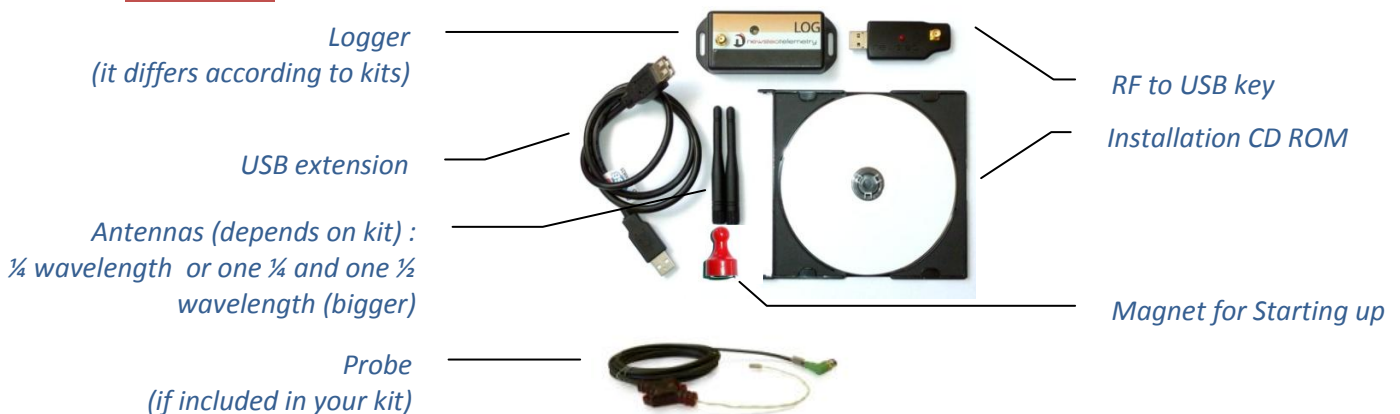# QUICK START RF Monitor 4.3 CFR21

Subject:

NEWSTEO user guide for RF-Monitor Gold software using Loggers (LOG, LGS, LGR) in "Monitoring" mode or "Live/Record" Mode
This guide includes the creation of a server with a MySQL database. It is necessary to create such a database to use the Newsteo software and allow the remote data storage.
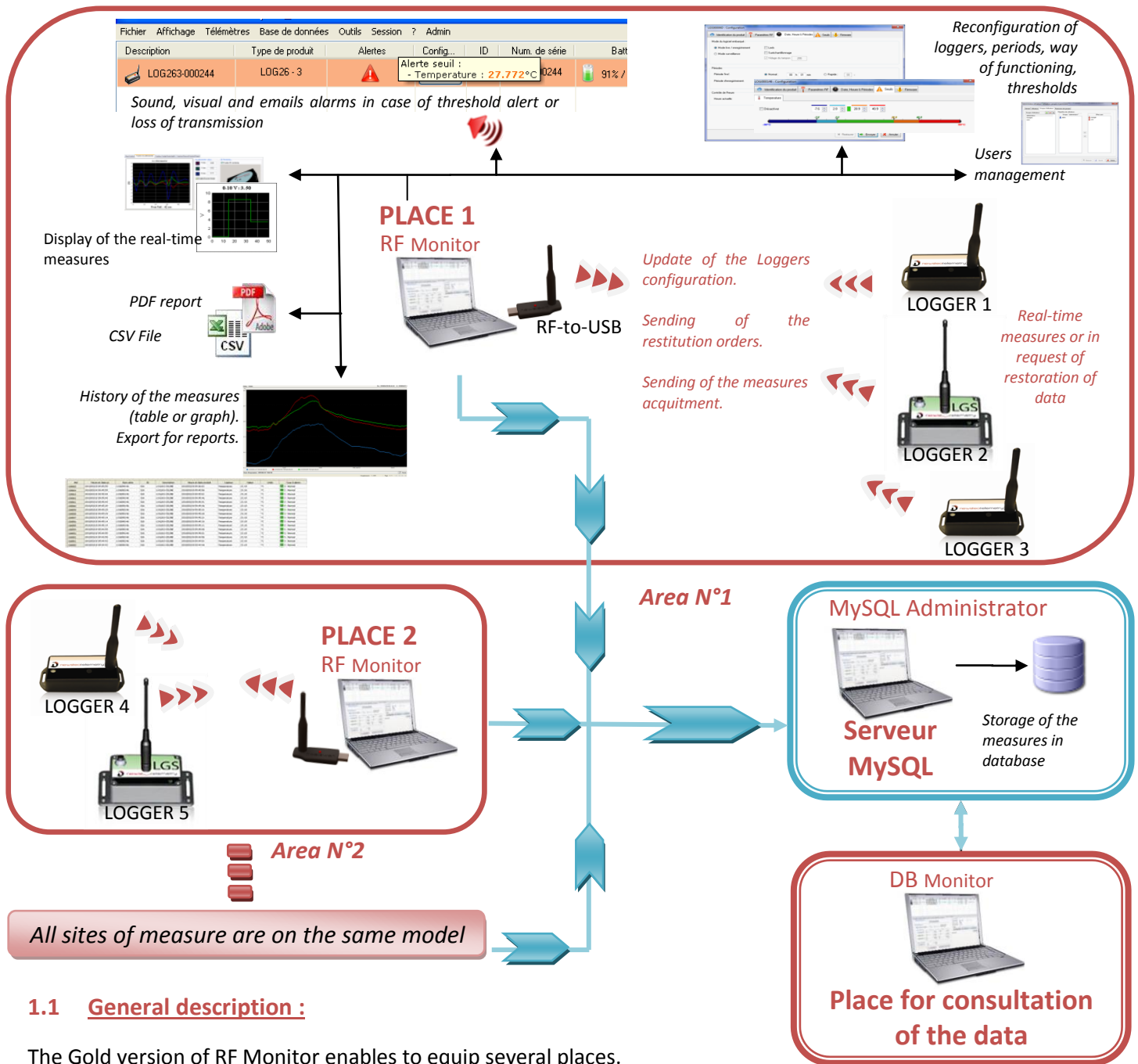
Technical Assistance:

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

Kit content :

Logger
(it differs according to kits)

RF to USB key

Installation CD ROM

USB extension

Antennas (depends on kit) :
¼ wavelength or one ¼ and one ½ wavelength (bigger)

Magnet for Starting up

Probe
(if included in your kit)

1 Overview of a park RF Monitor Gold

| Fichier | Affichage | Télémètres | Base de données | Outils | Session | ? | Admin |

| Description | Type de produit | Alertes | Config... | ID | Num. de série | Batt |

LOG263-000244 | LOG26 - 3 | ⚠ | Alerte seuil : - Temperature : **27.772°C** | 0244 | 91% /

Sound, visual and emails alarms in case of threshold alert or loss of transmission

Display of the real-time measures

PDF report

CSV File

History of the measures (table or graph). Export for reports.

PLACE 1
RF Monitor

RF-to-USB

Update of the Loggers configuration.

Sending of the restitution orders.

Sending of the measures acquitment.

Reconfiguration of loggers, periods, way of functioning, thresholds

Users management

LOGGER 1

Real-time measures or in request of restoration of data

LOGGER 2

LOGGER 3

Area N°1

PLACE 2
RF Monitor

LOGGER 4

LOGGER 5

Area N°2

All sites of measure are on the same model

MySQL Administrator

Serveur MySQL

Storage of the measures in database

DB Monitor

Place for consultation of the data

1.1 General description :

The Gold version of RF Monitor enables to equip several places.
In each measure site, you need to install RF Monitor on a computer in order to:

- Manage the user rights
- Configure periods of measure, thresholds, and alarms
- Configure the way of functionning (See. Page 3)
- Display measures, generate CSV or PDF files
- Gather measures from loggers related to this site (via a RF-to-USB key)
- Fill the remote database (on a MySQL server)

DO NEVER let the unused Logger in "LIVE" MODE

⚠

REMEMBER TO HIBERNATE YOUR LOGGER
➔ **Extremely rapid wear of the batteries in this mode (few days)**

A computer is dedicated to the installation of a MySQL server and the database for the storage of the measures.

It is possible to **reach the database** thanks to the supplied software **DB Monitor**. The consulting places are not equipped with RF-to-USB key or loggers, they only display data from the database.

1.2   Operating Mode for loggers:

The logger is configured by default in "***Monitoring" mode. It could be configured in "Live/Record" mode*** (see 3.2.3 Mode Live/Record).

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 remote 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 ...)

> **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:
  o Every minute, the logger sends a presence signal to indicate its state, alerts and the number of measurements in memory.
  o 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 remote database. Only one logger can record multiple campaigns in a row.

2   Installation of RF Monitor Gold

2.1   Installation of the server MySQL

The installation must be performed by the network administrator on the computer dedicated to the database.

2.1.1   Installation of the server :

- **Download MySQL Community Server 5.5** from MySQL on : http://www.mysql.fr/downloads/mysql/ , then, **start the installation program** « mysql-essential-5.1.xx-winxx » on the **computer which is used as server.**

- **In the successive windows** of MySQL Server 5.1 - Setup Wizard, click on *« Next » « I accept…Next » « Typical » « Install » « Next » « Next »*.

- At the end of the installation, click **Configure the MySQL Server now** and click on **Finish.**
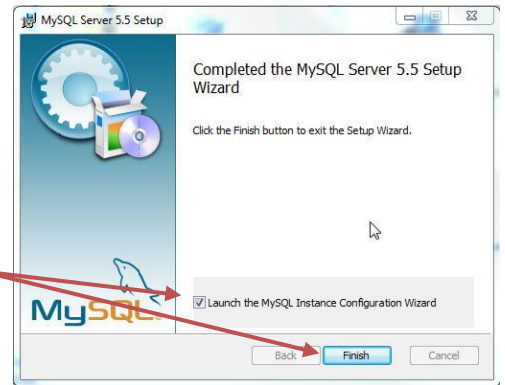
- **In the first window** of MySQL Server Instance Configuration Wizard, click on *« Next »*.

- Select **Detailed Configuration** then click on *« Next »*.
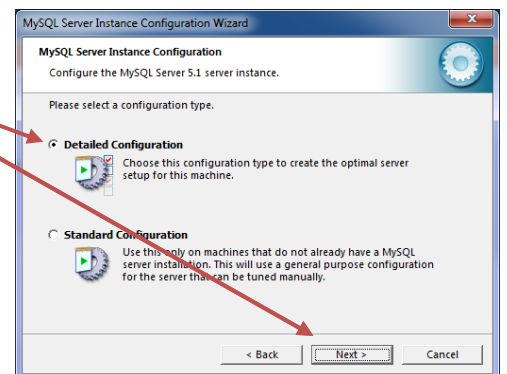
- In the **following window**, select **Server Machine** and click on *« Next »*.
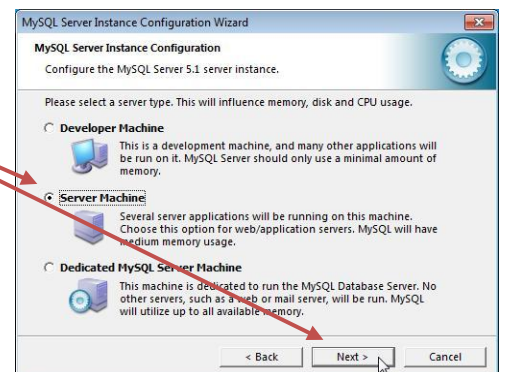
- In the **following window**, select **Multifunctional Database** and click on *« Next »*.

- Choose the **storage directory for data** and click on *« Next »*.
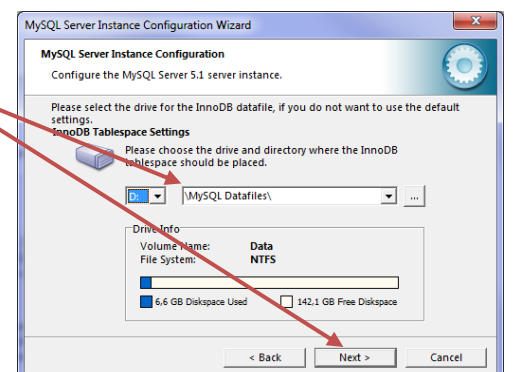
- Then, in the **following window**, select **Decision Support (DSS) OLAP** and click on *« Next »*.

- Select **Enable TCP/IP Networking**
  Configure the **Port Number** (you can keep the default value 3306. This parameter will be necessary during the parameter setting of RF Monitor).
  If needed, **modify the parameter setting of the firewall.**
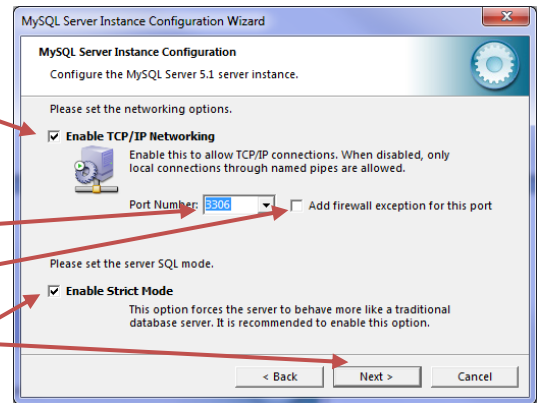
- **Select Enable Strict Mode** and click on « **Next** ».

- In the **following window**, select **Standard Character Set** and click on **« Next ».**

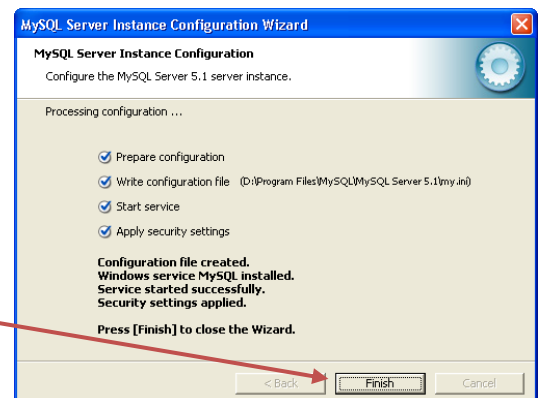- **Do not modif**y the default parameters of **Install As Windows Service** et and click on « **Next** ».
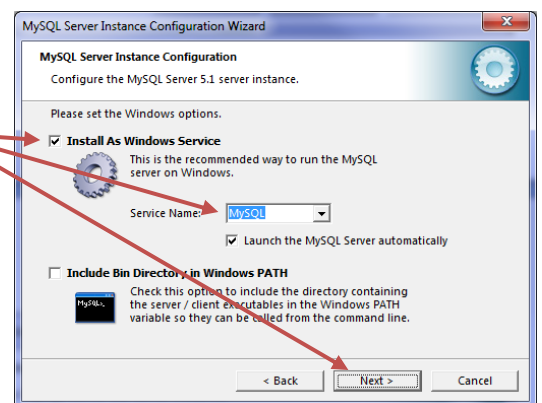
- Select **Modify Security Settings**
  Enter and Confirm the password.
  ➔ You will need this password to create the database.
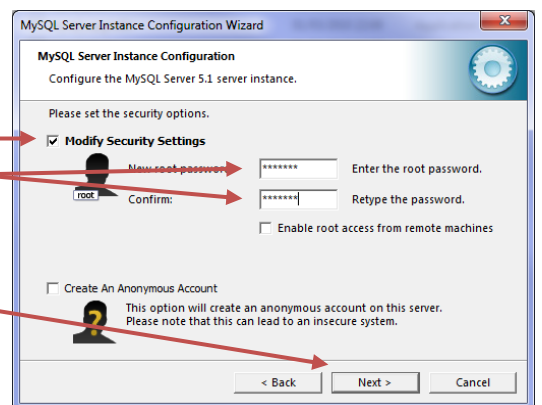
  Click on « **Next** ».

- In the following window, click on « **Execute** ». ➔ **Le serveur MySQL est automatiquement installé**

- Click on « **Finish** ».

2.1.2   Create the database on the server:

- **Download « MySQL GUITools »** version **5.0** of MySQL sur :
  http://dev.mysql.com/downloads/gui-tools/5.0.html   **then start this installation program** « mysql-gui-tools-5.0.xxx-winxx » (always on the computer dedicated to the database).

- **Validate the successive windows** of MySQL Tools for 5.0 - Setup Wizard to finish the installation.

- Once the installation is finished, **open the *MySQL Administrator* software**
  - ➔ (Menu *Start/All Programms/MySQL/MySQL Administrator*)
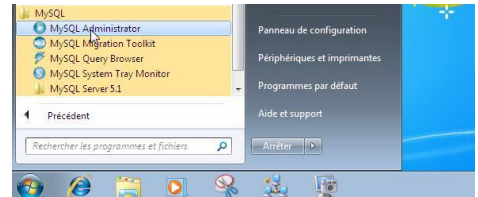
- Fill the window as follows :
  Server Host : **localhost** (or **127.0.0.1**)
  Username : **root**
  Password : **Enter the password created in** MySQL Server Instance Configuration Wizard (**Modify Security settings**) (page 5)

- Click on « *OK* ».
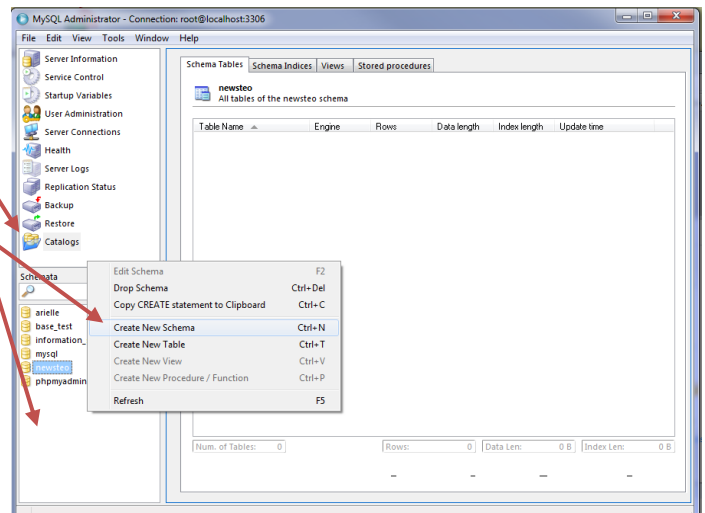
- Click on « *Catalogs* ».
- Then **right-click in this area**.
- Select *Create New Schema*
- **Enter the name of your choice for the database.**
- **Click** on « *OK* ».

- Click on *User Administration.*
- Then, **click right in this area** and Select ***Add New user.***
- Give a name to your user *MySQL User* (For exemple: Admin_Base) and **a password.**
  Remark : **Those information will be necessary to enables RF Monitor to connect the database.**
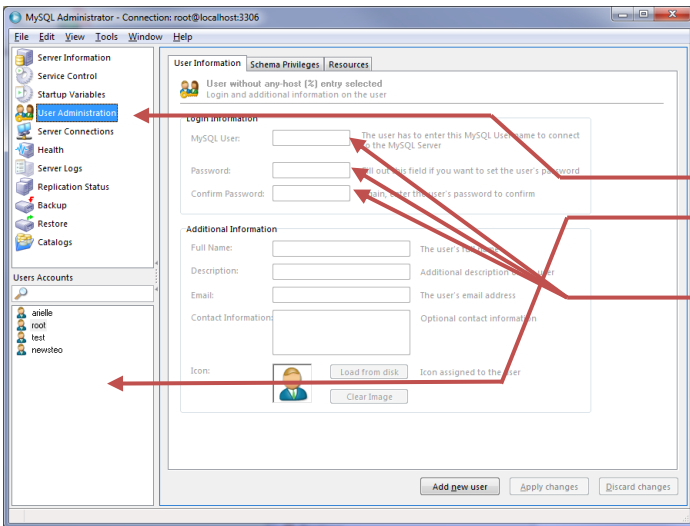
- Select *Schema Privileges* tab .
- Select **the database created just before.**

- **Click** on **"<<"** to attribute all the rights to the user.
- **Click** on **« *Apply changes* ».**
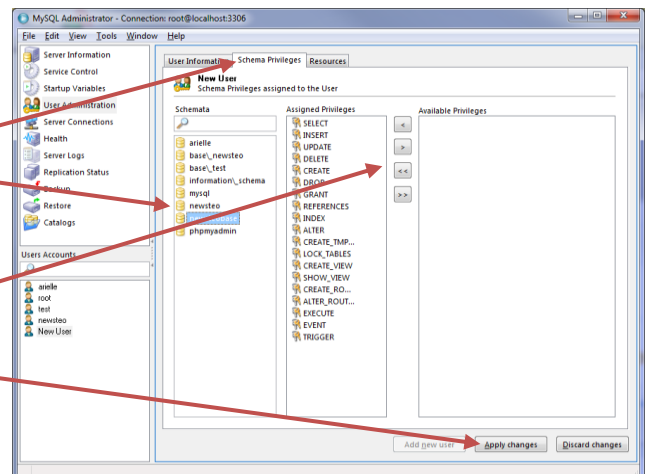
You can now **close MySQL Administrator.**

2.2　Installation of RF Monitor

2.2.1　Installation

This **installation** concerns the **WORKSTATION N°1** located on the first area of measures.The following steps **have to be repeated for each new workstation** (Cf.1 Overview of a park RF Monitor Gold Page 2)

⚠️ **DO NOT INSERT USB KEY BEFORE THE REQUEST**.

Screw the antennas, one on the Logger (small one: 1/4 wavelength or big one: ½ wavelength depends on kits) and the other one on the RF to USB key (small one: ¼ d'onde). **Connect probes** (if the product joins it).
⚠️ **The level of tightness of the product is valid only if the probes and antennas are properly tightened (seals crushed).**

- Insert the CD ROM of the RF-kit.

  If the installer does not start automatically, select "Run NewsteoKit_v4.x.x_setup.exe" in the **AutoPlay** window or **launch Newsteo_Kit_v4.x.x_setup.**exe file from the CD-ROM of the kit.

  In the first window select a language then, for a quick installation, **keep the default settings by validating the successive windows from setup program**. By the end of installation, **keep the option "*Reboot now*" and click "*Finish*"**.

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

- In the **window** "**Home**" of the configuration wizard, **choose the desired language** and click "*Next".*
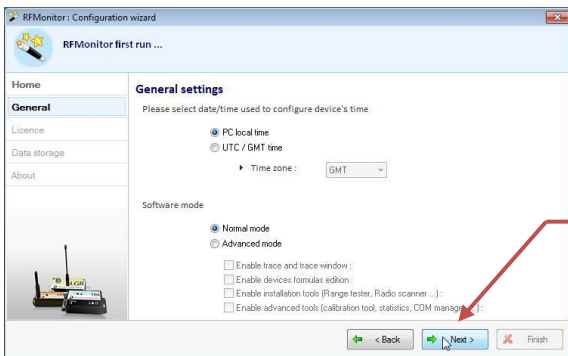
- In the window "***Général*** " from the Configuration wizard click « ***Next*** ».

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

- **At the request of the setup wizard, remove the label "Install the software before inserting!"** and **insert the RF-to-USB key** preferably using the USB extension
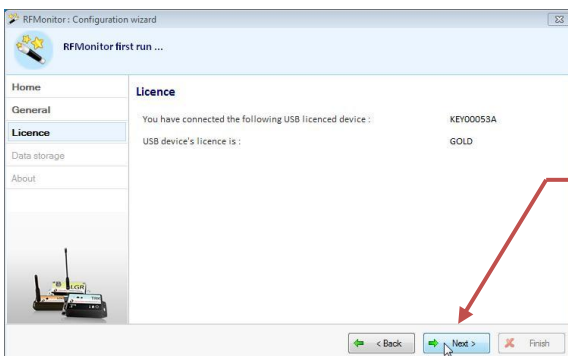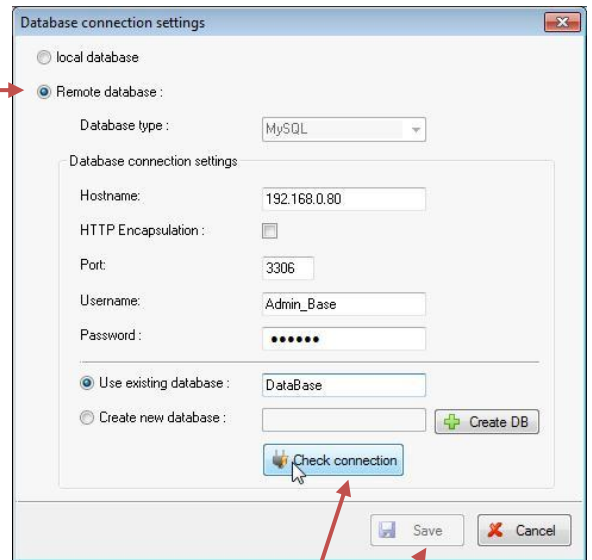
- In the window **"Licence" from the Configuration wizard click "*Next*".**
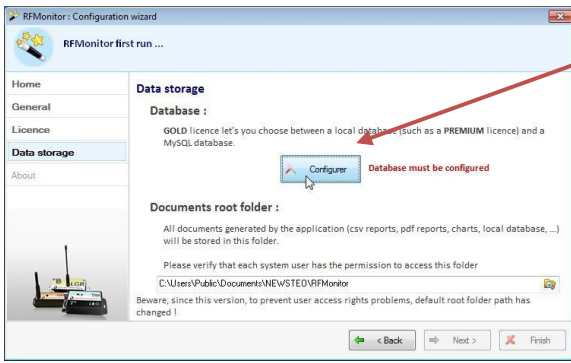
- In the window **"Data storage"** of the **Configuration wizard click on "*Configure*".**
- Select "*Remote database*" and **fill as following:**

Hostname : address of the server where the MySQL program was installed (IP address of the machine or domain name).

Port : port configured during installation (default: 3306).

Username : name of the *MySQL User* that was configured when creating the database (for exemple: Admin_Base).

Password : Password of the *MySQL User* that was configured when creating the database.

Select *Use existing database* enter the name that has been configured when creating the database.

➡ **For the above points, see:** 2.1.2 Create the database on the server: Page 6

Remark : it is possible to create the database directly through the RF Monitor software by selecting Create a new database. It is necessary that the user has the database creation rights on the server.

- Click on « *Check connection* » and then click "*OK*"
- Click on « **Save**»
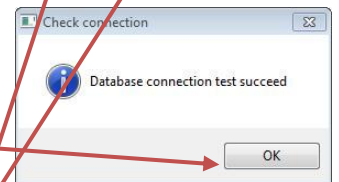
Remark : If you do not get the message "Database connection test succeed, check your connection settings and the name of your database, then test the connection again.

- Once returned to the window « **Data storage** » of the Configuration wizard **click on** « *Next* »
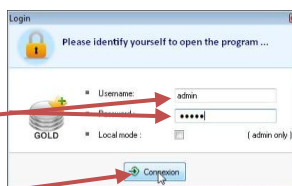

- **If you access the database for the first time, enter an Administrator ID and associated password** in the « **About** » window of the Configuration wizard (you will not have to do that again for the installation of the other workstations).
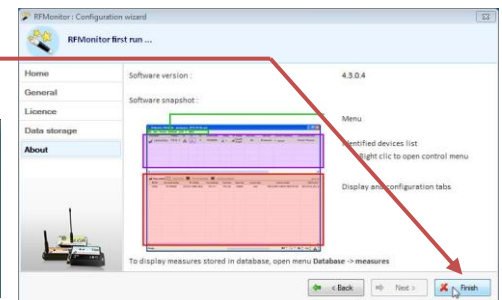- **Click** « N**ext** »
- **At the end of the wizard, click « *Finish* » to launch RF Monitor.**
- **In the window** « Login », **enter the user name and the password you chose just before.**
- **Click** « *Connexion* » **to launch RF Monitor.**

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

#COM	Key serial number	RF settings	Key hardware	Key firmw...	Baud rate	License type	License number
COM3	KEY00053A	Chl EU8 10dBm 30mA	KEY121	v18.F.03	625000	Gold	3RV4-HXZ1K-W1T4F-LRKKA-6FT27

2.2.2   Users management

After launching RF Monitor, open the **menu** *"Settings/Users management"*.

In   the   « *Général* »   **window,**   enter   the   password **«** *Administrator local password* **»** (default value 1234). This password allows the administrator to log in, in case of connection problem for users. In this case, it is needed when starting RF Monitor.

In   this   case,   **when   starting RFMonitor**, **select "Local" Mode,** enter   the   corresponding **password**   and   click « **connexion** ».
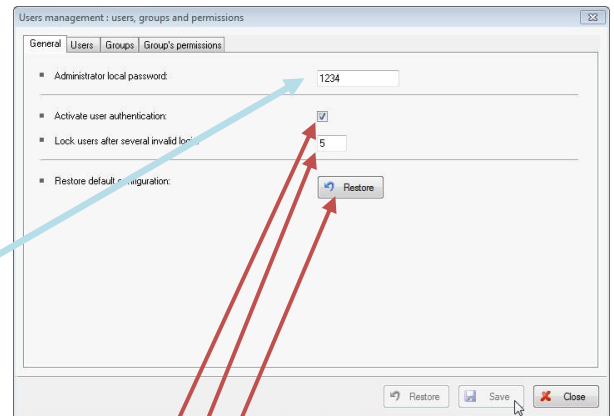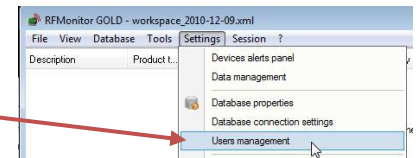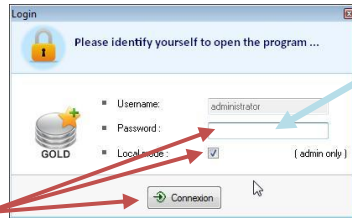
By selecting « **Activate user authentication** », the user **will have to authenticate itself**, and enter his password (created in the tab « Users ») **to open RF Monitor**.

He will have a limited number of attempts.
This number is defined in "**Lock users after several invalid login** ».
Click on « *Restore* » to return to the default configuration**.**

Do not forget to click « Save » to save your modifications

In the window « *Users* »**,** it is possible to create a new user by **clicking on the «** *plus* **» green.**

In the window *Warning***,** enter the user name, then click on « *OK* »**.**

The « *new user* **» will be added to the list**.
It is then **possible to assign a password**.
The fields email address and phone number are optional
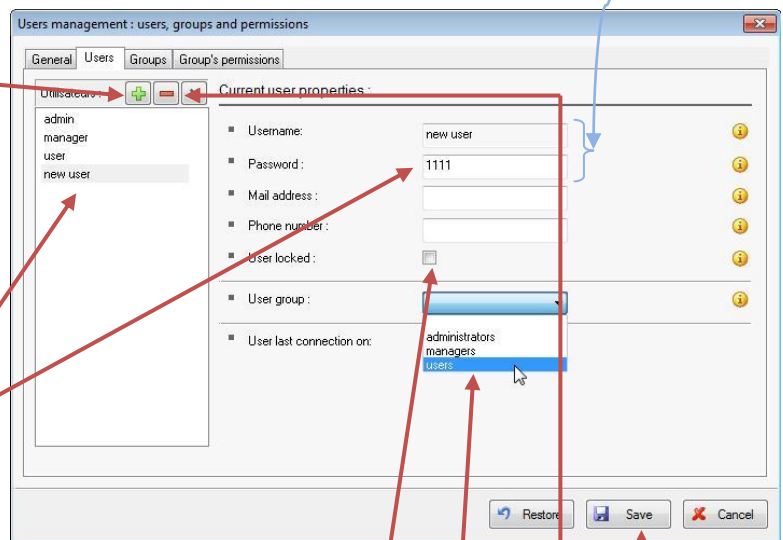
The box « **User locked** » is checked **if the user typed several times a bad password**.
It is then **possible to reactivate the user by unchecking the box**.

The « **User group**» field allows the user to define which **group** the user belongs and what are **its rights** (see « Groups» and « Group's Permissions » Windows next page).
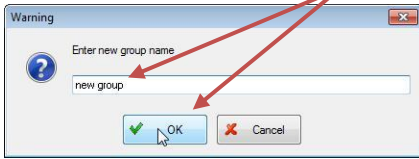
To **delete a user**, select it, click the « Minus» red. Confirm in the « **Warning** » window.
Do not forget to click « Save » to save your modifications

By default, 3 users have been created:

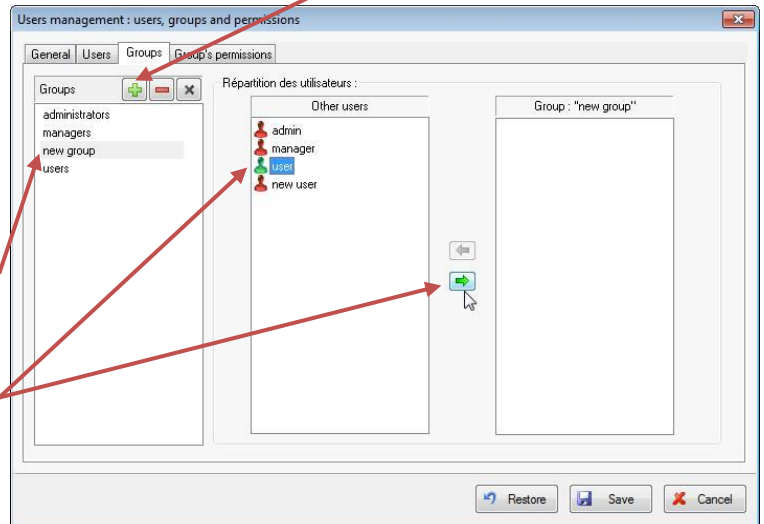| User	Password	Group
admin	admin	Administrators
manager	manager	Managers
user	user	users

From the « **Groups** » **window,** you can create a **new group** by clicking on the **"plus" green.**

In the window *Warning,* enter the group name, then click on « *OK* »**.**
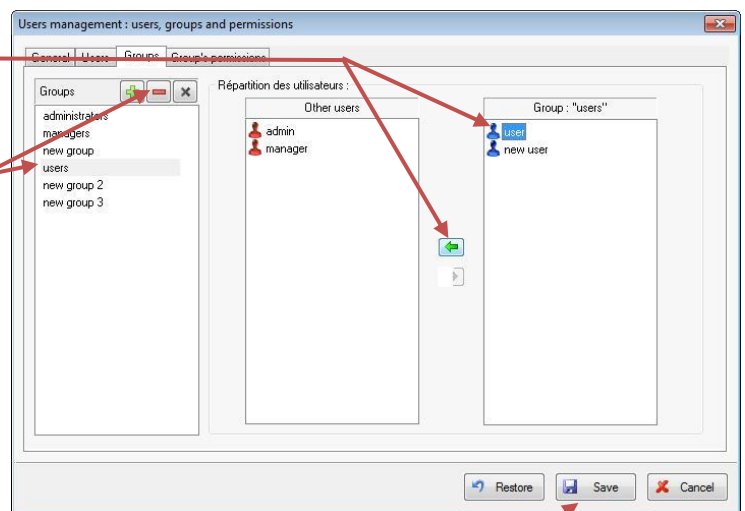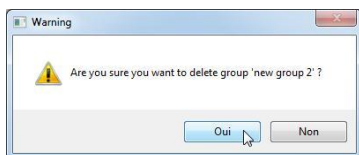
The « *new group* » **will be added to the list**.

It is then possible **to assign it users** by **selecting the desired users** and clicking the **green arrow**.

To delete a user in a group, select it in the Group column and click the **green arrow.**

To **delete a group**, select it, click the « Minus» red.
Confirm in the « **Warning** » window .

Do not forget to click « Save » to save your modifications

In the window « *Group's permissions* »**,** a**ssign the rights** for the **new group**.
REMARK:
In the "Logs" part:
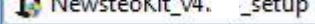 ▪ To give the right "Set comment", the right "View event log " must be selected
In the "Device settings" part:
 ▪ The right "Update device configuration" must be selected to select other rights in the same part.
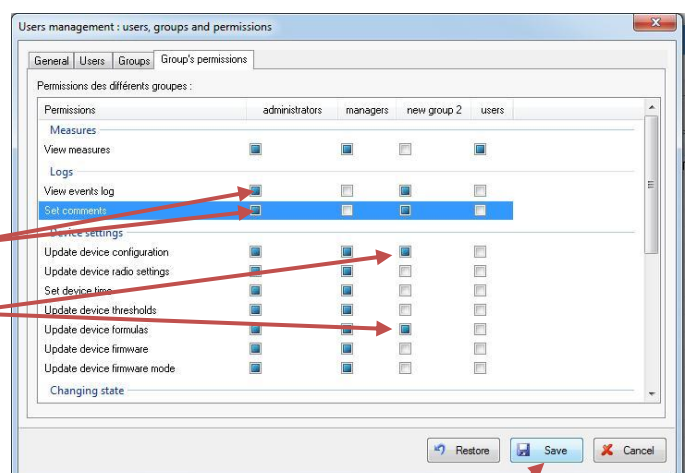
Do not forget to click « Save » to save your modifications

2.3   Workstation installation for data consultation

▪ Insert the CD ROM of the RF-kit.

If the installer does not start automatically, select "Run NewsteoKit_v4.x.x_setup.exe" in the AutoPlay window or **launch Newsteo_Kit_v4.x.x_setup.**exe file from the CD-ROM of the kit.

In the first window, select the language, then for a quick setup, **keep the default settings by validating the successive windows from setup program**. By the end of installation, **keep the option "*Reboot now*" and click "*Finish*"**.

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

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

▪ In the *Database* window, of the configuration wizard, **choose *Remote database*** and complete as follow:
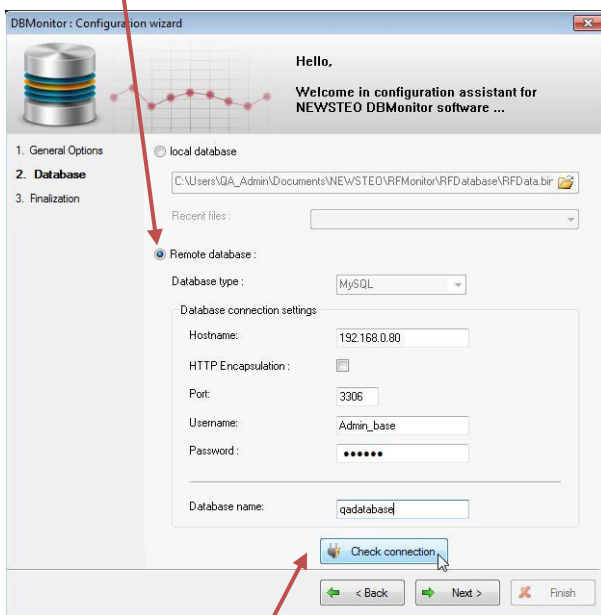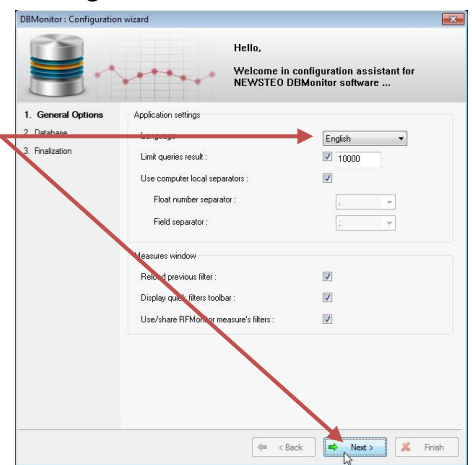
Hostname : address of the server where the MySQL program was installed (IP address of the machine or domain name).
Port : port configured during installation (default: 3306).
Username : name of the *MySQL User that was configured when creating the database* (for exemple : Admin_Base).
Password: Password of the *MySQL User that was configured when creating the database*.
Database name : enter the name that was configured when creating the database.

For the above points, see: 2.1.2 Create the database on the server: page 6

▪ Click on « *Check connection* » then **validate the window « Check connection »**

Remark *: If you do not get the message "Test database connection was successful, check your connection settings and the name of your database and then test the connection again.*
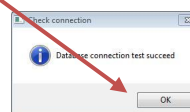
▪ Click on *"Next"*
▪ In the *Finalisation* window of the configuration wizard, click on "*Validate",* then click on *Finish.*
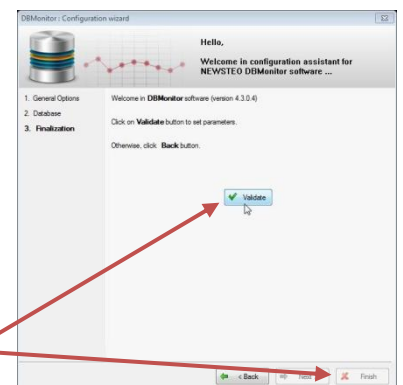
3   Using the RF Monitor Gold

3.1   Start the Logger-Monitoring Mode

The Logger is delivered in hibernation state.
After starting **RF Monitor**, and after connecting the **RF-to-USB key, activate your Logger passing the magnet over the area ILS or MAGNET.**
The Logger will automatically appear in the list of the measuring device. If it is equipped with a LED, the led will flash briefly.
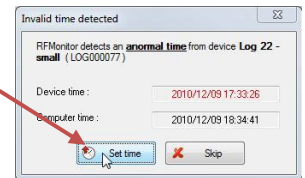
By default, the Logger is functioning in "Monitoring" Mode (Cf. 1.2 Operating Mode for loggers:).
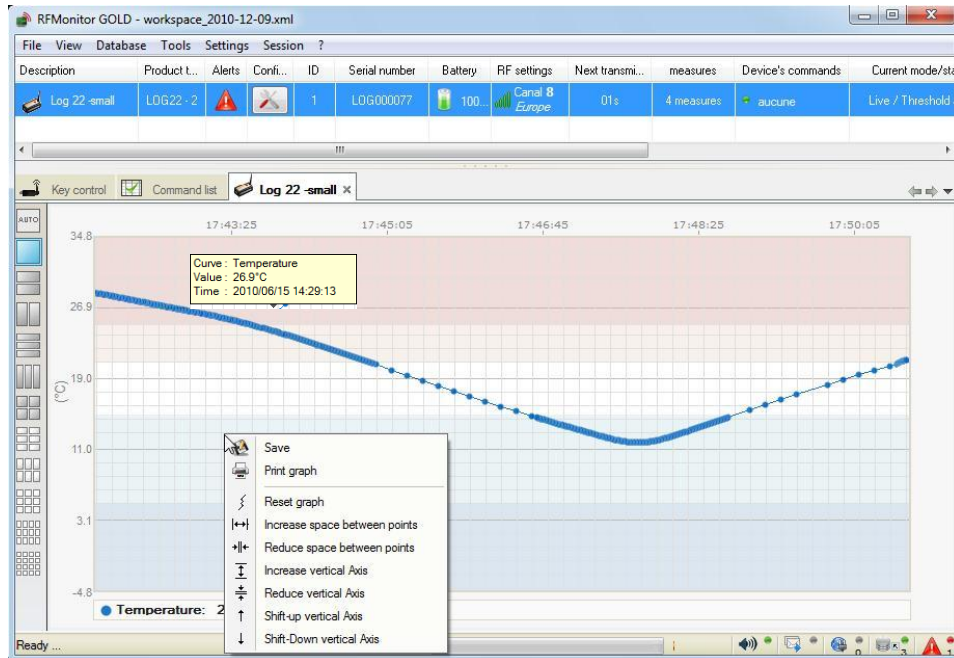

If the clock differs between the logger and the PC, **a window is opened to ask for a synchronization** (synchronization recommended).

Double-click the line of the logger to display the real-time measurements for this Logger.
By default, the logger sends a measurement every 10 seconds (This parameter can be changed Cf.3.2.1 Change Period and/or Change Mode).
On this graph:

By passing the mouse cursor on the point representing the measure, the **exact value** of the measurement is displayed and the date and time of the measurement.

Right-click on the graph to display the menu that allows you to **adjust the scale** of the curve for readability.

The colors designate the areas that match the alert thresholds set by the operator (Cf. 3.2.4 Alert Threshold).

3.2   Configuration and mode change

The Logger works by **default in "Monitoring" mode** with a **measurement period of 10 seconds**.
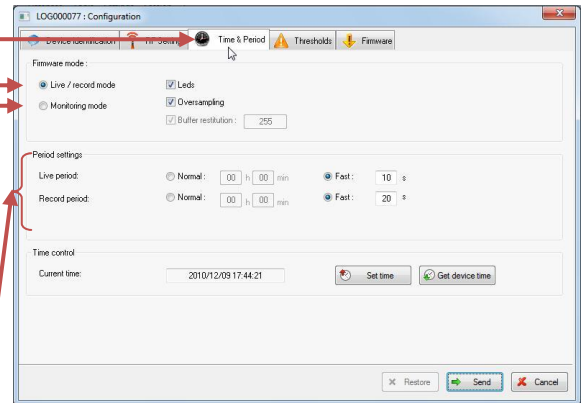
For any configuration in this section:

- Begin by using either the **"tools" icone** on the line of your Logger or the **right-click on the line of your Logger**
- **Then click "*Configuration".***

3.2.1   Change Period and/or Change Mode

Select the « *Time & Period* » tab.

In Firmware mode, select «*live/Record Mode*», or «*Monitoring Mode* »

In Period settings, set:

- The 'live' period for the « ***Monitoring*** » mode :
  - By default, a measurement is transmitted every 10s from the Logger to RF-Monitor with a request for acknowledgment.

- The «Live » period and « record » period for the «***Live/Record***» mode :
  - 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.
  - By default, in 'record' mode, every 10 minutes, the logger takes a measure and store in its memory. These measures will be restituted to RF Monitor on request and after a change for the 'live' mode (Cf.1.2 Operating Mode for loggers:).

    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

    Therefore, during the setting up of the recording mode, selecting the "oversampling" is not recommended.

If "oversampling" mode is selected in the embedded software, whenever measures are outside the defined alert thresholds (Cf. 3.2.4 Alert Threshold), the number of measurements automatically increases to 1 measurement per second in fast mode (less than 1 min) and 1 measurement per minute for an initial period in normal mode (more than 1 min). **This option allows you to refine surveillance when the product is on alert** (Cf : graph in 3.1 Start the Logger-Monitoring Mode).

Click Submit and, before confirming the mode changing for the product and deleting data, do not forget:
- To download your actions if you were in « Live/Record » Mode
- **Check that the transmission is not interrupted in order not to lose the measurements** (Next Transmission « ? » on the line of the concerned Logger) if you were in « Monitoring » Mode.
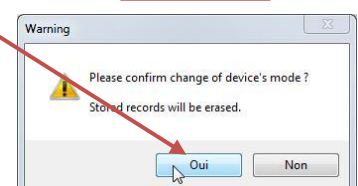
3.2.2 Monitoring Mode :

Cf. 3.1 Start the Logger-Monitoring Mode page 12

3.2.3 Mode Live/Record

Once the « Live/record » Mode selected (Cf. 3.2.1. page 13), the logger is in « Live » mode

- **Double click on the line of the Logger** concerned to obtain **the curve measures** so as to control the operation of the Logger and set the thresholds for the measurement campaign to come (Cf. 3.2.4 Alert Threshold)
- **Right-click on the line of your Logger then click "Start recording" to start the record**
- **Validate the window that c**onfirm the « recording ».
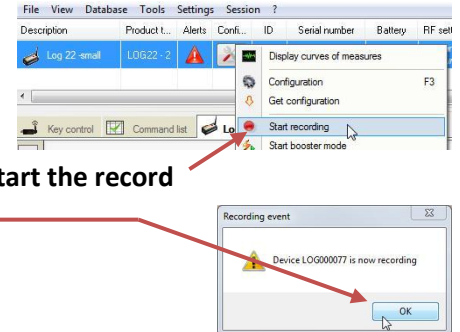
Wait a radio transmission or use the magnet on the logger so that the Logger takes changes in account. The measurement campaign begins; now the logger records all its measures in its memory and sends a signal every minute to indicate its presence and its state, exceedances of alert and the number of measurements in memory. **Make sure you get your measurements** on **the curve of measures** (at the period chosen for the recording mode)**.**

As part of tests related to learning the use of RF Monitor and Logger, you have to close RF monitor to simulate a remote location (outside the radio range), then restart RF Monitor and wait for the Logger detection.
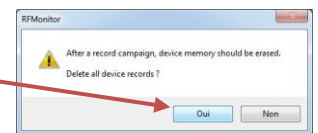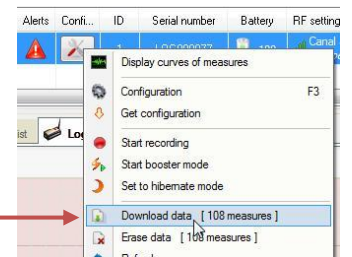
- **Right-click on the line of your Logger then click "Stop recording"**
- **Validate the window that c**onfirm the « recording ».

Wait a radio transmission or **use the magnet on the logger** so that the modification is taken in account by the logger. (The number of measurements in memory is displayed in the column "measures" of the line of Logger).

- **Right-click on the line of your Logger then click "Download data"** to recover the measures in the memory (maximum waiting 1min).

It is advisable to clear the logger memory and erase the data stored in the product after data retrieval.

Remark : It is possible to delete data without having previously downloaded it with a **Right-click on the line of your Logger then a click on "Erase data"**
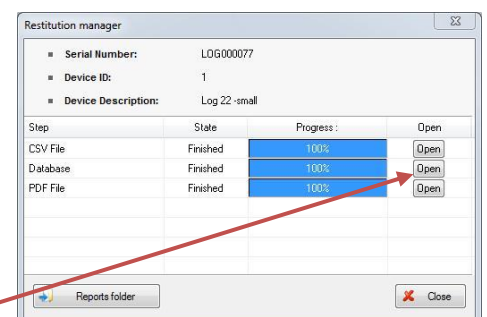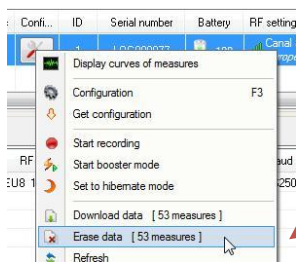
- **Click on « open » corresponding to** the file you wish to consult to check measures recovered.

3.2.4   Alert Threshold

- **Right-click on the line of your Logger then click "Configuration".**

- **Select the « *Threshold* » window.**

- **Adjust the thresholds which define the levels of alerts you want for your Logger**: the nominal area is green, light blue and orange correspond to the first alert level, dark blue and red correspond to the second alert level. These thresholds are visible on the graphs (with slightly different colors). (Cf. 3.1 Start the Logger-Monitoring Mode page 12)

- **Click on « send » to** validate modification, then click on « *close* »**.**
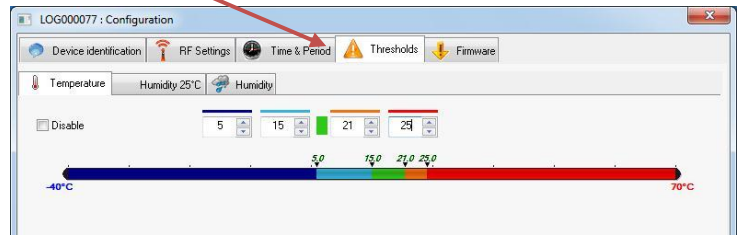
Wait a radio transmission or **use the magnet on the logger** so that the modification is taken in account by the logger.

Exceeding threshold always leads to a **visual alarm.**
By default, an audible alarm is also activated (Cf. 3.3 Alerts and Alarms)

3.2.5   Identification of the product

- **Right-click on the line of your Logger then click "Configuration"**
- **Select the « *Device Identification* » window**
- Enter a custom ID (*ID*, number between 0 and 999)
- Enter a description
- **Click on « send » to** validate modification

3.3   Alerts and Alarms

There are warnings about the overrun of threshold, a transmission loss, a wrong date / time and a low battery levels.
Alarms are always at minimum visual (red line for the logger, warning triangle ...).They **may also emit sounds** (configurable for each type of alert), **e-mail** or **alert relay** (with external equipment optional)

3.4   Disable the Logger

The logger must return in hibernate mode at the end of the measurements campaign to save batteries so that it **can be stocked**

- **Right-click on the line of your Logger then click "Set to hibernate mode"**
- **Wait a radio transmission** or **use the magnet on the logger.**
- **Validate the window that c**onfirm the « hibernating status».
- **Check that the « current mode/status »** is **« hibernating** » on the line of the Logger.
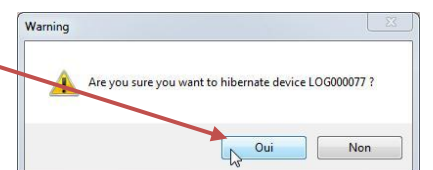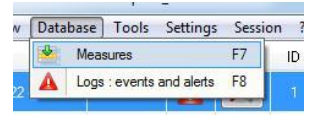
The logger can be activated again by passing the magnet over the area ILS or MAGNET

> **REMEMBER TO HIBERNATE your Loggers to save batteries - DO NEVER let the unused Logger in "LIVE" MODE**

3.5 Features and options

RF Monitor provides access to historical measurements received on a graph or in a table (Menu Database/Measures).

A management of filters allows to display the steps according to certain criteria:

- **Devices filter**: Devices to display depending *on ID, Serial Number, Device Description or Product Type.*
- **Sensors :** for selected products, choose the sensors or the types of measures to display (ex : *Temperature, 0/10V …*)
- **Period**: it filters measures depending on the date / time.

To **optimize traceability**, the "**Logs**" window (Menu Database / Logs) gathers all alerts and events related to the loggers:
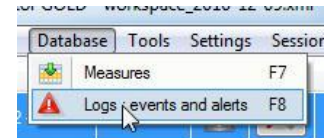
- **Alerts** (over threshold measures)
- **Application start up or shut down**
- **USB key connected or disconnected**

At each event, it is possible to enter a comment justifying the rise of warning or occurrence of the event (Ex: a warning temperature in the freezer, the high threshold set at -15 ° C, measurements obtained -14 C → enter the comment "Open door for cleaning for 5 min).