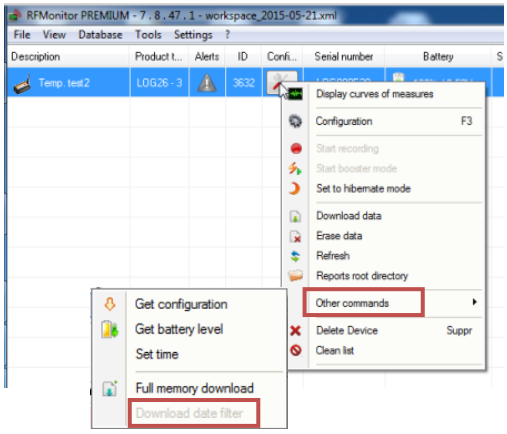
If you met a problem and if you note that you have a hole of data in your database you can send this command to read back the flash memory of your logger. You will recover the last 32700 measures taken by the logger. They will be store in the database

REMARK: The measures won't be duplicated in the database, only the lacking data will be stored.



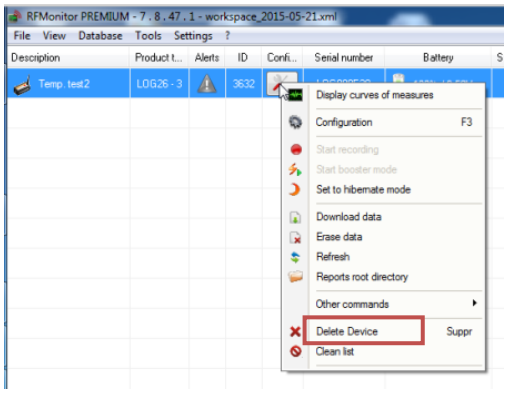
4.3.10.5 Other commands – Download date filter

Not yet implemented



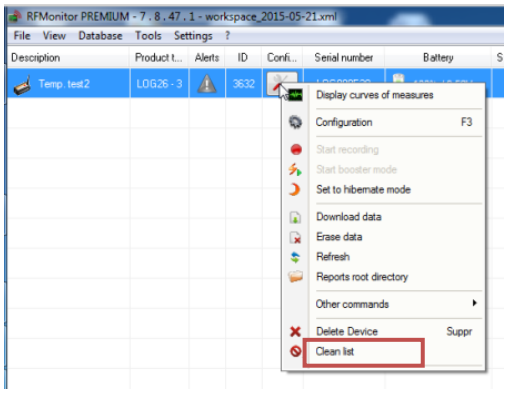
4.3.11 Delete Device

Select the option [**Delete Device**] to remove the logger from the devices list.
You can need this command to reload the descriptor of your logger (see *4.3.10.1 Other commands – Get configuration*)
You can use this command to make a new detection of your logger by your RF-to-USB key (set the key on channel 1) and thus to know the communication channel of your logger (see *4.3.2.3 Configuration of loggers – RF settings* and *4.5.2 Key control tab*).
You can use this command to modify the workspace (See *4.4 Tab [File]*).



4.3.12 Clean list

Select the option [**Clean list**] to remove all the loggers from the devices list.
It avoids the suppression one by one of the loggers.

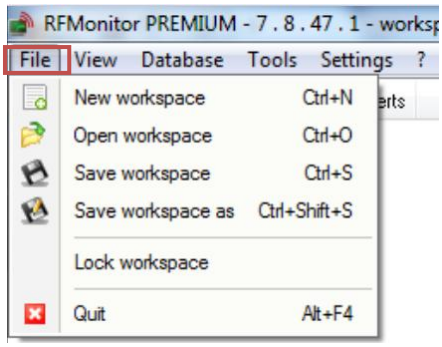


4.4 Tab [File]

Click [**File**]
This opens a menu mainly dedicated to the workspace

The workspace gives information about all the settings and the status of the loggers and of the RF Monitor software.
The last workspace is always automatically saved when you close the RF Monitor software.
If you have an installation with several loggers that have been detected by RF Monitor, if you close the RF Monitor software and then if you restart it again, you will get the complete devices list. This list appears before the detection of all the loggers. All the settings (period of measure, threshold level,…) are already loaded, and you just need to wait for the line of each logger to become green.

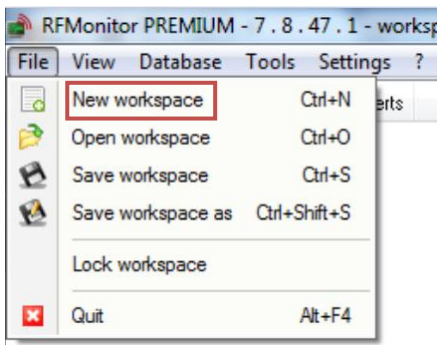
REMARK: If the line remains orange after 3 periods of measure, you can pass the magnet on the logger to force the detection. If the line of the logger still remains in orange, suppress the line of the logger then pass again the magnet on the logger. If the line of the logger never becomes green, please contact your retailer.



4.4.1 New workspace

Click [**New workspace**] to create a new workspace.

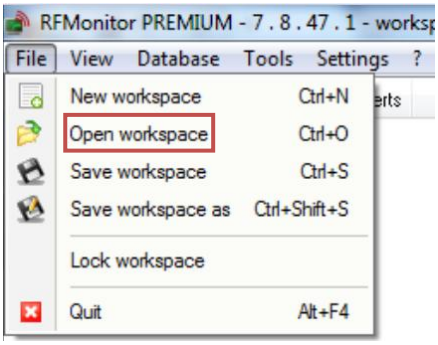
It cleans the list of devices



4.4.2 Open workspace

Click [**Open workspace**] to open a workspace different from the current one.

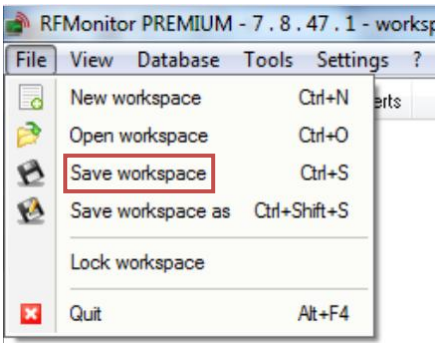
It open the list of automatically saved workspaces from the directory :
C:\Program Files (x86)\Newsteo\RFMonitor\workspaces



4.4.3 Save workspace

Click [**Save workspace**] to save the current workspace.

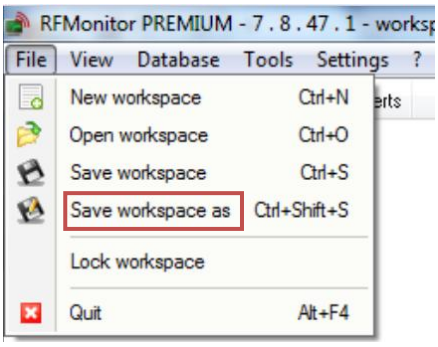
It saves the workspace in the directory :
C:\Program Files (x86)\Newsteo\RFMonitor\workspaces
The default name is: *workspace_yyyy-mm-dd.xml*



4.4.4 Save workspace as

Click [**Save workspace as**] to save the current workspace in a different place from the default directory and with a different name from the default name

REMARK: By default, it saves the workspace in the directory :
C:\Program Files (x86)\Newsteo\RFMonitor\workspaces
The default name is: *workspace_yyyy-mm-dd.xml*

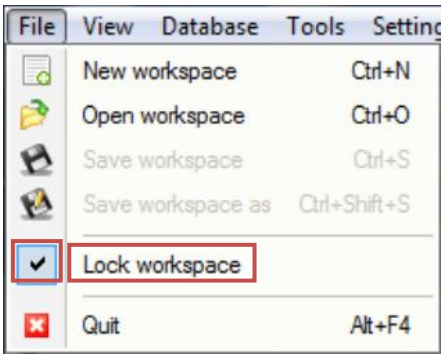


4.4.5 Lock workspace

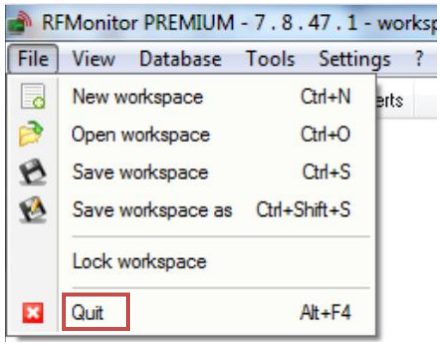
Click [**Lock workspace**] to prevent from a modification of the workspace during a session.

Once this option is selected you can neither save the context nor modify it by suppressing a logger from the devices list.
If this option is selected when you close the RF Monitor software, the workspace won't be automatically saved.

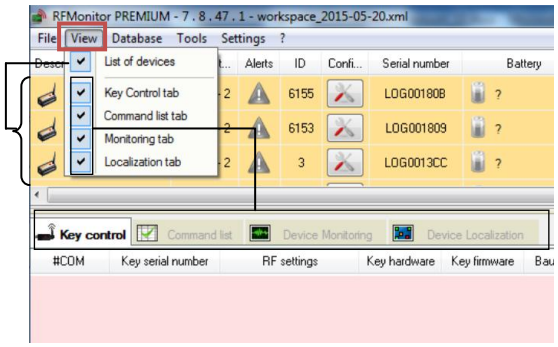
REMARK: This option is only active during the current session. If you close the RF Monitor software, and then if you restart it again, this option won't be selected anymore.



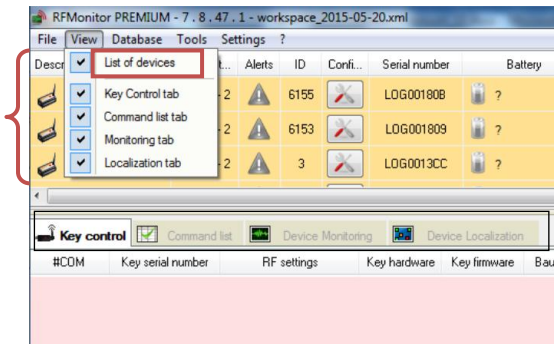
4.4.6 Quit

Click [**Quit**] to close RF Monitor.	

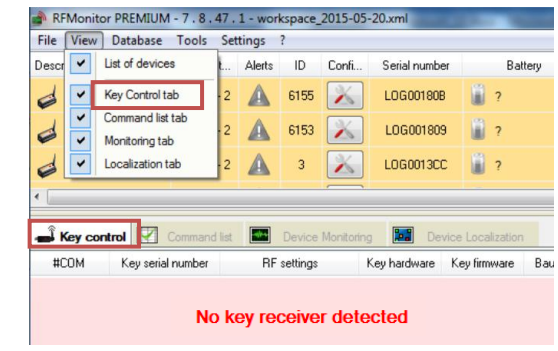
4.5 Tab [View]

Click [**View**] This opens a menu which enables to display tabs for the control, and the visualisation of the devices	

4.5.1 List of devices

Click [**List of devices**] to display or to hide the devices list. This option enables to enhance the display of the tabs located in the lower part of the screen especially the [Device Localisation] one The [list of device] option is fully detailed in the paragraph *4.2 List of devices*	

4.5.2 Key control tab

Click [**Key Control Tab**] to display the [Key Control] tab in the lower part of your screen. If the screen is pink with the message “No key receiver detected”, verify that you have correctly connected your RF-to-USB key and try another USB port on your computer. If this message persists, please contact your retailer.	

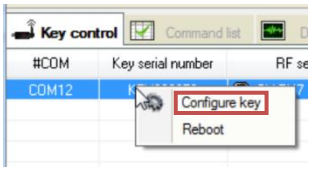
If the RF-to-USB key is correctly detected, you get its descriptor:

- **#COM**: The communication port used to communicate with your computer.
- **Key serial number**: It corresponds to the one on the label of your key.
- **RF settings**: It indicates the Radio Frequency channel on which the product is communicating. To be able to communicate with a product, both the product and the RF-to-USB key have to be on the same channel (see *5.1 ANNEX 1 – Change the working channel of your logger*). If a cadena is displayed, it means that the channel is securized.
- **Key hardware**: Hardware version of your RF-to-USB key.
- **Key firmware**: Firmware version of your RF-to-USB key.
- **Baud Rate**: Communication speed for the COM port.
- **Licence type**: Premium (local database), Gold (distant database - user management), or CFR21.
- **Licence number**

4.5.2.1 Configure Key

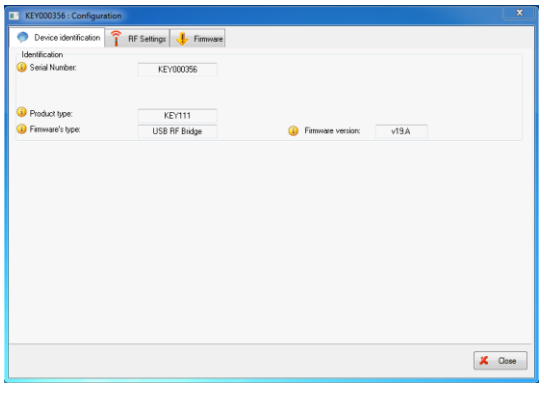
Right Click on the line of the RF-to-USB key : It opens a new menu for the RF-to-USB key.

Click [**Configure key**] to open the configuration window of the RF-to-USB key.



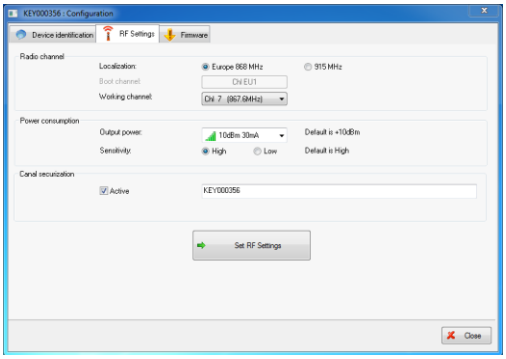
4.5.2.1.1 Configuration of the RF-to-USB key – Device identification

Select the tab [Device Identification]
You get again the information concerning your logger.
Nothing can be modified.



4.5.2.1.2 Configuration of the RF-to-USB key – RF settings

Select the tab [**RF Settings**]



Radio Channel

Localization / ISM Band:

Set Europe or North America localization to respect local normalization of ISM frequencies.

Boot Channel:

It does not concern the RF-to-USB key. This parameter can't be modified.

Working Channel:

When starting, the working channel of the Logger is channel 1.

12 working channels can be used.

We recommend to change the working channel to avoid the loss of measures.

CAUTION: once the working channel of a logger has been modified, you must change the working channel of the key (the key and the logger must always be on the same channel to communicate; the key must take the channel of the logger)

For this operation, please carefully follow instructions in *5 ANNEX ANNEX 1 – Change the working channel of your* logger

Power consumption

Output power :

Power of emission – The default value is « 10dBm 30 mA ». We recommand you not to change this parameter for a best radio transmission

Sensitivity:

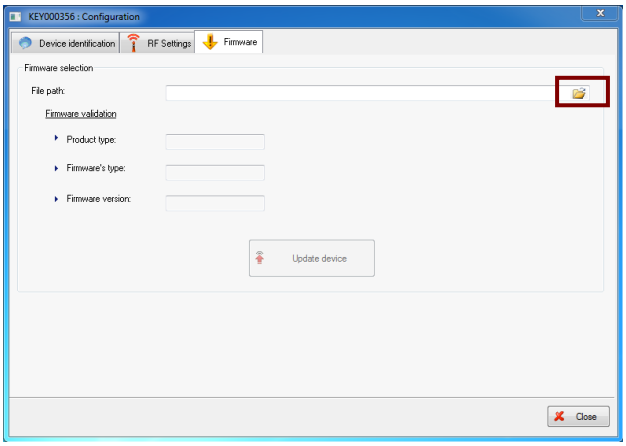
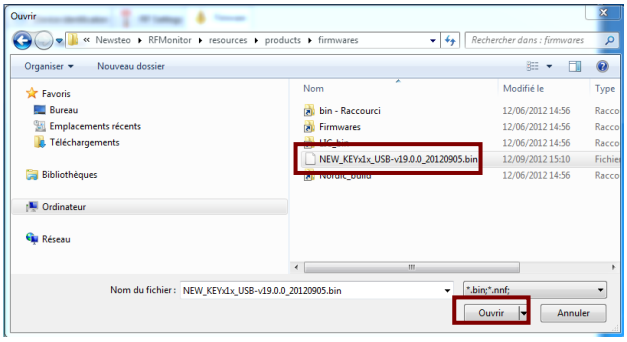
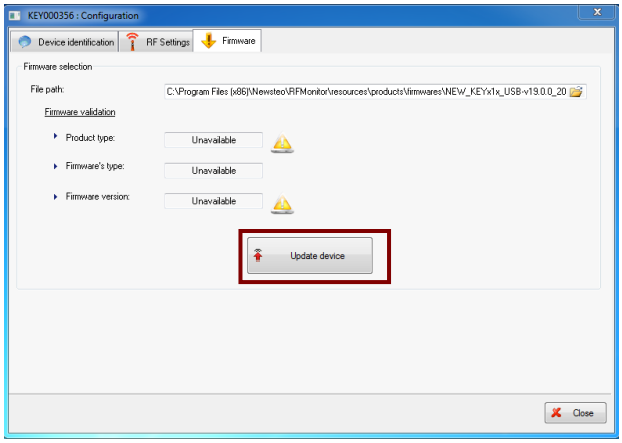
Sensitivity for reception - The default value is « High » We recommand you not to change this parameter for a best radio transmission

Channel securization :

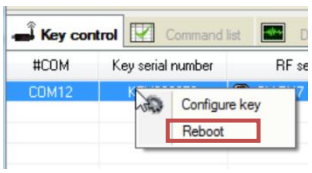
This option enables to securize the working channel of your logger to avoid the loss of measure. For this operation, please follow instructions in *5 ANNEX ANNEX 1 – Change the working channel of your* logger)

Click [Set RF Settings] to validate modifications

4.5.2.1.3 Configuration of the RF-to-USB key – Firmware

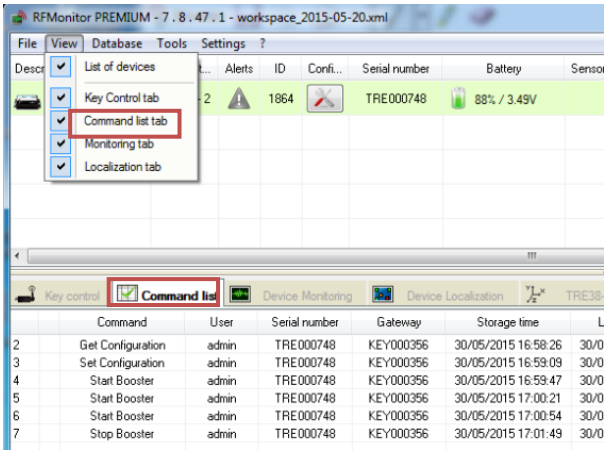
Select the tab [**Firmware**] This menu has to be used to update the device's embedded software (firmware) when a new one has been released. Click [**Browse**] to select the file.	
If a new firmware is available for your RF-to-USB key in the RF Monitor software, it automatically appears. Select it and click [open] **REMARK:** A new firmware can be provided by the technical support to correct a problem. The new firmwares can be available in the new versions of RF Monitor that can be download on the Newsteo Website. Generally speaking it is advised not to upgrade the logger firmware if your RF-to-USB key is working properly.	
Click [**Update device**] The command is sent to the product. Wait for a radio transmission so that the modification be taken in account by the logger (see: **Devices commands** in *4.2.1 Default display*) **REMARK:** It is possible to pass the magnet on the logger to force the command. The process window will automatically close at the end of firmware update. **CAUTION:** Do not remove key, do not close RF-Monitor while the update is in progress.	

4.5.2.2 Reboot

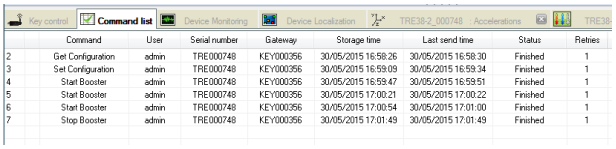
Right Click on the line of the RF-to-USB key. Click [**Reboot**] to restart the RF-to-USB key and thus reload its descriptor (see *4.5.2 Key control tab*)	

4.5.3 Command list tab

Click [**Command list tab**] to display the [Command list] tab in the lower part of your screen.



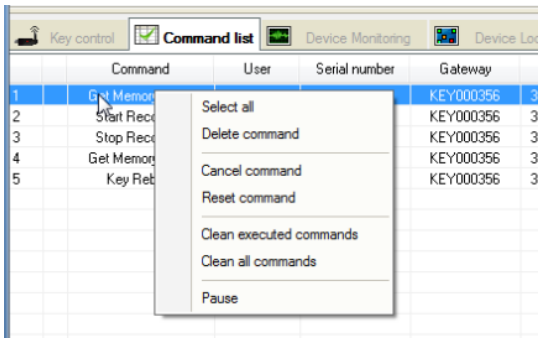
In the first column, you get the number of the command from the opening of the session.



- **Command**: Name of the command which was sent.
- **User**: Identification of the user who opened the current session.
- **Serial number**: Serial number of the device which is concerned by the command. This can be the serial number of a RF-to-USB key or the one of a logger.
- **Gateway**: Serial number of the RF-to-USB key used by the device to communicate with the software RF Monitor.
- **Storage time**: Date and time of the command.
- **Last send time**: Date and time of the last try for the sending of the command. When the command is finished, the [last send time] corresponds to the real date and time of the command, the one to which the command has been taken in account.
- **Status** : Status of the command (waiting, finished…).
- **Retries:** Number of retry for the sending of the command.

Right Click on the line of one command :
This opens a menu to act on commands.

REMARK: It is recommended to suppress a command not finished which has a huge number of retry and to sent it again.



4.5.4 Monitoring tab

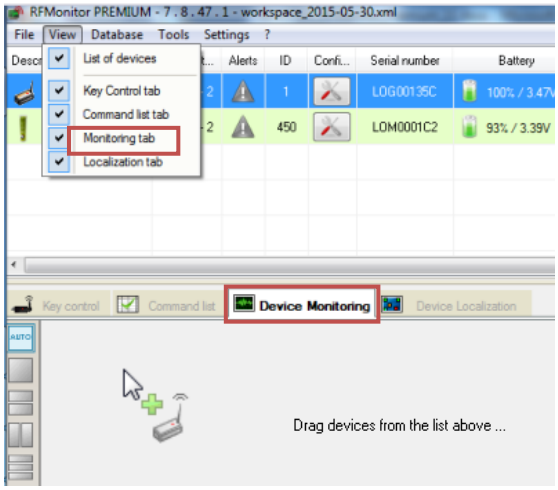
Click [**Monitoring tab**] to display the [Device Monotoring] tab in the lower part of your screen.

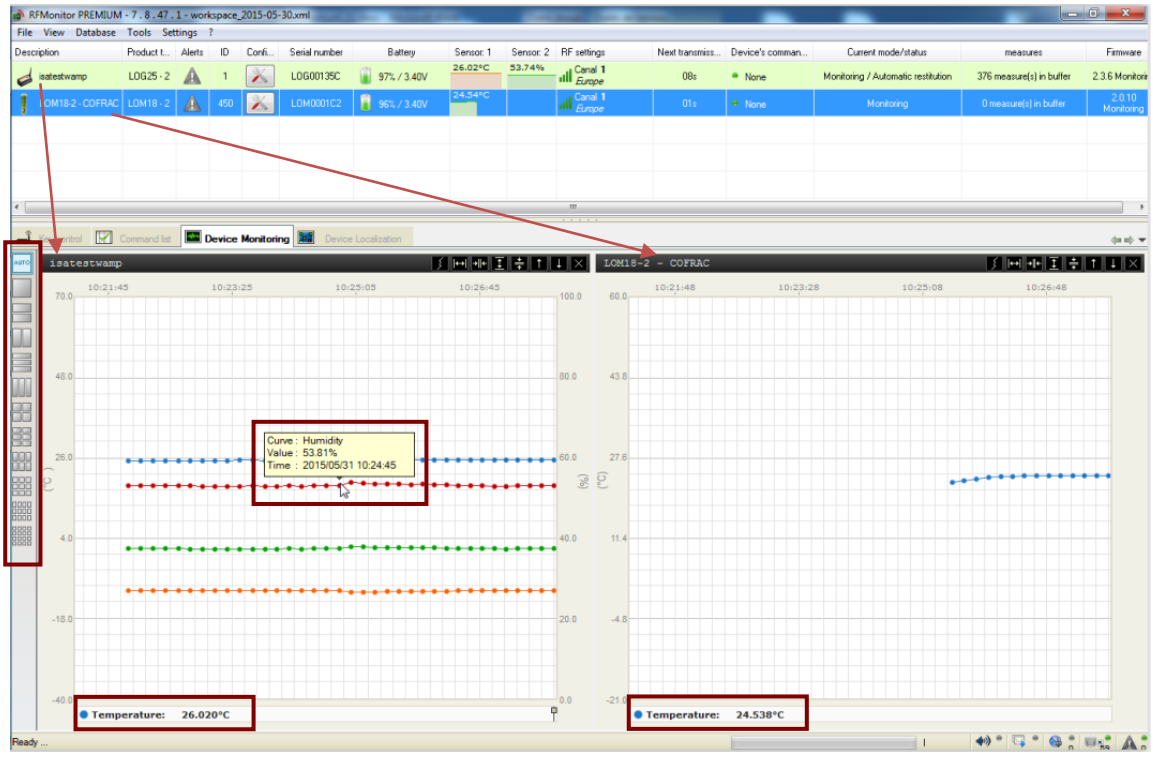
In this tab, you can display one graphic per logger where all the sensors of a logger are displayed on the same graphic.

It corresponds to the graphic of the real-time measurements for the loggers. On this graphic, only the last measures can be visualized.

To add a graphic, drag and drop the logger from the divices list to the [Device Monitoring] tab.

You can do it for several loggers and then adjust the display with the icons on the left of the screen depending on the size of your screen and depending on the number of loggers to display.





Visual Checking

This function enables the supervisor to verify if the measures are normal.

Value and time stamp of a measure:

Pass the cursor of your mouse on points of the graphic.

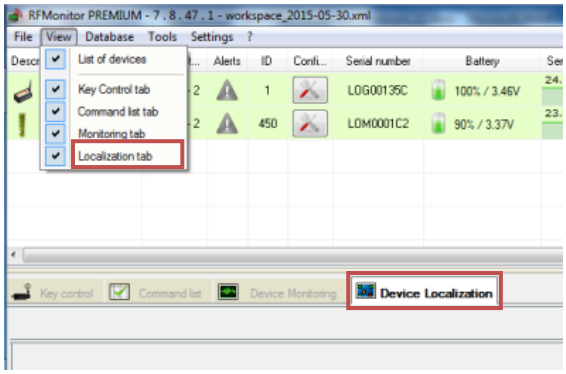
The last measure value :

Indicated in real time down to the left of the screen.

4.5.5 Localization tab

Click [**Localization tab**] to display the [Device Localization] tab in the lower part of your screen.

In this tab, you are able to display one map or one picture of your installation to localize your loggers.

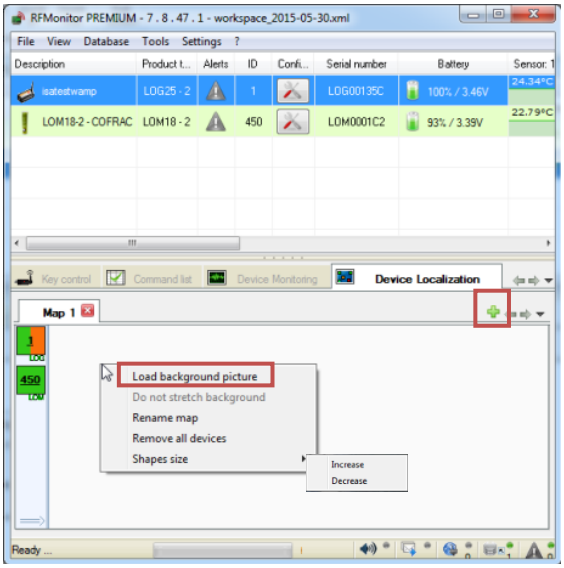


Click [+] to create a new map.
You can create several maps.

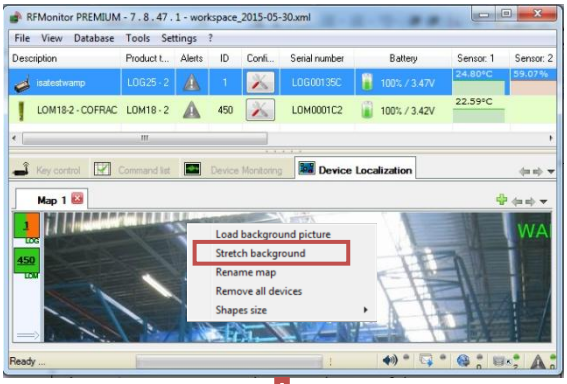
Right click on the map.

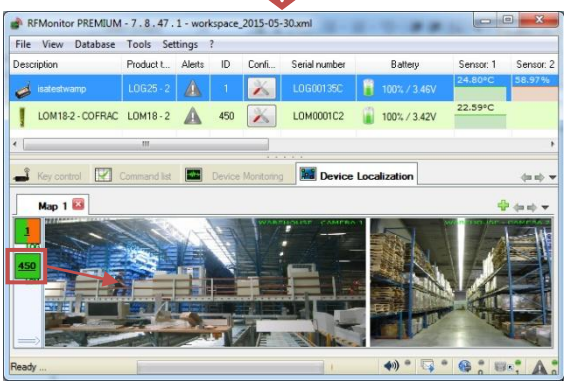
This opens a menu which enables to customize the map.

Load background picture to add a picture or a map of the installation.

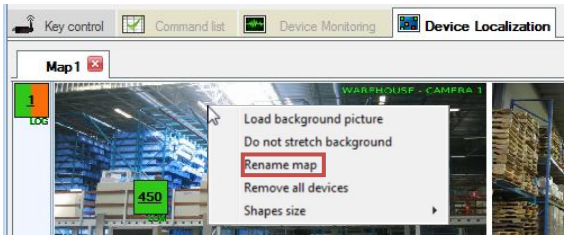
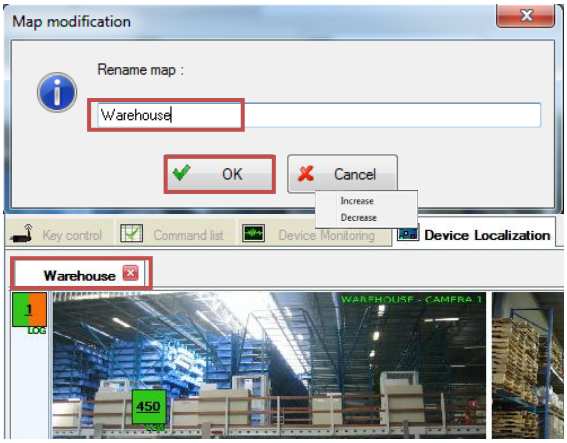
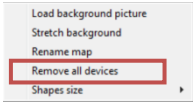
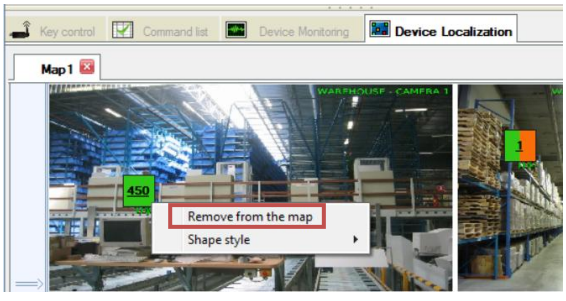
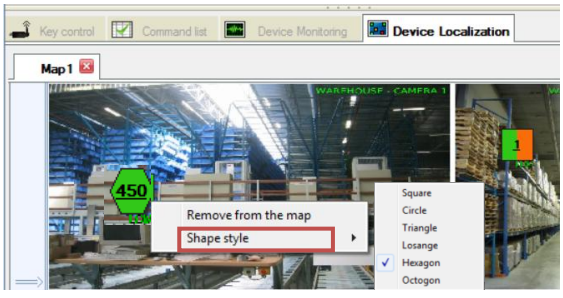


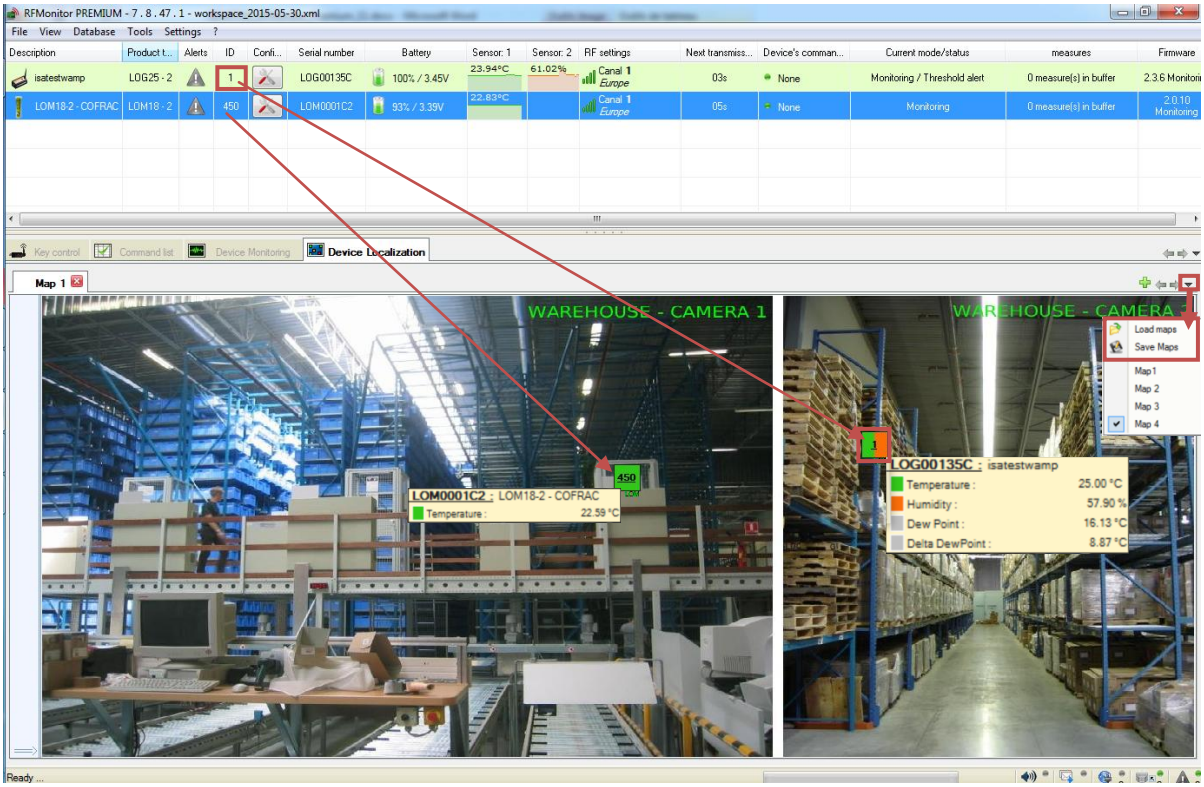
Stretch background, if you want the map size or the picture size to be modify when you modify the window size of the RF Monitor software.





To add a logger on the map, drag and drop the logger from the icons list on the left part of the screen.

Rename map to change the name of the tab [MapX]. Click [OK] to validate	 
Remove all devices in order to remove from the map all the icons that represent the loggers.	
Shape size in order to increase or decrease the size of the icon	
Right click on one icon **Remove from the map** in order to remove only the concerned icon from the map.	
Right click on one icon **Shape style** in order to change the shape of the selected icon	



Visual Checking

This function enables the supervisor to verify if everything is normal on the installation.

If there is no alert, the icon remains green. In the other cases, there is an alert.

The color of the icon corresponds to the color defined for the threshold alert (see *4.3.2.5 Configuration of loggers – Thresholds*)

REMARK: Only the 2 first sensors of each loggers are monitored in this tab. They corresponds to the ones defined in *4.3.2.5 Configuration of loggers – Thresholds.*

⚠ **Only the square shape for the icons enables to visualise 2 sensors on a same loggers**

Value and time stamp of a measure:

Pass the cursor of your mouse on the icons of the map to get the last measured value in real time.

Save or Load a maps that have been previously created

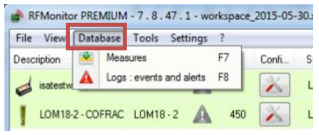
To avoid the modification of the maps use the option “Lock maps edition” in *4.8.5.2 Modules*

Open directly the database, if there is an alert, by a double-click on an icon (see *4.6.1 Measures*).

Change the number of the icon by changing the identification of the corresponding logger (see *4.3.2.2 Configuration of loggers – Identification*)

4.6 Tab [Database]

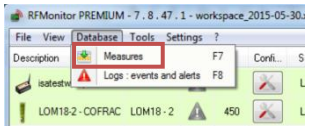
Click [**Database**]
This opens a menu which enables to access to the information of the database.



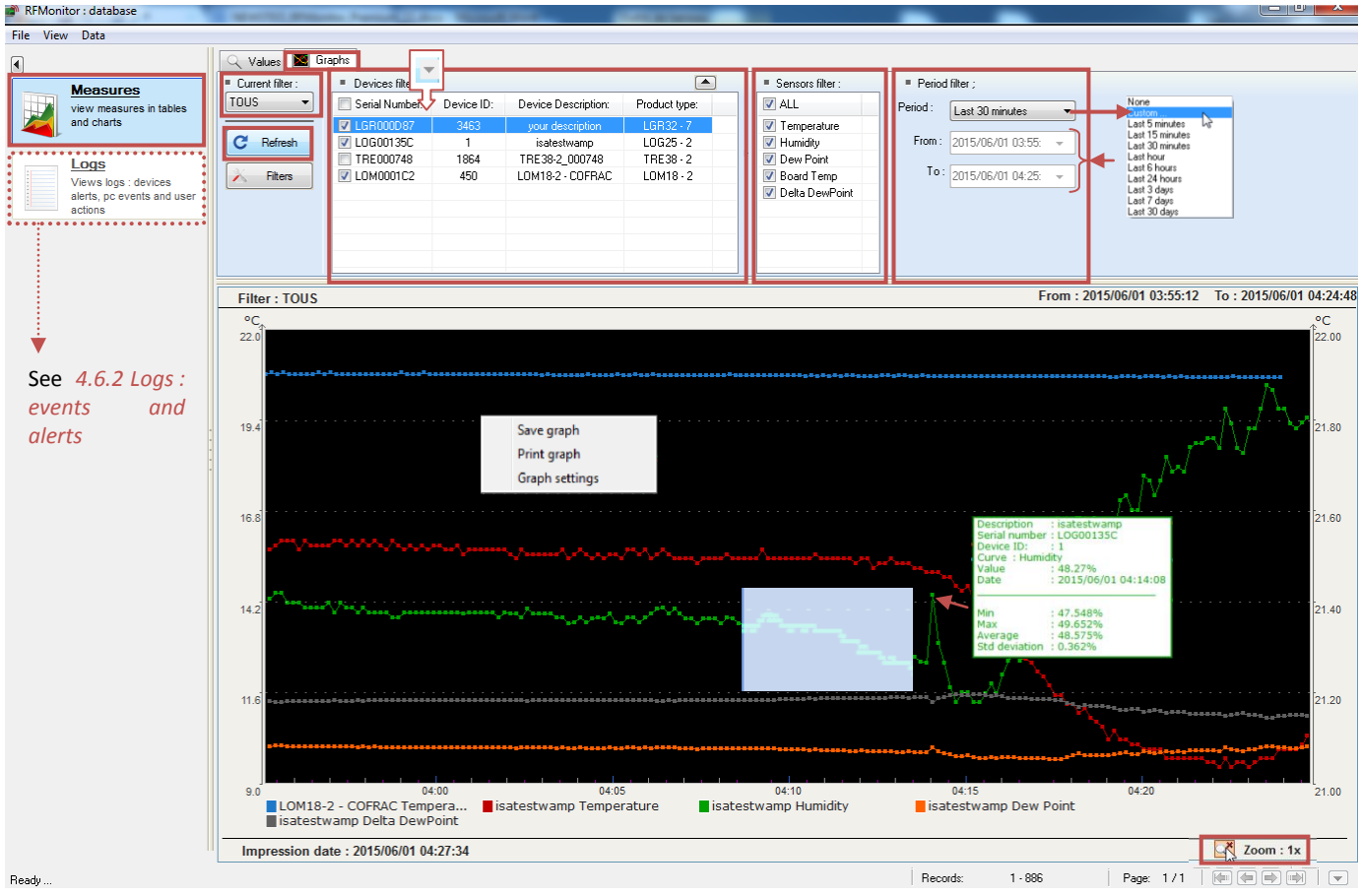
4.6.1 Measures

Click [**Measures**] in order to access to all the measures recorded in the database.

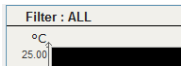
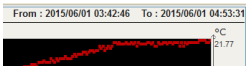
RF Monitor provides access to the history of measurements received in **Graphs** or in a table (**Values**).

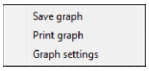


4.6.1.1 Graphs

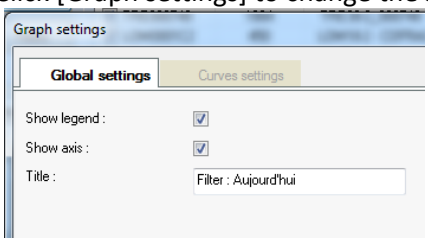


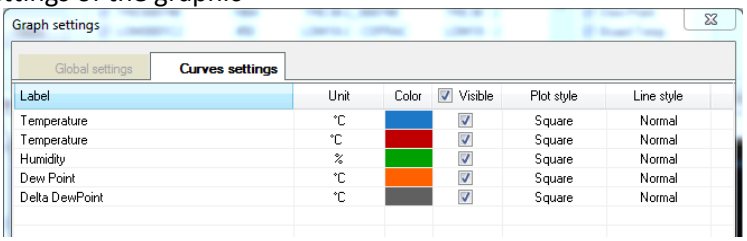
- **Current Filter**:
  - **ALL**: No specific filter is activated. All the possibilities are available. Use the Device filter, the Sensor filter, the period filter or create your own filter.
  - **Today**: The last 24 hours of all the loggers will be displayed
  - If you create and saved your own filters, they will appear in this menu (see *4.6.1.3 Create* Filter)
- **Device filter** enables to select the loggers that will be displayed per serial number. (The list can be sorted).
- **Sensor filter** enables to restrict the sensor type to display (temperature, humidity …).
- **Period filter** in order to adapt the filter to one period.
  Some predefined period are available.
  You can also customize the period which you would like to visualize by selecting « custom » in the menu and by directly entering the date and the time for the beginning and for the end of the customized period.
- Click [**Refresh**] each time that you want the modifications to be taken in account.

Current filter used	
Date and Time of the beginning and the end for the period displayed on the screen	
Date and time of the last Refresh action	

- By **pointing the curve**, you get the details of a measure (value, product, date ...).
- You can **zoom** in on the curve by selecting an area with the mouse.
- To **remove the zoom**, close down the corresponding icon down right of the screen.
- Right click on the graphic 

  - Click [Save graph] to save it in .jpg format
  - Click [Print graph] to print the graph directly in paper format or in .pdf format.
  - Click [Graph settings] to change the settings of the graphic





Click on the color of a curve to change it. It can be very useful for some dark curve – Warning: the change of the color is not saved, you must change it each time you have difficulties to read the curve.

Records : x-y

It corresponds to the points displayed on the current screen.

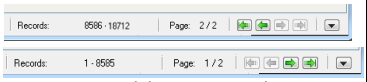
The maximum number of points displayed per page is 10000 by default.

This maximum value can be modified in *4.8.5.2 Modules*, it corresponds to the **limit queries value**. If the number of value to display is upper than the **limit queries value**, you will have several pages for one period. Use the arrows to change the page.

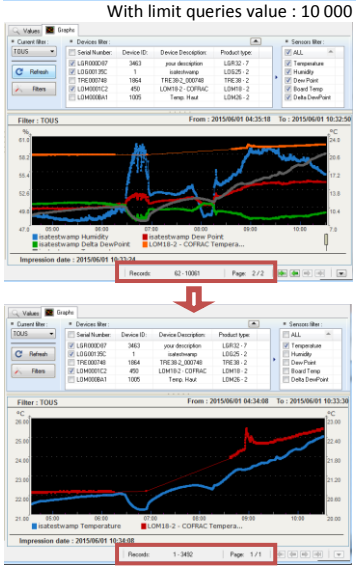
REMARK: If you increase the **Limit queries value**, you decrease the number of pages to display but you increase the time needed to display a page because there are more value to display.

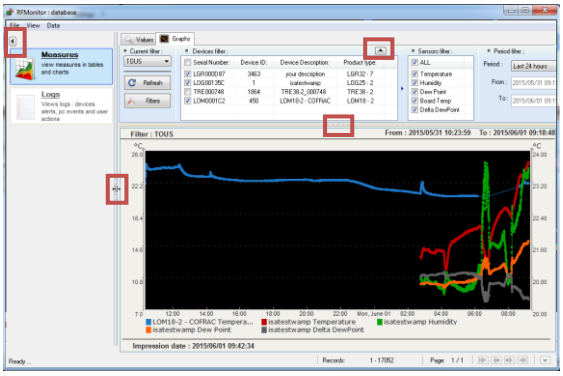
The **Limit queries value** is the maximum number of points displayed per page. Consequently, if you choose to display all the sensors and if you have 2 pages of measurements , you will have only one page if you choose to display only one sensor and this, without modifying the **Limit queries value**

With limit queries value : 100 000

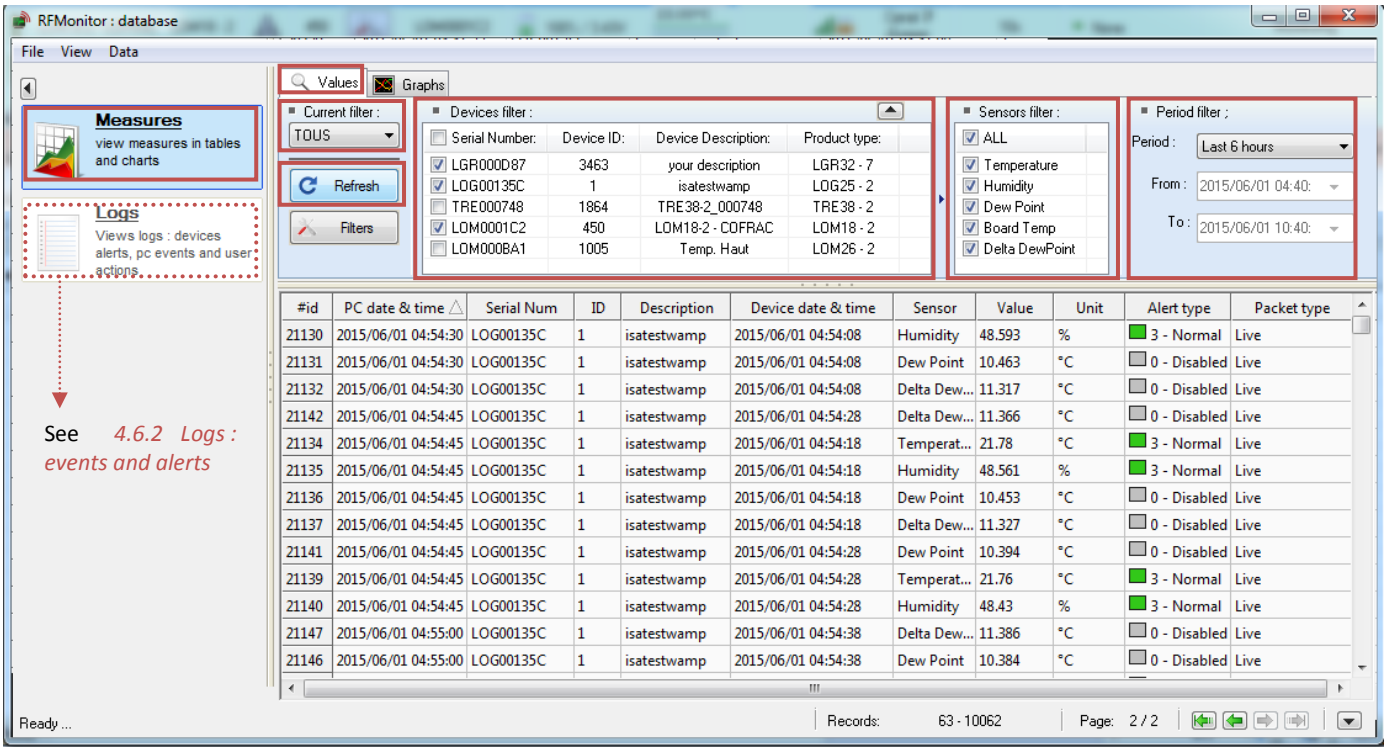


With limit queries value : 10 000

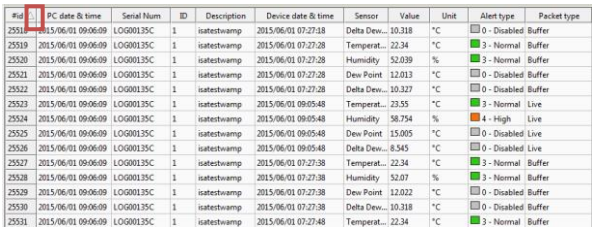


In order to enhance the display of the graph in the data base, you can move the arrows.	

4.6.1.2 Values



- **Current Filter**:
  - **Tous**: No specific filter is activated. All the possibilities are available. Use the Device filter, the Sensor filter, the period filter or create your own filter.
  - **Aujourd'hui**: The last 24 hours of all the loggers will be displayed
  - If you create and saved your own filters, they will appear in this menu (see *4.6.1.3 Create* Filter)
- **Device filter** enables to select the loggers that will be displayed per serial number.
- **Sensor filter** enables to restrict the sensor type to display (temperature, humidity …).
- **Period filter** in order to adapt the filter to one period.
  Some predefined period are available.
  You can also customize the period which you would like to visualize by selecting « custom » in the menu and by directly entering the date and the time for the beginning and for the end of the customized period.
- Click [**Refresh**] each time that you want the modifications to be taken in account.



- You can sort the data by column
  Exemple: *Click [#Id] to sort by Identification Packet, Click [serial number] to sort by Serial number …*

- **#id :** Identification of the measure packet in the database.
- **PC date & Time :** Date and time to which the measurement has been transmitted to the database.
- **Serial Num :** Serial number of the logger which sent the value.
- **ID :** Identification of the logger which sent the value (see *4.3.2.2. Configuration of loggers – Identification*).
- **Description :** Description of the logger which sent the value (see *4.3.2.2. Configuration of loggers – Identification*).
- **Device date & time :** Date and time to which the measurement has been taken.
- **Sensor :** Name of the sensor (temperature, humidity, dew point, …)

- **Value :** Value of the measure.
- **Unit :** Unit of the measure.
- **Alert type :** Disable, Normal, Hight, Hight, Low, Very Low
- **Packet type :**

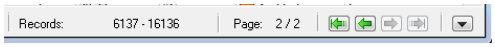
  Buffer : If the measure was temporary stored in the memory of the logger because of a radio transmission problem.

  Live : If the measure was directly transmitted to the computer to be store in the database.

  Magnet : If the magnet was used on the logger in order to take the measure.

REMARK:
For the measurements with the Packet type "Live", the Device Date & Time and the PC Date & Time are the same.
For the measurements with Packet type "Buffer" , the Device Date & Time and the PC Date & Time are different.

Records : x-y



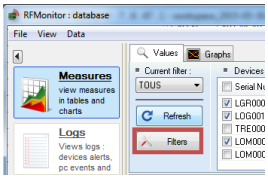
It corresponds to the number of points displayed on the current screen (See exemples of use in *4.6.1.1 Graphs*)

In order to enhance the display of the table in the data base, you can move the arrows.

4.6.1.3 Create Filters

Click [**Measures**] in order to access to all the measures recorded in the database.

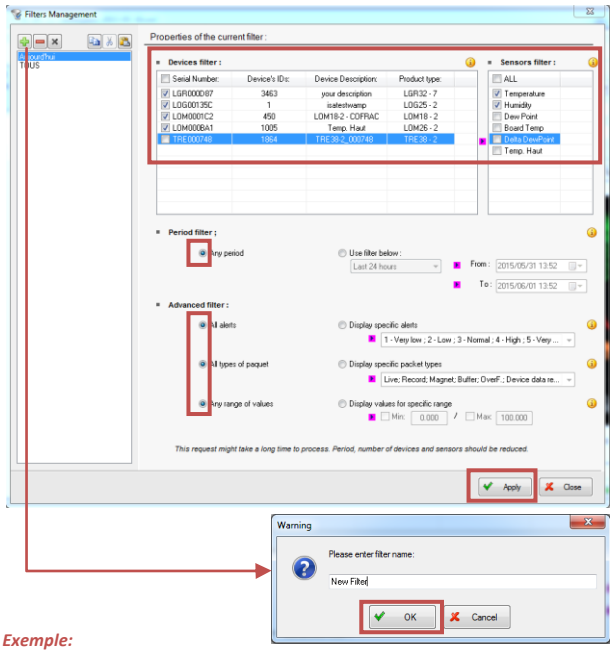
RF Monitor provides access to the history of measurements received in **Graphs** or in a table (**Values**).



Click [+] to create a new filter.
You can create several filters.
Click [-] to suppress the select filter.
Click [**x**] to suppress all the filters.
Click to copy an existing filter.
Click to paste the filter previously copied.

- **Device filter** enables to select the loggers which will be displayed per serial number.
- **Sensor filter** enables to restrict the sensor type to display (temperature, humidity …).
- **Period filter** in order to adapt the filter to one period.
  Some predefined period are available.
  You can also customize the period which you would like to visualize by selecting « custom » in the menu and by directly entering the date and the time for the beginning and for the end of the customized period.
- Advanced filter: to filter on the alert type, on the packet type or on a range of values.

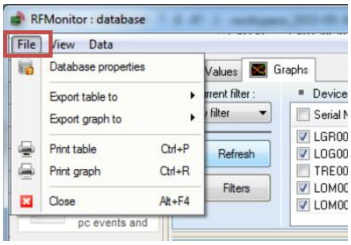
Click [**Apply**] to save the filter



Exemple:
You can create a filter like above. Select the loggers that you want to display usually. Select [Any period], [All alerts], [All types of packet] and [Any range of values]. Save the filter. You will be able to use it as a predefined list of loggers and sensors to which you will need to add a predefined period in the main screen.

4.6.1.4 File

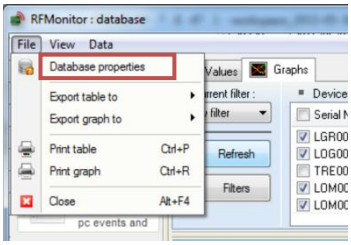
Click [**File**]
This opens a menu which mainly enables to print or to export data from the database.



4.6.1.4.1 Database properties

Click [**Database properties**]

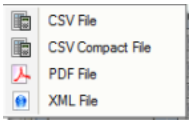
See *4.8.3 Database properties*

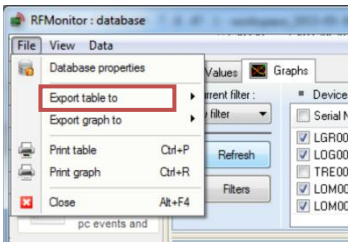


4.6.1.4.2 Export table

Click [**Export table to**] to export the measures from the values table
(See *4.6.1.2 Values*)

Select the type of file that you want to create

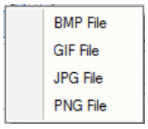


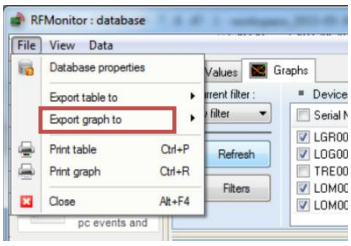


4.6.1.4.3 Export graph

Click [**Export graph to**] to export the graphic from the Graphs tab
(See *4.6.1.1 Graphs*)

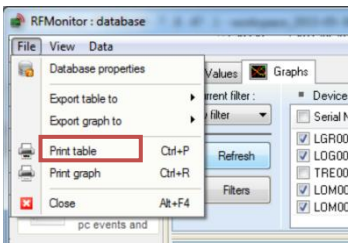
Select the picture format that you want to create

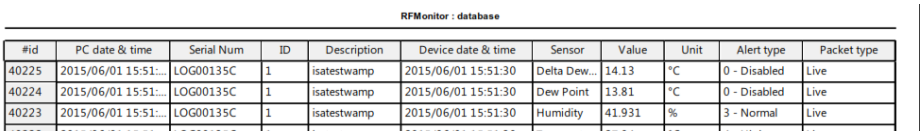




4.6.1.4.4 Print table

Click [**Print table**] to print the graph directly in paper format or in .pdf format.
(See *4.6.1.2 Values*)



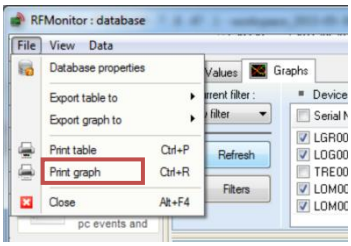


RFMonitor : database

#id	PC date & time	Serial Num	ID	Description	Device date & time	Sensor	Value	Unit	Alert type	Packet type
40225	2015/06/01 15:51:...	LOG00135C	1	isatestwamp	2015/06/01 15:51:30	Delta Dew...	14.13	°C	0 - Disabled	Live
40224	2015/06/01 15:51:...	LOG00135C	1	isatestwamp	2015/06/01 15:51:30	Dew Point	13.81	°C	0 - Disabled	Live
40223	2015/06/01 15:51:...	LOG00135C	1	isatestwamp	2015/06/01 15:51:30	Humidity	41.931	%	3 - Normal	Live

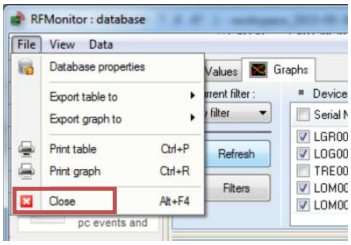
4.6.1.4.5 Print graph

Click [**Print graph**] to print the graph directly in paper format or in .pdf format.
(See *4.6.1.2 Values*)



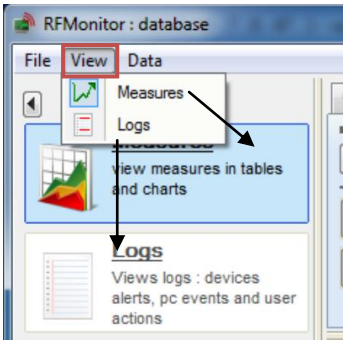
4.6.1.4.6 Close

Click [**Close**] to close the RF Monitor software.

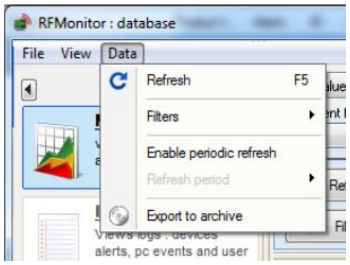


4.6.1.5 View

Click [**View**]
This opens a menu which enables to access to the measurements window (graphic and table) or to the event logs in the database (see *4.6.1 Measures* and *0*



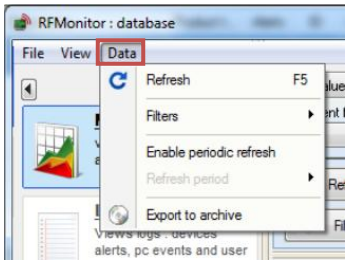
Click [**Export to archive**] to partially or fully archive the database.
(See *4.8.3.2 Export*)



Logs : events and alerts).

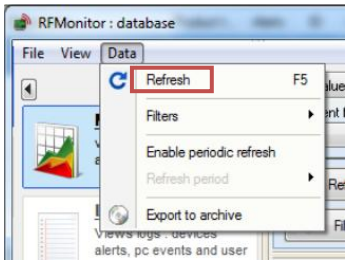
4.6.1.6 Data

Click [**Data**]
This opens a menu which enables to manage the refreshing of the display, and to create filters and archives.



4.6.1.6.1 Refresh

Click [**Refresh**]
This opens a menu which enables to manage the refreshing of the display, and to create filters and archives.



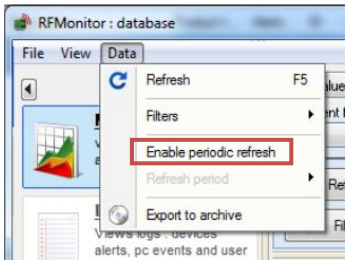
4.6.1.6.2 Filters

Click [**Filters**]
This opens a menu which enables to manage the refreshment of the display, and to create filters and archives.

- [Filters panel]: see *4.6.1.3 Create Filters*
- Filter: 'ALL' and Filter: 'Today' correspond to the list of filters available in current filter (see *4.6.1.1 Graphs*).

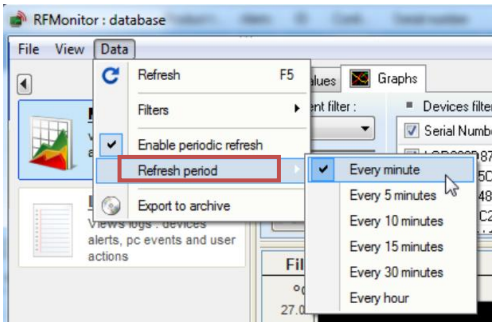
4.6.1.6.3 Enable periodic refresh – Refresh

Click [**Enable periodic refresh**] then select the automatic refreshment period for the display of the curves on the graphic of the database.



4.6.1.6.4 Refresh period

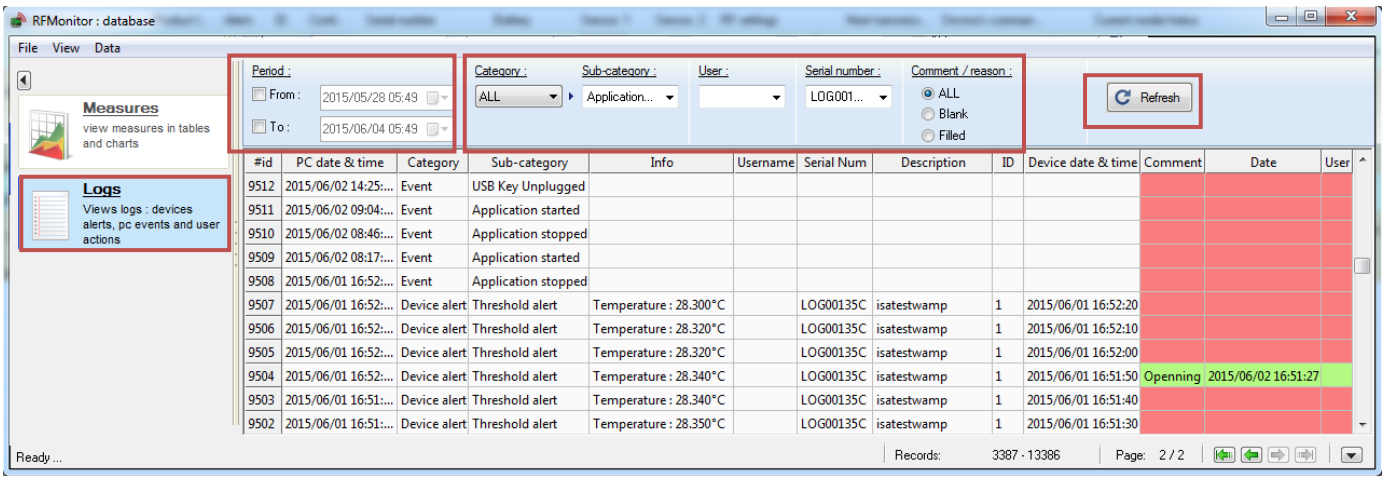
Click [**Refresh period**]
This option is activated only if the previous option has been selected
You can choose among predefined periods
The display of the curves on the graphic of the database (See *4.6.1.1 Graphs*) will be be automatically performed with this period.



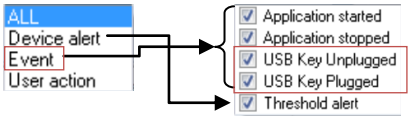
4.6.1.6.5 Export to archive

Click [**Export to archive**] to partially or fully archive the database.
(See *4.8.3.2 Export*)

4.6.2 Logs : events and alerts

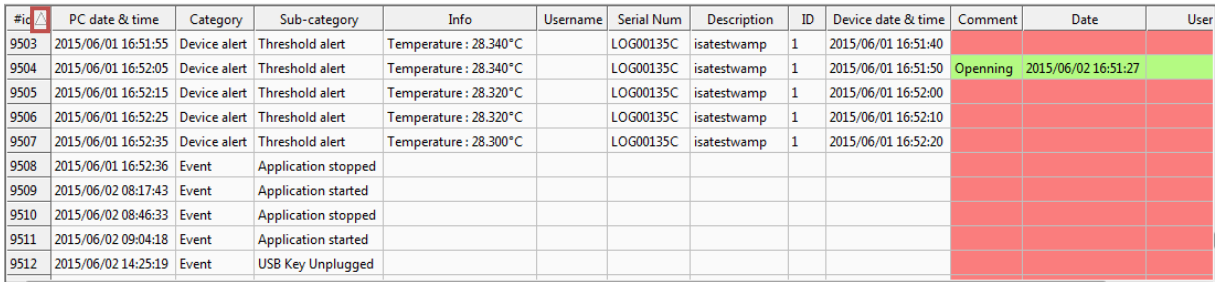


- **Period** in order to adapt the filter to one period.
  Customize the period by directly entering the date and the time for the beginning and for the end of the period.
- **Category and Sub-category:** [ALL] to display all events – [Device Alert] to display the events [Threshold alert] – [Event] to display the events [Application stopped], [Application started] [USB key plugged] or [Application unplugged] – [User action] is not yet implemented



*Exemple: Select [Event] in **Category** and select [USB Key Plugged] and [USB Key unplugged] in **Sub-Category** in order to display only the events USB Key Plugged and unplugged.*

- **User:** (only available for the gold licence and the CFR21 licence) It corresponds to the user who has been logged on the RF Monitor software for the current session.
- **Serial Num** enables to select the loggers that will be displayed per serial number.
- **Comment/reason:** Click [ALL] in order not to filter on comments, click [Blank] to display only not commented alerts and click [Filled] to only display commented alerts.
- Click [**Refresh**] each time that you want the modifications to be taken in account.



#id	PC date & time	Category	Sub-category	Info	Username	Serial Num	Description	ID	Device date & time	Comment	Date	User
9503	2015/06/01 16:51:55	Device alert	Threshold alert	Temperature : 28.340°C		LOG00135C	isatestwamp	1	2015/06/01 16:51:40			
9504	2015/06/01 16:52:05	Device alert	Threshold alert	Temperature : 28.340°C		LOG00135C	isatestwamp	1	2015/06/01 16:51:50	Openning	2015/06/02 16:51:27	
9505	2015/06/01 16:52:15	Device alert	Threshold alert	Temperature : 28.320°C		LOG00135C	isatestwamp	1	2015/06/01 16:52:00			
9506	2015/06/01 16:52:25	Device alert	Threshold alert	Temperature : 28.320°C		LOG00135C	isatestwamp	1	2015/06/01 16:52:10			
9507	2015/06/01 16:52:35	Device alert	Threshold alert	Temperature : 28.300°C		LOG00135C	isatestwamp	1	2015/06/01 16:52:20			
9508	2015/06/01 16:52:36	Event	Application stopped									
9509	2015/06/02 08:17:43	Event	Application started									
9510	2015/06/02 08:46:33	Event	Application stopped									
9511	2015/06/02 09:04:18	Event	Application started									
9512	2015/06/02 14:25:19	Event	USB Key Unplugged									

- You can sort the data by column
  ***Exemple:** Click [#Id] to sort by Identification Packet, Click [serial number] to sort by Serial number ….*

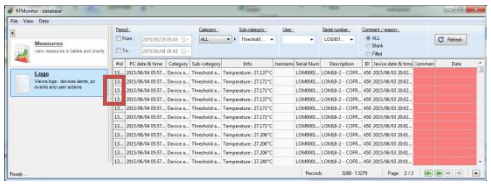
- **#id :** Identification of the event packet in the database.
- **PC date & Time :** Date and time to which the event was transmitted to the database.
- **Category and Sub-category :** Alert type (see above).
- **Info :** (Only if there is an alert on threshold) It gives the measurement which corresponds to the alert.
- **Username:** (only available for the gold licence and the CFR21 licence).
- **Serial Num :** (Only if there is an alert on threshold). It corresponds to the serial number of the logger which is in alert.
- **Description :** (Only if there is an alert on threshold). Description of the logger which is in alert (see *4.3.2.2. Configuration of loggers – Identification*).
- **ID :** (Only if there is an alert on threshold). Identification of the logger which is in alert (see *4.3.2.2. Configuration of loggers – Identification*).
- **Device date & time :** Date and time to which the event occured.

- **Comment/reason:** Click twice in the comment box to write a comment on an event
- **Date:** Date and time of the comment. It is automatically filled when you enter a comment.
- **User:** Name of the user who enter the last comment (only available for gold licence and CFR21 licence).

Records : x-y

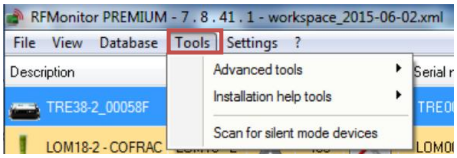
It corresponds to the number of events displayed on the current screen (See exemples of use in *4.6.1.1 Graphs*)

In order to enhance the display of the table in the data base, you can move the arrow.



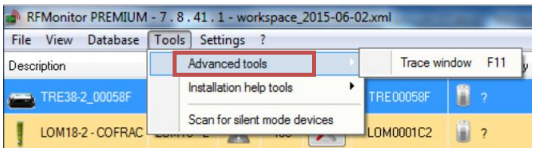
4.7 Tab [Tools]

Click [**Tools**]
Different options are available in this menu depending of the configuration of your RF Monitor software in *4.8.5.2 Modules*.



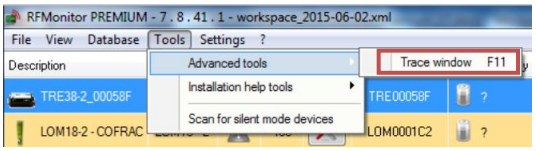
4.7.1 Advanced tools

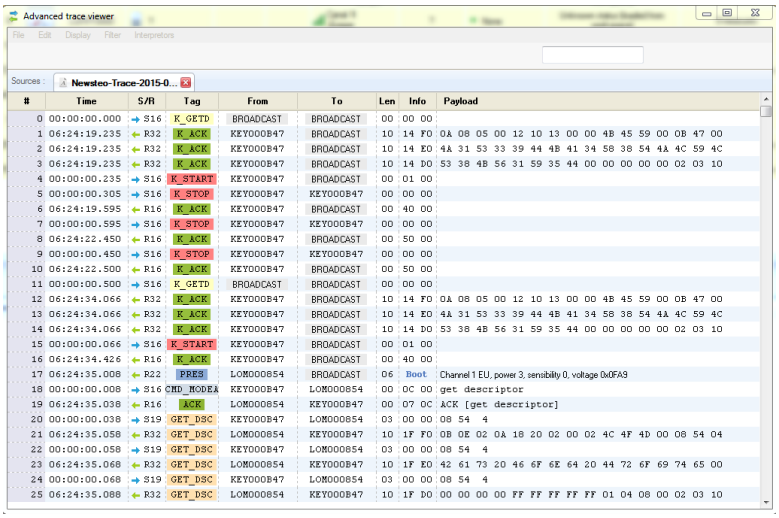
Click [**Advanced tools**]
.



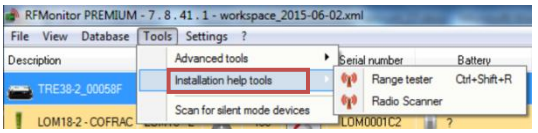
4.7.1.1 Trace window

Click [**Trace window**] to visualize the radio communication frames.
This option is available only if it has been activated in *4.8.5.2 Modules*.

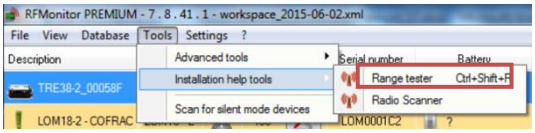


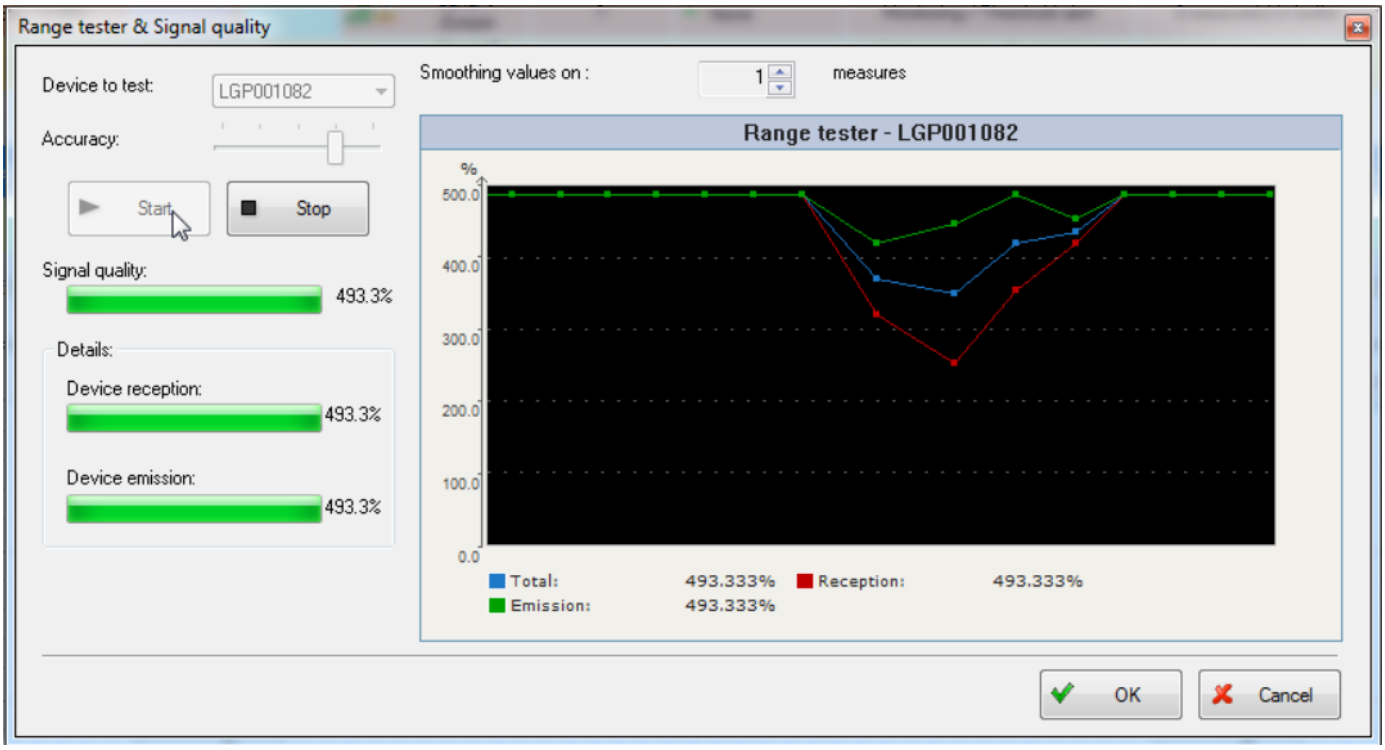


4.7.2 Installation tools

Click [**Installation help tools**]].	

4.7.2.1 Range tester

Click [**Range tester**] This option is available only if it has been activated in *4.8.5.2 Modules*. This option is not available for all devices	

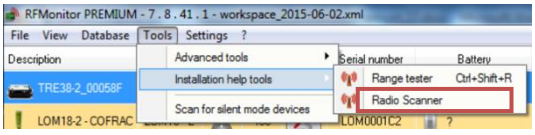


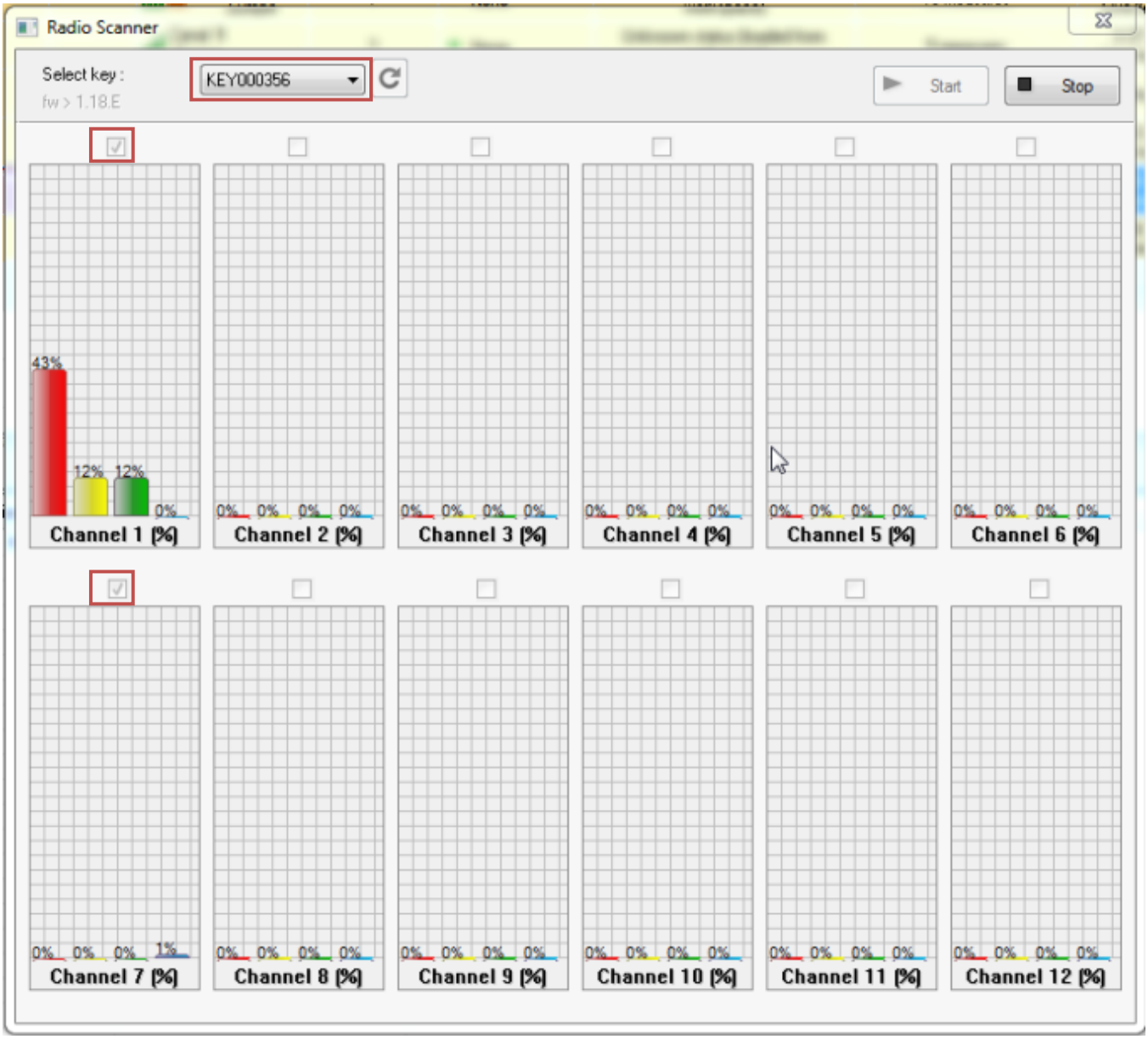
Deviceto test : Select the serial number of the logger you want to test.
Accuracy : Accuracy on the calcul and the display of the signal quality. The higher the accuracy is, the longer it takes to be displayed.
Start/Stop : Click [start] to start the range test then click [stop] when you have finished or to select another device.
Signal quality/Device reception/DeviceEmission : It indicates the signal levelin real time.
Smoothing values : Select one or several values to smooth the results.
On the **graphic**, you can visualize the evolution of the range test in fonction of the device deplacement. You get separately the radio range for emission, reception or the total radio range for the signal.
If the radio signal range can't reach 100%, try another place for your device.
REMARK: *Remember that the devices antenna must be vertically installed*

Click [**OK**] or [**Cancel**] to close the radio range tester window.

4.7.2.2 Radio Scanner

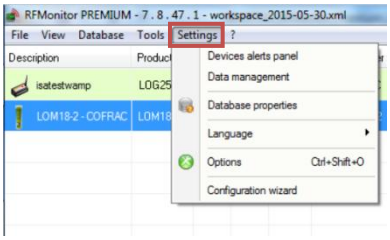
Click [**Radio Scanner**]
This option is available only if it has been activated in *4.8.5.2 Modules*.



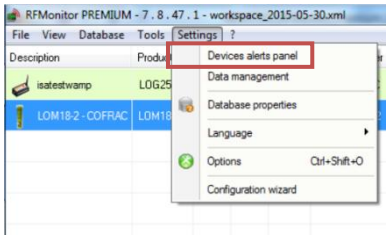
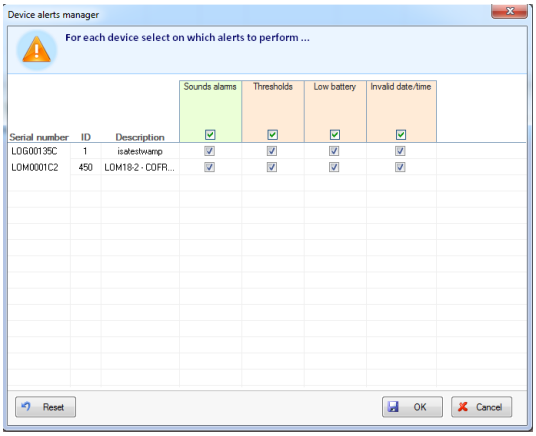


Select key : Select the serial number of the RF-to-USB key to test you want to test.
☑ : Select one or several channels to be analysed. The less channel you scan at the same time, the more accurate the analysis will be.
Start/Stop : Click [start] to start the scan of the channels. Click [stop] when you have finished or to select another device.
The best channel to configure all your devices is the one on which there is the less activity.
To configure the channel of your devices (see *4.3.2.3 Configuration of loggers – RF settings*, *4.5.2.1.2 Configuration of the RF-to-USB key – RF settings* and *5.1 ANNEX 1 – Change the working channel of your logger*)

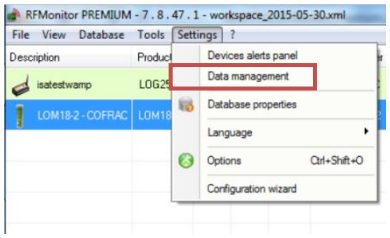
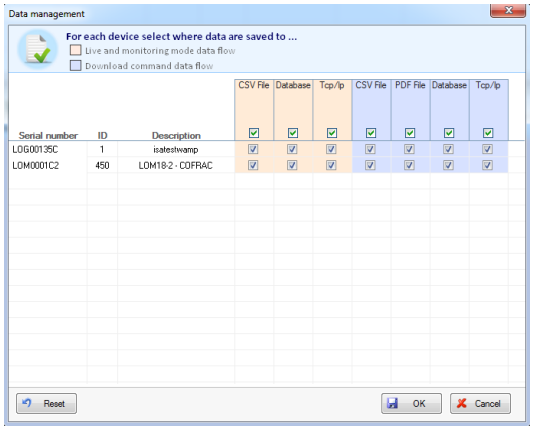
4.8 Tab [Settings]

Click [**Settings**] This opens a menu which enables to configure RF Monitor software.	

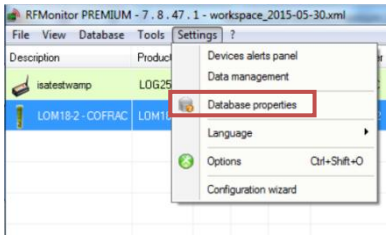
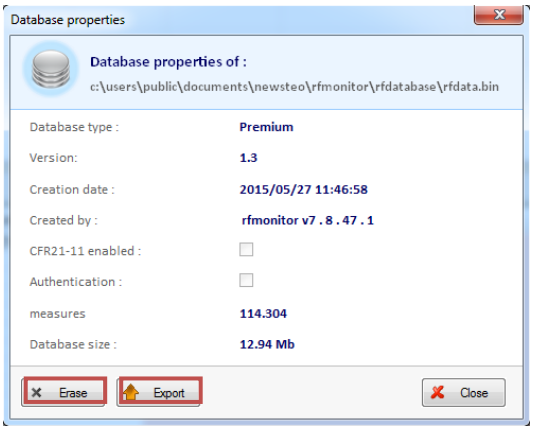
4.8.1 Devices alerts panel

Click [**Devices alerts panel**] It opens a window which enables to configure the alerts of the loggers unitarily. This option is available only if the alerts are enabled in *4.8.5.4 Alerts.*	
The available columns correspond to the alert types selected in the alert table in *4.8.5.4 Alerts*. Click [OK] to validate.	

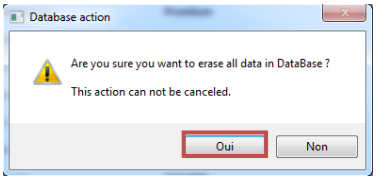
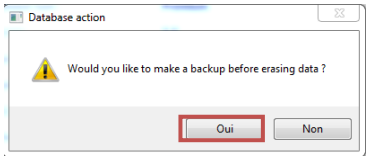
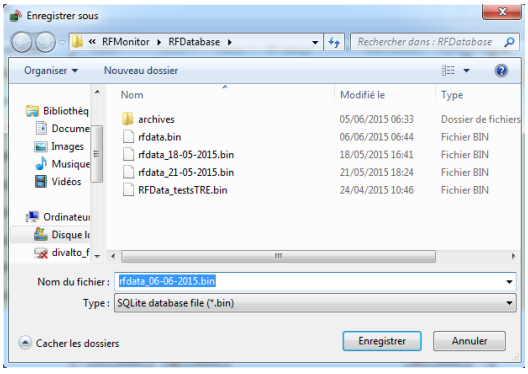
4.8.2 Data management

Click [**Data management**] It opens a window which enables to choose the way to store data for the loggers unitarily.	
The available columns correspond to the different possibilities to store the data. They depend on the configuration in *4.8.5.3 Measures storage*. Pink for the **Live** mode (from Live/Record mode) and for **Monitoring** mode. Blue for downloaded data after a campaign of measurements in **Record** mode. (see *5.2 ANNEX2 – Operating Mode for loggers*) Click [OK] to validate.	

4.8.3 Database properties

Click [**Database properties**]. It opens a window which gives information about the database depending on the licence of the RF-to-USB Key.	
Click [**Erase**] to erase the database. Click [**Export**] to create an archive of the database. Click [Close] to quit.	

4.8.3.1 Erase

Click [No] if you don't really want to erase the database. Click [**Yes**] to proceed the erasure. **REMARK:** ***This action is irreversible.*** *After this step, the database will be erased.*	
Click [**Yes**] if you want to create an archive of your data before the erasure. Click [No] if you don't want to keep any data.	
By default the the path of the backup is : **C:\Users\Public\Documents\NEWSTEO\RFMonitor\RFDatabase** By default the name of the backup is : **rfdata_dd-mm-yyyy.bin** **REMARK:** ***we recommand to always make a backup.*** Click [**Save**].	

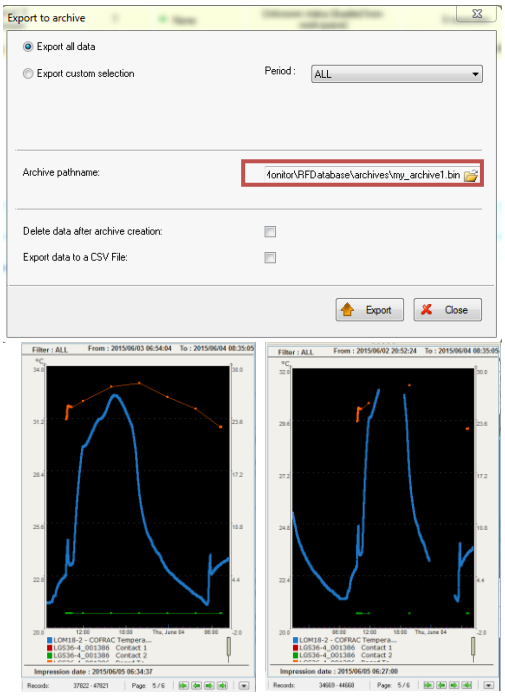
4.8.3.2 Export

Select [**Export all data**] to create a full archive of your database.
Select [**Export custom selection**] to partly archive the database.
Some predefined period are available.
You can also customize the period which you would like to archive by selecting « custom » in the menu and by directly entering the date and the time for the beginning and for the end of the customized period.

Fill the field [Archive pathname] to localize your archive on your computer. By default the the path of the archive is :
C:\Users\Public\Documents\NEWSTEO\RFMonitor\RFDatabase\archives\my_archive.bin

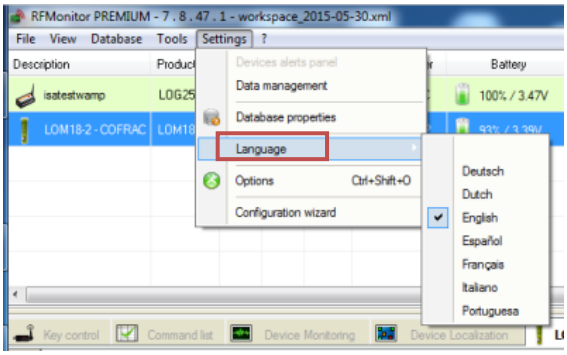
Select [**Delete data after archive creation**] if you want to delete the data that have already been archived.
REMARK: *If you partly archive your database and if you select [**Delete data after archive creation**] you will have a hole which will correspond to your archive in your database.**This action is irreversible.***
Before performing an action of partial delete of measurements on your databa, we recommand to make a full archive (by selecting [Export all data]).
Select [**Export data to a csv File**] if you want to create a .csv file that corresponds to the archive.

Click [**Export**] to create the archive.
Click [**Close**] if you don't want to create an archive.



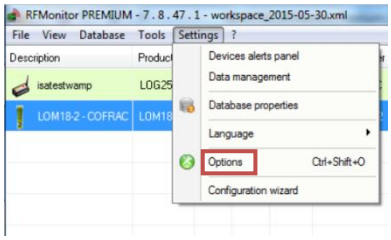
4.8.4 Language

Click [**Language**] in order to modify the interface language of the RF Monitor software.

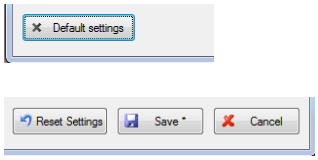


4.8.5 Options

Click [**Options**]
This opens a menu which enables to configure RF Monitor software.

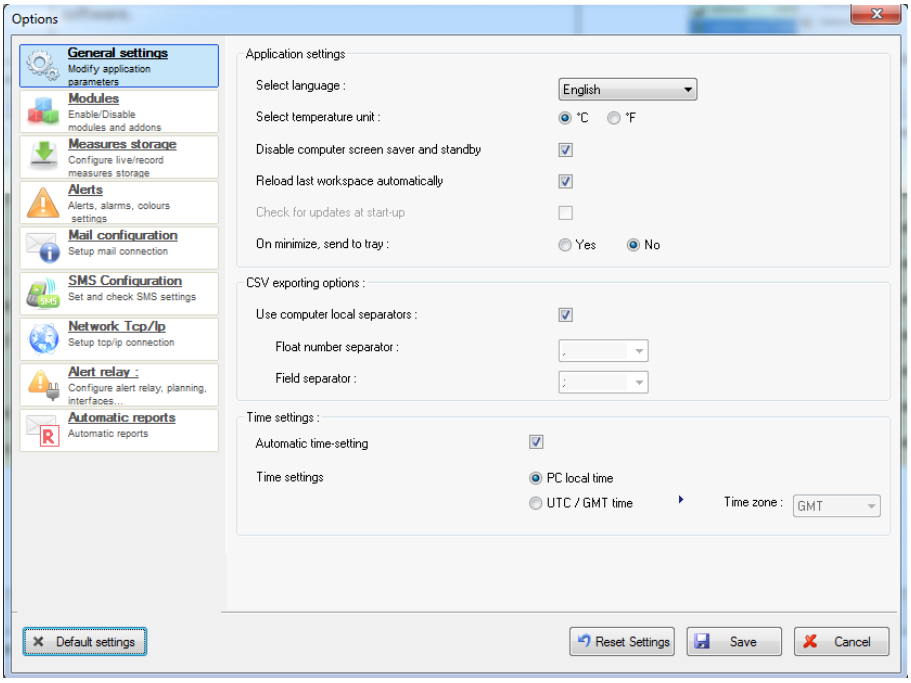


In all tabs of the [**option**] menu :
Click [**Default settings**] to display the default settings of the system in all tabs (General settings, Modules, …, Automatic reports).
Click [**Reset settings**] to display the last saved configuration in all tabs (General settings, Modules, …, Automatic reports).
Click [**Save**] so that the modifications be saved.
Click [**Cancel**] if you don't want to save your modifications



4.8.5.1 General settings

Click [**General settings**].



Application settings :

Select language: to modify the interface language of the RF Monitor software.
Select temperature unit in order to modify the temperature unit in graphics and reports (Celcius or Fahrenheit degrees).
Disable computer screen saver and stanby : Select this option to avoid a loss of transmission of your loggers with the RF Monitor system.
Reload last workspace automatically : Select this option to automatically reload the workspace(see *4.4 Tab [File]*).
Check for updates at start-up : Not implemented yet.
On minimize, send to tray : Select **[Yes]** if you want to display the RF Monitor icon in the tray area of Windows when you minimize the RF Monitor window.

CSV exporting options :

Use computer local separators: Unselect this option to modify the default separators for CSV reports.

Time settings :

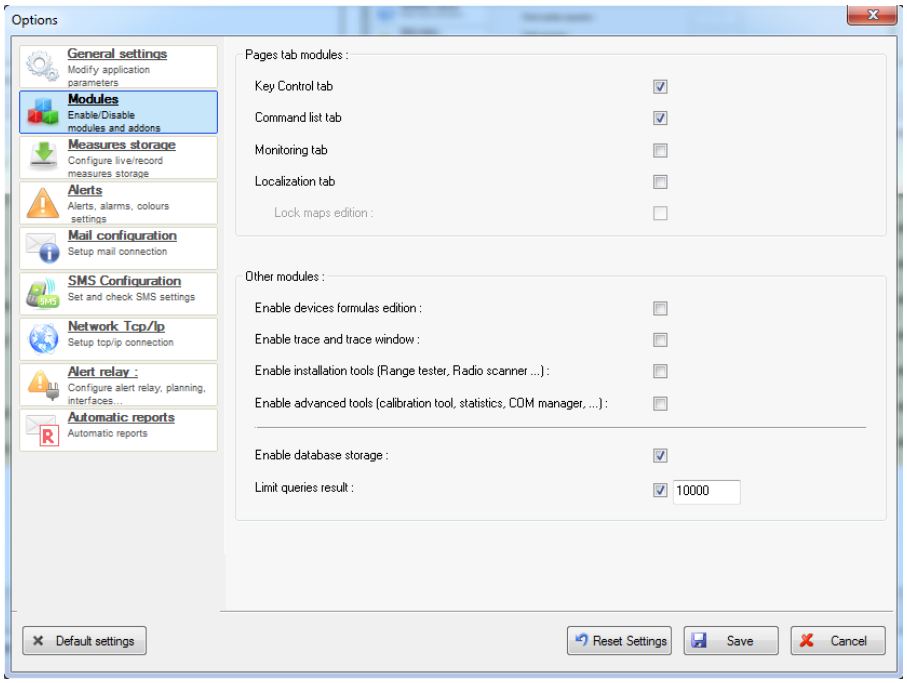
Automatic time settings: Select this option to automatically set time on your loggers if the time of the loggers has a difference upper than 2 minutes with the « time settings » parameter below.

Time settings : Choose PC local time if you have Premium licence – If you have a gold licence with a distant database select the Time zone of your installation.

For [**Default settings**], [**Reset settings],** [**Save**] and [**Cancel**], see *4.8.5 Options*

4.8.5.2 Modules

Click [**Modules**]



Page tab modules :

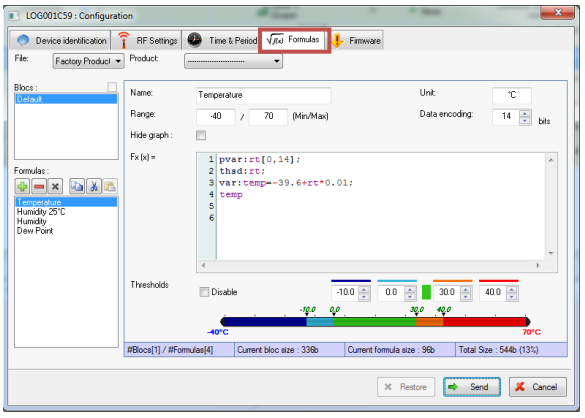
Click [**Key Control Tab**] to display the [Key Control] tab in the lower part of your screen.
(see *4.5.2 Key control tab*).
Click [**Command list tab**] to display the [Command list] tab in the lower part of your screen.
(see *4.5.3 Command list tab*).
Click [**Monitoring tab**] to display the [Device Monotoring] tab in the lower part of your screen.
(see *4.5.4 Monitoring tab*).
Click [**Localization tab**] to display the [Device Localization] tab in the lower part of your screen.
(see *4.5.5 Localization tab*).

Lock maps edition : Once you created your maps in the [Device Localization] tab, you can lock them to avoid them to be modified by a user.

Other modules :

Enable devices formulas edition:

It enables to bring up the [formula] tab instead of the [thresholds] tab in the [configuration] window (see *4.3.2.5 Configuration of loggers – Thresholds*). In this case, you will be able to modify not only the thresholds but also the formulas to calibrate a product. If it is needed, a calibration document will be provided with your loggers by your retailer. In any other cases **we recommand not to modify those formulas.**



Enable trace and trace window:
It enables to activate the backup of the radio communication frames (see *4.7.1.1 Trace window* to display the radio communication frames)
REMARK: *This option must be selected only on retailer or manufacturer demand.*

Enable Installation tools :
It enables to activate the menu dedicated to advanced users for the installation of your loggers and for the choice of the radio channel for your devices (see *4.7.2. Installation tools*) This option must be used in case of difficulties to correctly receive the measurements from the loggers due to a bad radio transmission.

Enable advanced tools : *This options is dedicated to the manufacturer. Do not select this option.*

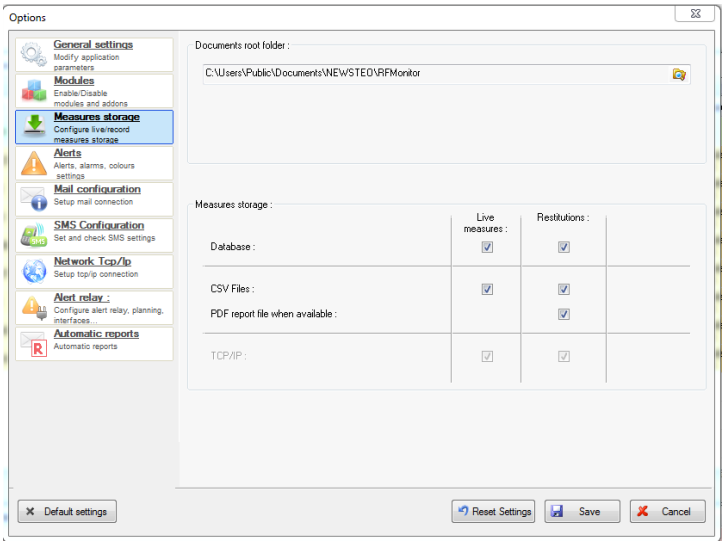
Enable database storage: This option must be selected to enable the store of the measurements in the database.
REMARK: *If you unselect this option, your data will be definitely lost.*

Limit queries result: It corresponds to the number of measure points displayed on one page when you visualize the database (see **Records : x-y** in *4.6.1.1 Graphs* and in *4.6.1.2 Values*)

For [**Default settings**], [**Reset settings],** [**Save**] and [**Cancel**], see *4.8.5 Options*

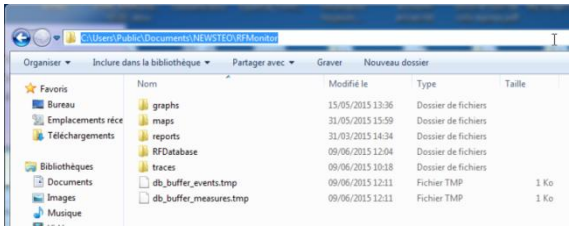
4.8.5.3 Measures storage

Click [**Measures storage**]



Documents root folder : By default, this directory is : *C:\Users\Public\Documents\NEWSTEO\RFMonitor*

<u>This directory contains:</u>



- **Graphs**: If you save a graphic (see *4.6.1.4.3 Export graph*) it will be stored in by default in **graphs**.
- **Maps**: If you create a map (see 4.5.5 Localization tab) it will be stored by default in **maps**
- **Reports:** (see *4.3.9 Reports root directory*)
- **RFDatabase:** In this directory, you will find the current local database *rfdata.bin* and the backups if you created some (see *4.8.3.1 Erase*) and the default directory for the archives if you created some (see *4.8.3.2 Export*).
- **Traces:** In this directory you will find the trace files of RF Monitor if you activated this option (see *4.7.1.1 Trace window*)

Measures storage : It enables to choose the way to store data (**database**, **.csv file** or **.pdf file**) depending on the functioning mode.

- **Live measures :** for **live** mode (from Live/Record mode) and for **Monitoring** mode.
- **Restitution :** for downloaded data after a campaign of measurements in **Record** mode.

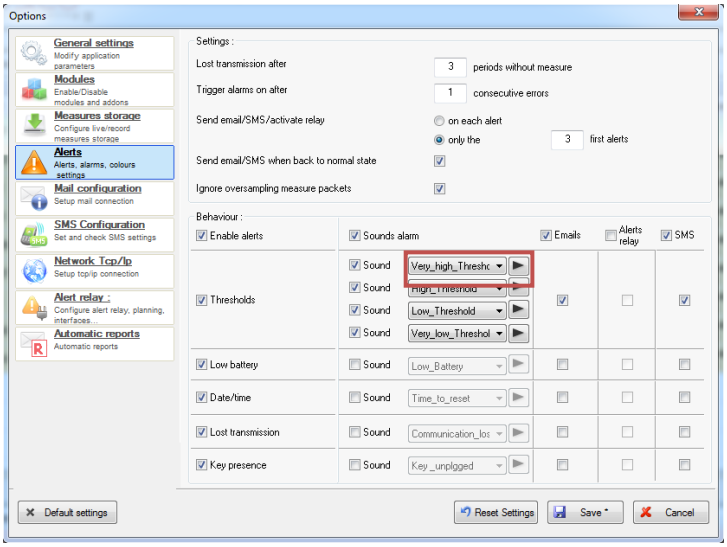
(see *5.2 ANNEX2 – Operating Mode for loggers*)

You can also define different measures storage depending on the loggers (see *4.8.2 Data management*)

For [**Default settings**], [**Reset settings],** [**Save**] and [**Cancel**], see *4.8.5 Options*

4.8.5.4 Alerts

Click [**Alerts**] to configure the functioning and the type of the alerts.



Settings :

Lost transmission after n periods without measure : 3 by default. It means that RF Monitor will consider that there is a transmission loss only after 3 periods of measure. If the period of measure is 15 mn, the loss of transmission will be taken in account after 45 mn.

Trigger alarms on after n consecutive errors : 1 by default. It means that RF Monitor will consider that there is a problem as soon as there is a threshold crossing.

EXEMPLE: For a period of measure of 15 mn, If there is a loss of transmission after 3 periods without measure, and if there is a trigger on alarms after 2 consecutive errors, the alert on the loss of transmission will occur after 1h15mn

Send email/SMS/active relay: You can choose to send alerts for all the alerts or for only a limited number of alerts. This option applies to sending of email, sending of SMS and to the alert relay devices if those types of alerts are activated in the table below.

REMARK: *We recommend a limited number of alerts to avoid saturating your email box and/or to avoid wasting all your SMS*

Send email/SMS when back to normal state: If you select this option you will receive an end of alert message by email and/or by SMS if those type of alerts are activated in the table below.

Ignore oversampling measure packets: This option is selected by default

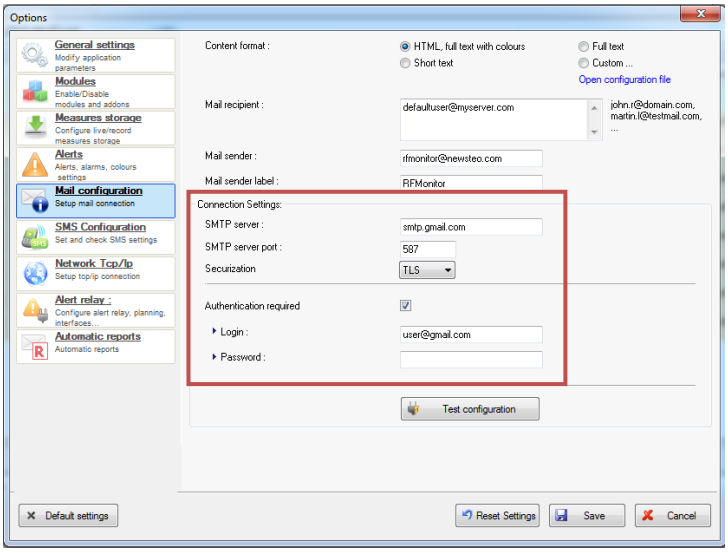
REMARK: *Verify that you have limited the number of alerts with the option **Send email/SMS/active relay** before the activation of this option to avoid saturating your email box and/or to avoid wasting all your SMS.*

Behaviour: In this table, you must **Enable alerts** first then you can activate different type of alerts (**sound alerts** (with 2 alert levels for a high threshold crossing and 2 alert levels for a low threshold crossing – You can change and test the sounds ▶), **emails alert**, Alert relay (if you have a RLA or a RLB device) and **SMS** alert. Select also about which problem you need those alerts.

4.8.5.5 Mail configuration

Click [**Mail configuration**]

The option [**Emails**] must be selected in the table of the paragraph *4.8.5.4 Alerts* to run properly.



Content format: It corresponds to the way that the email content will be displayed.
Mail recipient: Email list of the persons who will receive the emails alert.
Mail sender: Information field containing the email of the sender – You can keep the default email *rfmonitor@gmail.com*
Mail sender label: Information field concerning the sender. – You can keep the default label *RFMonitor*

Connection settings - Authentication required: Contact you network administrator to configure those parameters.

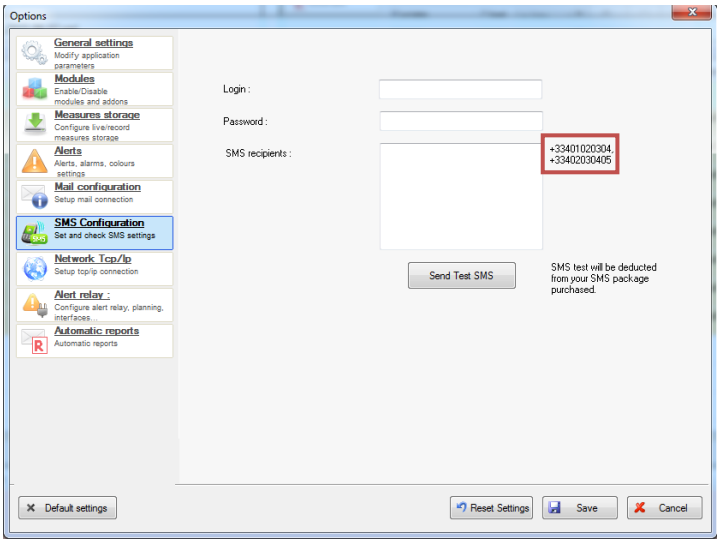
Click [**Test configuration**] to send an email of test to all recipients.

For [**Default settings**], [**Reset settings],** [**Save**] and [**Cancel**], see *4.8.5 Options*

4.8.5.6 SMS configuration

Click [**SMS configuration**]

The option [**SMS**] must be selected in the table of the paragraph *4.8.5.4 Alerts* to run properly.



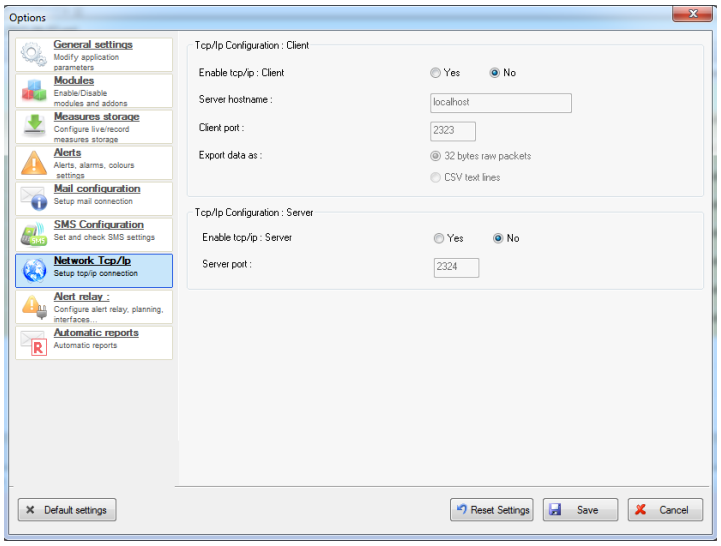
Login and **Password**: they are indicated on the bill of the SMS pack.
SMS recipients: Phone numbers list of the persons who will receive the SMS alerts.
REMARK: *Take care of entering the phone numbers with the correct format – separate them by a coma as on the exemple*
Click [Send **Test SMS**] to send a SMS of test to all recipients.

For [**Default settings**], [**Reset settings],** [**Save**] and [**Cancel**], see *4.8.5 Options*

4.8.5.7 Network Tcp/IP

[**Network Tcp/Ip**]
Very specific use.
Warning: *This option is dedicated to the manufacturer. Do not select this option.*

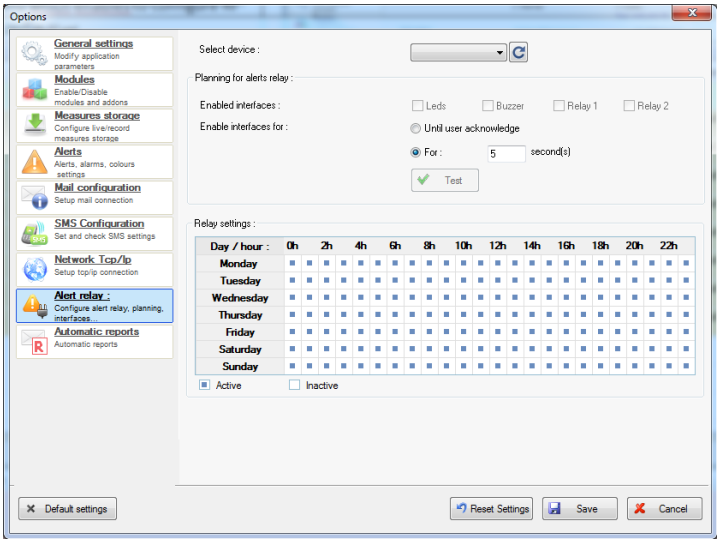
For [**Default settings**], [**Reset settings],** [**Save**] and [**Cancel**], see *4.8.5 Options*



4.8.5.8 Alert relay

Click [**Alert relay**] to configure your RLA or your RLB device.

The option [**Alerts relay**] must be selected in the table of the paragraph *4.8.5.4 Alerts* to run properly.



Select device: Select the serial number of your RLA or RLB device.

<u>Planning for alerts relay:</u>
Enabled interfaces: keep the default parameters.
Enable interface for: You can choose to keep the relay in alert up to a software acknowledgement by the user on the computer or to keep the relay in alert for a predefined time.
Click [**Test**] to try your configuration.

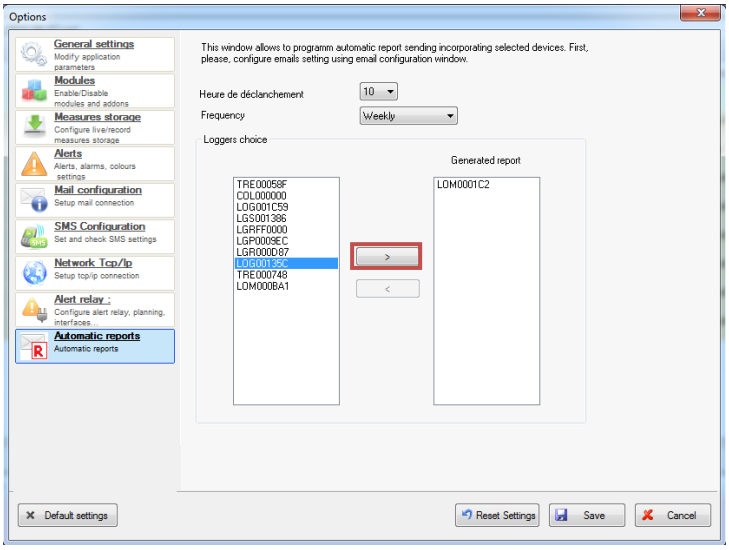
<u>Relay settings:</u>
You can define the period of activity for your relay in the table.
By default, the relay is always active.
Unselect the blue square in order to deactivate your relay on the desired period.

For [**Default settings**], [**Reset settings],** [**Save**] and [**Cancel**], see *4.8.5 Options*

4.8.5.9 Automatic reports

Click [**Automatic reports**]

To run properly, the option [Emails] must be selected in the table of the paragraph *4.8.5.4 Alerts* and the emails must be correctly configured in *4.8.5.5 Mail configuration*



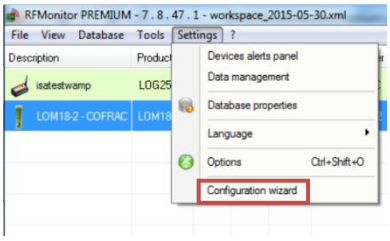
Time triggering: It corresponds to the time on which the report will be generated. Be sure that the computer won't be turned off or in standby at this time.
Frequency: Choose Daily, Weekly or Monthly report.
Logger choice: Select the serial number of the loggers for which you want automatic reports
Click > to validate the choice.
Generated report: You will get reports for all the loggers displayed in this list.

For [**Default settings**], [**Reset settings],** [**Save**] and [**Cancel**], see *4.8.5 Options*

4.8.6 Configuration Wizard

Click [**Configuration wizard**]

It restarts the initial configuration of the RF Monitor software.
It can be useful for operators who uses several RF-to-USB key with different licences.
It reinitializes the software without losing data.
(see *2.1 Installation of RF Monitor software and RF-to-USB key drivers*)



5 ANNEX

5.1 ANNEX 1 – Change the working channel of your logger

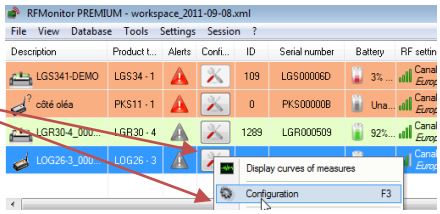
Before the upgrade, install the latest version of RFMonitor available on our website:
http://www.newsteo.com/gb/support/client/maj.php

If you never did it before, upgrade the firmware of your **RF-to-USB key with a version > or = to 19.0.0**
Be sure that the firmware version of **your Logger is > or = to**:

- **2.1.2 for the LOG**
- **3.0.0 for the LGR, LGS, LGW, LGP**
- **2.0.0 for the RPT**
- **2.0.0 for the LOM, LOP**

5.1.1 Secure the channel of the loggers first

Click the icon "Tools"/ Configuration on the line of the product you want to upgrade (or right click the line of the logger)

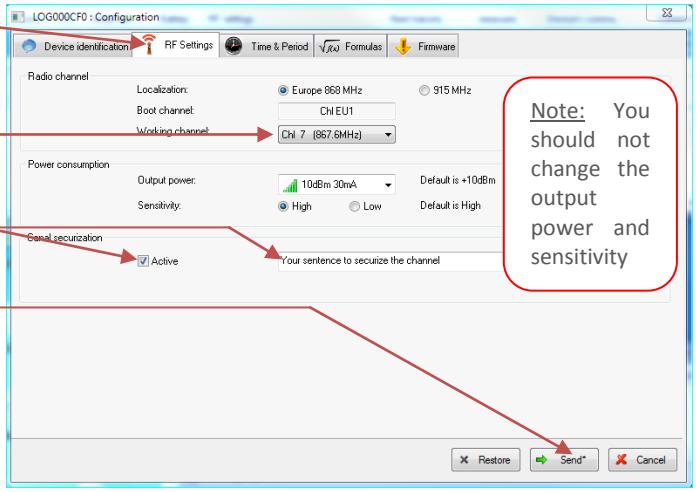


Select **RF Settings**
When starting, the working channel of a logger **is channel 1**
If needed, modify the working channel.

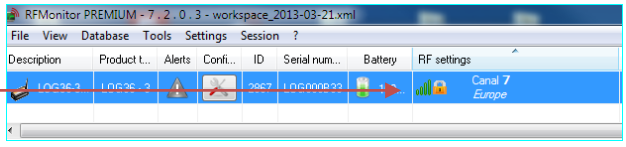
Select **Active** for the Canal securization
Write a word or a little sentence

Click « Send » to valide modifications

Wait for a radio transmission or pass the magnet so that the modification be taken in account.



Once the logger is securized, it is indicated on its line



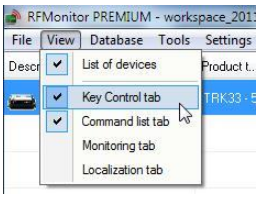
Repeat exactly the same process to securize all your loggers

CAUTION:

Once the working channel has been modified, you must change the working channel of the key.
The key and the Logger must always be on the same channel to communicate.
The key must take the channel of the Logger.

5.1.2 Secure the channel for the RF-to-USB Key

Click **View/Key Control tab**



Select tab **Key control**

Right-click the line of the key

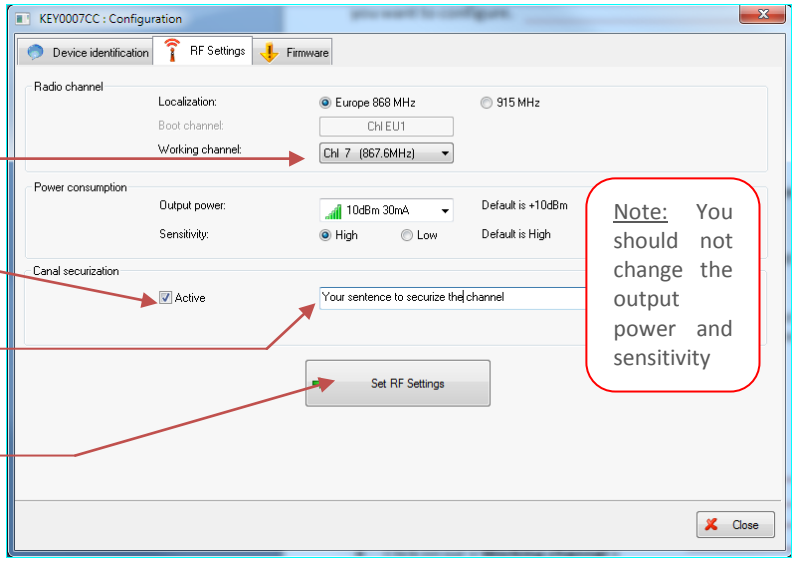
Select **Configure key**

Select tab **RF Settings**

Modify the working channel – **You must give the same channel as the one you gave to the loggers that you want to communicate with**

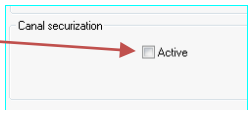
Select **Active** for the Canal securization
Write the word or the little sentence – the same as the one you gave to the loggers that you want to communicate with

Click **Set RF Settings** to valide modifications



5.1.3 To unsecure the installation

Unsecure first the loggers then **unsecure the key** by unselecting **Active**



5.1.4 If you can't remember the channel of your securized loggers

If you can't remember the channel of your logger, change the channel of your key for the channel 1 unsecured.

Open your logger to disconnect the battery.

Connect again the battery.

The logger will appear in RF Monitor.

Change the channel of the logger into **channel 1 unsecured** and click **Send**.

Disconnect – Connect the battery twice to send the command.

5.2 ANNEX2 – Operating Mode for loggers

The logger is configured by default in "***Monitoring" mode.*** *It could be configured in "**Live/Record" mode*** (see *4.3.2.4 Configuration of loggers – Time and Period*).
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 logger, the stored measures will be **time/date stamped**.
The choice of the mode will depend on the application type:

- Monitoring Mode: This concerns the applications of real-time ***Monitoring*** with the **control of the measures,** where all the **measurement history must be preserved**. Thanks to an embedded memory in each logger, the transmission of all data is guaranteed even in case of a cut off of transmission. The Monitoring Mode enables to **visualize measures and to trace alerts in real-time**.

  Exemple of application: Supervision of temperature in a warehouse.

  Operating principle:
  - The logger takes measures in the configured period (10s default) and sends it to the PC, with acknowledgment of receipt.
  - If there is no acknowledgment of receipt for the measure by the RF-to-USB key (key not connected, PC power-off, RF-Monitor not running, communication problem…), the logger records the measure in its memory buffer (up to 32000 measures). Once communication is restored, the measures buffers are automatically sent by the logger to the PC.
  - RF Monitor displays the measure, recordes it in the database, and give alert if it is outside defined thresholds (audio, email, SMS, switching relay …)

- "Live/Record" Mode: It is used for **measurement campaigns with consultation/treatement of data a-postériori**, **without possibility of tracing the real-time alerts**. "Live" mode allows you to check the operation of the logger and "Record" mode corresponds to the registration campaign measures.

  Exemple of application: Snitch for measuring temperature, humidity and shock for the transport of goods (museums - paintings, aviation, transport measuring benches, refrigerated foods ...). This mode is mainly dedicated to TRK, TRE and TRP products.

Reminder: DO NEVER let the unused Logger in "LIVE" MODE – Remember to HIBERNATE your Logger

Operating principle:
- **Start : in '*Live*'** Mode, the logger takes any action in the Live set period (10 sec default), and sends it to the PC. RF Monitor displays the measurements without recording them. The user can control the operation of the Logger. He can set alert thresholds and set the measurement period required for the measurement campaign to come.
- **The user then select 'record' mode** to start its measurement campaign**.**
  During this recording campaign:
  - Every minute, the logger sends a presence signal to indicate its state, alerts and the number of measurements in memory.
  - The logger 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 logger goes to 'Live' mode. From then on, 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 database. Only one logger can record multiple campaigns in a row.

Address of the manufacturer :

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